



THE

FATIGUE

SUPER

CONFERENCE

Transforming your gut health

Guest: Dr Michael Ruscio

Alex: Welcome to 'The Fatigue Super Conference' and I am super excited for this conversation I am talking with Dr Michael Ruscio. Dr Ruscio is a doctor and clinical researcher and best selling author whose practical ideas on healing chronic illness have made him an influential voice on functional and alternative medicine. His work has been published in peer reviewed medical journals and he speaks at infinite medical conferences across the globe. Dr Ruscio also runs an influential website and podcast at drruscio.com as well as his clinical practice located in Northern California. Dr Ruscio thank you so much for taking the time to talk to me today.

Dr Ruscio: Thank you for having me.

Alex: I should also say off the top that you have got an excellent book out, 'Healthy Gut, Healthy You'. I imagine this book took a long time to write and the reason why I say that is that it is extremely well written. It is very well referenced and having read a lot of books over the last three or four months prepping for this conference, it is actually one of my favourites, so an excellent job. I would love to really start where the book starts, just a little bit with your own story because what was interesting to me was that you were kind of coming into the medical world professionally but then found yourself with your own struggles that weren't responding to traditional approaches. Tell us a bit about that as we open this up.

Dr Ruscio: You gave me a good lead and thank you for the kind words and yes the book was about three years in the writing. It was not something I wrote lightly or flippantly and I really wanted to arm people with a highly scientifically, tenable account of the gut and how it works. And also a highly personalisable protocol to really give people a simple path through all of the confusion and just to be able to take one step, re-evaluate, take another step, re-evaluate and find their way through this fog of conflicting claims that people are confronted with on the internet so that they can come out the other side with a healthier gut and all the litany of symptomatic improvements we can see as a bi-product of that.

And I was the first patient that I had and as you said I was on par to go more into traditional medicine and then at 23 years of age I went from feeling pretty fantastic my entire life to having the first symptom that was really debilitating and that was insomnia. I would drive to the local gas station at like 4 o'clock in the morning and buy a candy bar because I was waking up unable to fall asleep and having sugar cravings knowing all that is bad and thinking to myself what is going on, it's like I am not in control of my body. I can't sleep at night but I am tired during the day. I'm trying to eat healthy foods I'm having cravings for chocolate at night not to mention the brain fog, fatigue as I already mentioned, some depression and none of the conventional doctors that I saw were able to figure things out and I mean that in no disparagement towards conventional doctors I just think that we all have our areas of strengths and weaknesses and so if I had a more traditional medical disease that would have been the right place for me. But since I didn't have that type of disorder present I had intestinal infection I think functional or integrated medicine was a better camp to really find this. I mean if the infection was bad enough conventional medicine probably would have found it but the challenge, and this is a key takeaway, I did not have any digestive symptoms, no gas, no bloating, no diarrhoea and the big thing you're looking at with an amoebic infection like I had was chronic diarrhoea. Nothing digestively was remiss.

It was really all of these other symptoms, mostly neurological, that I was experiencing which taught me that you can have a problem in the gut that is not manifesting as symptoms in the gut but only manifesting as brain fog, as depression, as insomnia, as joint pain, as hives or skin issues or whatever it maybe that is non digestive. Now we are seeing the more contemporary body literature support that claim. But I was the first person who struggled with this so I went out, I looked up all of my symptoms on the internet, I thought I had hypo thyroid, I thought I had adrenal fatigue, I thought I had mental toxicity so I did all of the natural support protocols for these different items based upon my symptoms and never really got anywhere.

And so I went through that process, that I think many people can identify with, to eventually figure out at the suggestion of a functional medicine provider that I may have had an intestinal issue. And at first I thought the provider making that recommendation was crazy. I was thinking to myself I don't have any digestive symptoms so why are you trying to point us to the gut as a source of those symptoms. And he ended up being correct and that was the only line of therapy that really helped me. And so it changed my career trajectory and it also changed my perspective on how we look at symptoms and it gave me a much more gut centric view of the cause of symptoms and I can say now in my clinical practice and even with the doctors that I train

through our clinicians newsletter it is amazing how many patients you will see, who have been pursuing, based upon their symptoms, other areas of adrenal fatigue, or thyroid or metals, all the while being actually their gut being the root cause of their symptoms. And that is something I am really trying to save people from, which is chasing down the symptoms that look like thyroid, that look like adrenal and obviously there is a time and a place for those but there's many a case, many, many a case where the problems are actually stemming from someone's gut and if we can get to that root cause we can finally get to the underpinning of where all of the symptoms are coming from. So that is kind of a short synopsis of my story.

Alex: And I think that is a really important point that you made particularly around this idea that if there are not gut symptoms it doesn't mean the gut isn't playing an enormously important role and I think that is a good kind of opening to explore a bit more about why the gut is so important in fatigue or put another way, why the gut is so important in energy and having optimum health and well being.

Dr Ruscio: The gut is so important for a couple of reasons, one, it's really the most impactful immune barrier you have in your entire body. And so we know the majority of our immune cells are contained in the small intestine so the largest density of immune cells you see anywhere in the entire body is actually located in your small intestine. Now why is that relevant? Well arguably your immune system is the chief source of inflammation in your body because the immune system uses inflammation as its instrument of cleaning up and attacking things that it doesn't want there. If you think of your immune cells as little police officers, their guns would be these guns that shoot information at the stuff we don't want and that is how they attack so the problem is if the immune system is over zealous or there is this chronic battle or leaky permeability issue in the gut the immune system will be constantly responding with inflammation and those inflammatory proteins can go systemic and cause problems like joint pain, brain fog and whatever else.

So that's one fundamental reason. Also of course, our calorie and nutrient absorption occurs in the gut so there's this kind of double negative where if the gut isn't functioning properly you have this cascade of information and you also can start malabsorbing the nutrients you need to rebuild and replenish your body. So these are two of the main reasons why the gut is such a fundamental factor in people's health and if that's not right it is very hard for other therapies to work because that is really the foundation upon which we might want to stack other therapies.

Alex: One of the statistics that really landed for me when I was reading your book is that the small intestine is responsible for 90% of cameric absorption.

And I think people often think of the digestive system as being a series of steps I have never quite realised just how crucial the small intestine is in effectively the first step in energy production.

Dr Ruscio: And one of the reasons why that piece about the small intestine is relevant is because many of the gut recommendations circulating on the internet are more focused around large intestine health and so if you are putting most of your recommendations upon the less important area of your digestion it is no surprise some people struggle with improving their gut health because the majority of recommendations are focused on the smallest part, or the smaller part, of your gut. And how this plays out is some simple dietary recommendations that are supposed to feed bacteria in the gut, just as one example. They look good on paper for the large intestine but they are often counter productive for the small intestine and this can frustrate people because they have changed their diet and they may actually feel worse, they may actually feel more bloated or more fatigued. And it maybe because they think they are doing their system a favour by trying to eat to improve their large intestine health but that recommendation is actually at odds with what the small intestine needs.

Alex: So maybe to go a bit deeper into this say a bit more about what triggers inflammation in the gut. What is the primary source of inflammation which then of course has this cascade impact in terms of leaky gut and everything else that kind of comes from that.

Dr Ruscio: Well, this can get a little bit complicated but what I try to provide people is a somewhat linear hierarchy of steps to work through where instead of having this whole litany of causes of inflammation and leaving the user up to figure out how to navigate through these we provide a linear step by step process starting with the most commonly problematic factors. And that's of course where you want to start ending with the more esoteric or more nuance factors and that in itself can be a hugely cathartic change for people because what I found, and this is one of the sad things about the nature of the internet, is the new and novel stuff is what gets more attention on the internet. Those things rise higher in Google searches, higher in podcast feeds and so you are more likely as a healthcare consumer to come across the newer nuanced that are really at the end of the hierarchy and that is one reason why so many people flounder. They spend the majority of their time trying to piece together different nuance therapies while missing the preliminary frontline therapies that should be situated first. And one of those, of course, is your diet. Your diet and your lifestyle are two areas that have to be first. Now the challenge is that no one diet is going to work well for everyone. There is a few contending diets that someone should trial and by going through a few week

trial period of dietary experimentation they can find what diet works best for them.

Another challenge for the healthcare consumer to contend with is you often times get these dogmatic views on diet, everyone should be on low carb and if you go low carb too much fat is bad for you, don't eat fat go high carb, go vegetarian, go carnivore and people are like oh my god how do I navigate these. Well the truth is for most diets there is some evidence to support them so it's not an issue of this is the best diet but rather here are the few diets that are most well supported and here's how we can have you can try one, re-evaluate after a couple of weeks, if you are feeling a lot better, great that tells you, you are on the right track. If you are not feeling a lot better then change to a different diet and there are really two initial diets people can start with. You can have an elimination diet meaning common inflammatory foods this is often times depicted by the paleo diet. The paleo diet is not the only diet to use, that is just one kind of in a box diet that will give you an elimination of many inflammatory foods. And that is one, the other big contender is a lower Fodmap diet and this is different where it is more focused on eliminating foods that encourage bacterial growth and if you are someone who has an excess of bacteria, in lets say your small intestine, if you are eating a diet that encourages bacterial growth and you already have a lot of bacteria obviously that can be problematic so the low Fodmap diet limits foods that feed bacteria and thus can starve these bacteria and help get them to a better balance.

So those are really two kind of key diets that people can start with and only really requires a couple of weeks on a trial of each one of these to at least be able to say yes I am feeling better and I am going to continue with this or no I feel no different or maybe even worse so I am going to change my dietary approach completely.

Alex: And of course one of the challenges can be that when people start to make dietary changes by themselves and they start to get kind of fear mongered by lots of different conflicting ideas one of the things that I have seen happen and I had chronic fatigue in the mid to late 90's and back then anti candida diets was kind of the rage back in those days that what I noticed was happening to me and happens to others is each week you'd discover a new food that you should be avoiding so you end up with less and less kind of foods. I think what you are saying is really interesting because that it's not just going on diets following them blindly forever it is tracking symptoms does this actually have a positive impact in terms of how I am feeling and there should be something that is fairly quick right in terms that feedback.

Dr Ruscio: To initially assess whether the diet is working for you yes usually two or three weeks is enough time to tell if the diet is helping. Now that is not

to say you will see all of your improvement in two to three weeks but you know at least you will be able to make that initial benchmark evaluation of yes it is helping or no it is not helping.

And you also make another very important point which is we don't want to couch these diets in dogmatic, over zealous, fear mongering terms. A) Because most dietary changes don't require 100 per cent adherence to yield a benefit and B) that can really lead to unnecessary fear in people how they are perceiving food and there have been more patients that I would like to admit that a huge improvement for them was realised after we let them know, hey it is okay if you are not perfect. I expect you to make a few errors with your diet or be at a work function or family event and not be able to fully follow the diet. That's okay as long as you are compliant most of the time then you are going to be just fine. And that alleviated a huge burden of stress and again there are more patients than I would like to admit who saw very substantial improvements in how they were feeling just by coming to terms with they don't have to staunchly follow the boundaries of a given diet.

Alex: You touched on a little bit earlier bacterial overgrowth in the small intestine or sibo as it has kind of become more commonly known and it seems to be that over the last few years there's been a kind of increase in understanding and awareness. And I think rightly so in terms of particularly actually the chronic fatigue population. Could you outline a little bit of when we talk about sibo, what we mean by that and some of the impacts of that and why that is important to this conversation.

Dr Ruscio: So sibo, or small intestinal bacterial overgrowth, is one of many different imbalances that can occur in the bacteria fungus and other life in your gut. And that can lead to this chronic immune activation that we talked about a moment ago and the ensuing chronic inflammation and in some cases can also lead to nutrient mal absorption.

Now what is interesting here is this isn't just a theory where we're saying well theoretically this information could make you tired and speculate, which is really important not to do that because the more we speculate the more we open the door for potential errors. There is at least one study looking at a low Fodmap diet, which is the diet which starves the bacteria and has shown an improvement in chronic fatigue not to mention the ability of a low Fodmap diet to lead to a litany of improvements in digestive symptoms and some evidence now is even tacitly reporting that you may see improvements in joint pain or neurological symptoms after following a low Fodmap diet.

So there is outcome evidence. We take a group of people and they do this and they see something good happen. That outcome data is available for the low

Fodmap diet as it pertains to fatigue and as that is treating ostensibly the bacterial overgrowth people are feeling better and again it is likely because there is this existing problem of too much bacteria and auto immune activation in the intestines and that low Fodmap diet actually improves that situation.

And this should be contrasted to a paleo diet which can also be helpful for this group of patients but for some people, when they go on a paleo type diet, a diet high in fruits and vegetables and some proteins and healthy fats they may inadvertently start eating lots of high Fodmap fruits and vegetables and they may actually feel worse. So that little adjustment for some people can be really helpful and I understand how defeating that can feel where you are going to all this effort to eat and prepare lots of vegetables and ironically you are feeling worse when you do that and you are not alone, if you notice that you are certainly not alone in that observation and this is why I think the low Fodmap diet has risen to popularity not only in the lay community but in the research community.

So that is just one example of how a sibo in your gut health and a dietary intervention can either contribute to or improve someone's underlying fatigue.

Alex: There has been some pretty compelling data around sibo, in fact there has been claims that I think as much as 86% of irritable bowel syndrome can be put down to sibo. Is your sense that sibo really is the depth of villain that is out there or that you mention it is kind of a number of factors. So how do you contextualise that in the larger picture of things that could be going on and causing digestive issues.

Dr Ruscio: Thank you for asking that question. And I do use that phrasing on purpose one of many, because I do think that sibo can be of course a significant factor but I think it has got a little bit ahead of itself in terms of the claims that are starting to propagate on the internet in terms of sibo being the cause of everything and the culprit for everything. What ends up happening here is a condition gains in popularity and then people start blaming everything on that condition even without any documentation that the condition is actually present. So someone presumes they have sibo, their symptoms flare and they say oh my sibo is acting up. And this just catches fire and eventually you have all these people saying oh yes my sibo flares too and they don't even know if they actually have sibo.

So being too vague in our use of some of this terminology allows things to get ahead of themselves. And so yes, sibo is one item but the claim that sibo causes all problems it is not really a tenable claim. There's some controversy regarding the testing. So some sibo testing may actually report a positive

when the person is not actually positive. And in the sibo research we are seeing adjustments being made in terms of how you interpret a sibo breath test to guard against those false positive. A false positive is your test says you have a condition but you actually don't have the condition. It is an error in the test.

And so that is why I am bristled in how quickly I assign the majority of problems to be caused by this one particular thing. It is one thing of a few, or I should say several, that could be a problem. And I should also point out regarding testing there are things that we know exist that do not have tests that are available for routine clinical practice, like small intestinal fungal overgrowth or hydrogen sulphide sibo. So it's important not to put all of our eggs in an intestinal basket and, for example, in my book 'Healthy Gut, Healthy You' there have been a litany of not only patients but even doctors who are applying that book protocol and getting fantastic results. And the book protocol calls for no testing.

So if you understand that hierarchy that we outlined or we alluded to a moment ago in terms of start here and then go there. If you have a well constructed hierarchy and you work through that in a stepwise fashion you can see resolution of, I would argue the majority of gut cases without any testing. And that is important because testing gets expensive. And so if you are spending a couple weeks to perform testing and a few hundred or sometimes a couple of thousand dollars on testing that is only giving you one fraction of the possibilities in the gut you can be given this false promise where you think that testing is going to provide all of the answers but it actually doesn't and unfortunately lay people often times don't get that greater overarching context. They get an article on sibo devoid of the larger overarching context, which is sibo is one of many a thing and that sibo testing is good, and getting better but it's not perfect. So, yes it is very important to find that right balance with using diagnostic solutions to help us but also not to hinder us by making us have this tunnel vision to only treating the test results in the absence of treating the patient.

Alex: Yes, certainly my observation is that there are a number of people that are getting sibo diagnosis, they are treating sibo and they aren't having any significant improvements so clearly there's a piece going on here and it may not have been in the U.S but certainly here in the UK in the mid to late 90's candida was pretty much if you have any chronic fatigue as it was called here you have candida. And then thousands of people went on these anti candida diets. It seems to have that similar somewhat faddish quality to it that is probably, as you say, overstated but also still important.

You touched on sibo. What are some of the other pieces that as a clinician you're looking for when you're diagnosing what's the source of what's is going on? I would love to come a bit further down the steps of the protocol after diet and how you work with people?

Dr Ruscio: Sure. You also make an excellent point which is yes candida was the thing that we thought was causing all the gut problems maybe 10 years ago and now sibo is kind of the in thing and I am sure in a year it is going to be something else. So what's important to keep in mind is many of the treatments that have been used they treat many of these underlying imbalances. So many of these diets will help with candida or with sibo or with h pylori or with leaky gut. Many probiotics will help with candida or with sibo or with h pylori or with blastocystis hominis. So that is really important to keep in mind which is the theory that something is wrong in the gut has been correct the nuance of what exactly it was in the gut has shifted but the treatments haven't really shifted much so that's why this all kind of pieces together if you realise you want to treat the gut a bit holistically and it is not to say that if you use this one probiotic it is just treating sibo it is like if its fighting sibo, h pylori and candida and rather pushing your gut back into balance. And so that is why I say we don't need this high definitive testing because we are likely doing multiple things at the same time when we use a given gut therapy, whether it be diet or probiotics. So we don't want to think in these reductionist terms about one factor.

But to your question what would be one of the next steps after you try those diets and essentially you want to get the diet that two to three weeks benchmark evaluation period. If you feel that it's working continue until you plateau. Some people will plateau at 90% improvement and I would argue that you are pretty much there if you are at 90% improvement. Let's say in three weeks you notice you are improving on a low Fodmap diet and then by 10 weeks you feel like you have plateaued, and you plateaued at about 90% improvement if you are that close to perfect then in another month or two and just with some time and as things kind of calm down in your system you may get the rest of the way there to 100 %. Also realising that 100% depending on how you are subjectifying this may not ever be possible. What you're saying is 100% may is just you know a utopian like idea of health.

But after that then one of the next things that you can do is use a well rounded probiotic protocol and unfortunately, and I don't mean to sound like a naysayer, but much of what you see on the internet regarding probiotics it's about this is the special strain, this is the best probiotic and unfortunately what happens is every time there is a new study showing you are fighting with a probiotic that company shouts from the rooftop here's the best probiotic it's meant for this and for that. What I have noticed over the years as I have

watched the body of probiotic literature evolve is you can see many different types of probiotics all achieve the same improvement.

Now one formula will be the first formula documented to lead to that improvement that but then in another six months another formula shows the same improvement. So I don't look at probiotics like drugs. This probiotic is a probiotic for UTIs, this probiotic is a probiotic for depression and anxiety. That's an erroneous way of looking at it. Probiotics, they are not like cholesterol lowering medications that do one thing in the body and lower a block in enzyme, as cholesterol medications do. These are helping to restore your gut ecology and kind of support a system. And that system, the gut can manifest a litany of symptoms. So when you support the gut it could manifest for different people in different ways. If you are someone, like me, whose gut connects more to neurological issues, any probiotic to improve my gut health would theoretically improve my brain fog. So it's not about the one probiotic as studies show is the best for brain fog. And this is what I think really harms people is they go from product, to product, to product not understanding this larger, overarching philosophy that most probiotics can be classified into one of three categories. And I write about this in 'Healthy Gut, Healthy You'.

- Category One, which are predominantly lactobacillus and bifobacterium strain blends.
- Category Two saccharomyces boulardii a health
- Category three is a mixture of different basilis or soil based or spore forming strains.

And we've released one formula in each of these categories and what is key for people to do is to experiment to find what one or a combination of these three probiotics help them. Some people may be saying I have negatively reacted to a probiotic. You will be shocked at how many people have tried three different types of let's say those spore forming or soil based probiotics, and those are kind of popular right now. And so people will come into the office and go through there treatment history and they say, yes I have negatively responded to probiotics. Probe a little further and they have tried one form of a category three, another form of a category three, and another form of a category three and they are shocked as to why they never perform well with a probiotic. It is because they keep trying the same iteration of a formula or different iterations of the same formula.

So what we recommend people do if you are sensitive you start with one formula at a time give yourself about a week and then re-evaluate. If you are feeling worse then that means that that particular category may not work well for your unique gut biome but if it is helping continue and then add in a category two and trial that one and then if that goes well continue and if it

doesn't go well, then stop and then go to category three and continue with what works for your gut and don't use any that don't work for your gut. And this is how you personalise the three categories to your gut.

For someone who hasn't been sensitive historically you could start with all three at once. And all you are doing there is trying to minimise the variable so if someone is really sensitive there is a higher probability they are going to have a negative reaction, so you want to go slow one formula at a time so if you do have any negative reactions it is easy to see where it is coming from discontinue that probiotic and continue forward

Alex: And have you found cycling different probiotics at different times or do you see it well to find what works and keep taking that?

Dr Ruscio: Yes that is a great question and I think this is another area where we make things far more complicated than they really have to be. What I think is very important clinically is to understand that probiotics for some people may have this saturation point. Where they work for a term and then people actually see their symptoms regress if they keep taking them. This is because most probiotics, not all, but most probiotics don't actually colonise you rather they have a transient effect and so they kind of build up in your system as to transitioning through and I think what happens is that you're continually taking probiotics on a daily basis, you're having more build up in your system. They're doing all the good things that they do like fight infection, fight dysbiosis, improve leaky gut and after a while though if too much builds up in that transient state then you can have this over saturation of your system with probiotics and now you're starting to see negative return on the therapy.

And so I recommend, like I do with most things, people achieve their peak level of improvement, give themselves maybe another four weeks after that to make sure they're stable in that improvement and then work to find the minimal effective dose. And for some people that minimal effective dose is nothing. They come off the probiotics and they maintain all of their improvements. For other people they notice their stools are looser, they are a little bit more constipated, they are a little bit more foggy, so they go back on a small dose and find the minimal effective dose. And that is a very important concept. Because applying it as such can really lead to improvements in how you are feeling and get you out of this whole, well you have to do this and then re-seed and take these with food, and take these without food and take these and that is so littered with speculation and it takes people away from this more simple protocol that we have just laid out and can really lead to nice results.

Alex: So you are starting off by focussing on diet and trying different kind of pieces there and then you're bringing in the probiotic piece. What is the next piece, if that is then not enough in terms of progress, where do you tend to look next?

Dr Ruscio: I should mention just for your users, if they want a real simple list overview we created about one page pdf that gives you the sensitive patient protocol with a non-sensitive patient probiotic protocol. If they go to our website drruscio.com/probiotics they can download that one page pdf and it will walk them right through it. And it is as easy as I can make it for you there in one pdf with everything kind of laid out for you.

But you question in terms of what do you do next? Well then the next best thing to do for most people is to consider a course of anti-microbial therapy. And these type of things like your oregano, your garlicks, your allicin, your berberine, your neams, your capryllic acids and these are a bit more powerful in helping to clean out any over growths or unwanted players. And I should mention that probiotics are quite effective in treating things like sibo or h pylori or fungus. People don't often appreciate that probiotics are actually pretty effective in cleaning out these unwanted players or helping to re-establish better balance in the colonisation in the gut.

But for some people that is enough in itself and so looking forward some people they try diet they are not cured by the diet and so they give up on diet. And then they go to probiotics, they are not cured by probiotics, they give up on pro-biotics and they don't realise that if they could just look at these things as a succession of small steps forward. Well okay the diet didn't cure you but you feel at least 25% better. Yes, continue the diet and add in the probiotics. Okay and the probiotics now got you to 60% total improvement, great we are moving in the right direction. Continue with that and you will see later on, on top of this another input to the gut, which would be these anti microbials. And for many people that gets them over this final hump of finally getting to a high level of improvement 89 to 100% but it is understanding that you're not looking for all of your improvements from one thing but rather understanding how to sequence of these things.

And this is a contention I make in the book, which is the difference between knowledge and wisdom is experience. People can get knowledge of all of the treatments on the Internet but they have no clue how to use them and that's why people flounder with and don't see their results from these compounds they have access to. And I make the analogy also in the book if your car broke down and we let you into the mechanic's machine shop just could you had access to all of his tools wouldn't mean you have any clue how you would use them. The same things happen with these natural medicines. You have access to them yes, but it doesn't mean that you know how to use them and that is one of the big things that I think it is really important to highlight with the book protocol it is not that there is this new crazy novel, you know sexy treatment. It is understanding how to take the well studied treatments available for your gut and apply them in the appropriate sequence to fix your gut ecology.

Alex: And whereabouts in the sequence would you bring in things like hydrochloric acid and digestive enzymes. Is that something you would come to as a final step or something that you might introduce earlier in that sequence?

Dr Ruscio: Yes, great question. So enzymes and hydrochloric acid are part of step 2. So they are on par with probiotics. But there are some caveats and some nuances regarding hydrochloric acid. Not everyone needs hydrochloric acid and there are some history factors and presentation factors you can look at to determine are you more likely to need hcl, hydrochloric acid or less likely.

Now the older you are all these factors increase your need for hcl. The older you are, being over 65 especially. If you have a history of an autoimmune condition or if you have a history of anaemia all of those increase up to maybe 50% that you'll need hydrochloric acid. Now if you are younger and there is no history of auto immunity, you have no history of anaemia and especially if you are young and you have things like reflux and heartburn it's highly likely, it's not a guarantee, but it's highly like that hcl would be a bad idea for you. Now this gets confusing but if you're older and you have reflux you may see the reflux go away when using hcl. So it is a little bit confusing because sometimes the same treatment can either make the same symptom better or worse but we lay out some of these nuances in the book protocol. That is one of the hairier aspects to navigate but it is important to maybe counteract the natural medicine belief that everyone needs hydrochloric acid all of the time. I think that is not really a tenable case.

The enzymes you're a little bit less at risk for any negative impact from enzymes so we do offer people kind of a low dose enzyme/hcl combination formula with a couple of caveats if you are in this group be careful if you are in this group it is more likely to help you. Here are the warning signs to look out for. If you experience any warning signs stop.

Alex: Fascinating. I think these nuances, these details, are often what makes the difference. I would like to change tack slightly and explore a bit around the relationship between gut health and hormones. So maybe you could say a little bit around how improving gut health will impact upon things like adrenal function, the relationship with the thyroid?

Dr Ruscio: Well the thyroid piece is, I think is a crucially important one. And I am sure you have talked about thyroid. When fatigue comes up thyroid is probably one of the quickest things to jump in terms of a potential. And yes, undiagnosed hypothyroidism can of course be a cause of fatigue. But the thinking that there's this whole mass of people who their conventional doctor has missed the hypothyroid diagnosis that is incorrect.

And it is getting so bad now that there are even independent researchers for example, there was a study published in Greece earlier this year that looked at people with kind of this ambiguous hypothyroid diagnosis. They found, and I believe this is in 199 patients so a decent sample size, they found that 60, six

zero per cent, of the people in that group were not actually hypothyroid. Now it is not just in Greece that they are finding this. I am finding this in my practice quite commonly, alarmingly commonly. And even the clinicians who read our newsletter and are applying some of these concepts are now finding this in their clinics. In fact we just published in our clinicians newsletter a guest case study from Dr Robert Abott who's finding the same thing in his practice and he's getting admittedly irritated that people are being misdiagnosed with hypothyroid, being put on thyroid medication, not seeing enough of a response all because the provider is either educated poorly, meaning they've have been given some over cells education or they're not being objective enough and just kind of expecting everything to be caused by a problem in the thyroid.

But at the end of the day what ends up happening is, is people are told they are hypothyroid when they're not and they are given medication and it doesn't make them feel much better and they end up staying on the medication for years. I have seen patients who have been on medication for five years and when you look at the labs diagnosing their hypothyroidism and they're clearly not hypothyroid, not even by any generous stretch of the diagnostic criteria and it's no wonder they are not feeling any better.

Now there are people who are truly hypothyroid, yes of course, but what we want to be careful to do is not jump to hypothyroidism as the cause of the fatigue if there's not clear diagnostic lab evidence justifying that and at the expense of here's a person with gut symptoms that haven't been addressed as exactly was addressed in this case study and many a case study, where the hypothyroid diagnosis was loosely thrown out there. Someone was put on thyroid medication, didn't see an optimal response, a problem in the gut was missed and that was left unfettered for years and years and years only to make their way to a guy like myself or one of the clinicians from our newsletter and they look at the lab work and they say you were never hypothyroid. Did you feel any better on that medication? Not really. Okay let's go to work on your gut. A few months later all of their symptoms are gone.

Again, I don't want to disparage any provider who is treating thyroid, obviously that can be a very important thing but it is being blame for far more than it is actually causing and this is leading to an endemic problem of over diagnoses of hypothyroidism in functional medicine.

Alex: And I guess part of what is also happening there is that the thyroid medication can give people a bit more energy, right and so if they're gut functions not working and their fatigue is as a result of that. In a sense the thyroid medication is compensating for the symptom of fatigue but it is not really dealing with the underlying cause.

Dr Ruscio: And I think you can make an argument. I don't think it is a highly tenable argument, but I think you can make an argument of using thyroid

hormone support in the short term to help someone who is dealing with this inflammatory burden from their gut. I am okay with that but here's the problem. These doctors are not telling the patients, you don't have hypothyroidism but we can give you some thyroid support to get your levels a little bit more optimal and then get you off of it. These people are walking around thinking they have a diagnosed disease, when they actually don't. And that distinguishment between hypothyroidism disease, thyroid support or just some optimisation that delineation isn't being made.

Now it is also important to mention that there is a fair body of evidence showing that patients can feel worse. Especially if they are given a combination T4 plus T3 medication when they don't need support. And this is because part of what you see its known as euthyroid sick syndrome when people are inflamed they actually, they can have, especially when they are in the critical illness situation, so very ill, they'll see a decrease of T3 that's a metabolic adaptation to reduce the stress on their body.

And so finding someone who is naturally hypothyroid but their downstream hormones are skewing what the body is doing on purpose to try to protect the body from the stress that is the rev up cellularly from thyroid hormone and then you say well that's low so we're just going to give them a bunch of that and try and force the body to do what you want, some patients will actually feel more fatigued or be anxious or have anxiety and there are a number of patients.

And this was hard for me to figure out at first when patients would come in on something like omnithyroid or nature thyroid these T3/T4 combinations which are supposed to be so much better, reportedly, and claim that they actually felt worse when they went on them. And it wasn't until I stepped back and looked at the literature that you see, things like meta analysis showing that only a minority of patients but yes some patients, will do better on these combination formulas. But you run the risk when you give those combination formulas pre-emptively when you haven't built a case for them that someone may actually feel worse.

So there's a lot of nuance here that it is hard to get into all of it but the one thing I want the viewer to come away with is make sure the person who is diagnosing you with hypothyroidism seems to be objective and you may want to probe into am I truly hypothyroid or do I just have some not optimal values. And if you are being given thyroid hormone and not feeling any better there's a good chance the problem may actually be coming from your gut.

Alex: Fascinating. That is a really interesting piece. I am mindful of time but I would also just love to touch on a little bit on around patients that you work with which because their gut has been so inflamed and so irritated for so long that then become so very sensitive to a lot of the treatments they might otherwise do. For example, people that need anti-microbials that can't tolerate that can't tolerate anti-microbials because pretty much anything they take

they have a reaction to. What are some of your preferred ways of navigating those sensitivities?

Dr Ruscio: Great question. So for some of these patients that are very sensitive there's kind of two strategies we can employ. One would go through those same therapies but doing it very cautiously and one treatment at a time in a stepwise fashion. So instead of all three probiotics one at a time. Instead of two different anti-microbials, one at a time. So sometimes the way to get there is just to slow down a little bit, do one thing at a time and whenever you see a reaction, try a different formula. And I also actually talk about this in the book which is it is often times preferable when using as an example anti-microbials to use a cocktail of maybe 7 to 10 different anti-microbials in one counsel. For someone who has had a reaction though we may be better served by using a single ingredient anti-microbial. And so I offer an alternate protocol for highly sensitive patients where if you notice historically that you are very reactive then let's not use a 10 ingredient formula let's use a one ingredient formula and if you tolerate that, great, we can continue with it, if not we will try another single ingredient formula. Obviously if you have more ingredients and are you are reactive it is a higher probability that something in there will irritate your system.

So that is one approach it is just simplifying the landscape a bit. Another approach can be using other gut supports and there's a few contenders here, an elemental diet is essentially a gut friendly. I will kind of give them to you quick and then we can go through them in detail if you want. That's a really hypo-allergic liquid meal replacement that someone can use exclusive liquid nutrition for a few days, or even longer, as kind of a gut re-set. There is also certain nutrients that can help to rebuild the gut lining and then there's also immunoglobulin's, which can help to bind toxins and irritants in the gut. And the formulas I use there are elemental heal, gut rebuild nutrients and intestinal repair formula. Its not that you have to use all of these at once but they all support the gut to help to calm down this over zealous inflammatory reactive immune system. So these are all viable options to help the sensitive patients get their gut a little bit more able to tolerate these things that can further heal or further combat this bacterial and fungal imbalances that might be present.

Alex: That is fascinating and it makes sense that sometimes you have to calm things down enough to then be able to do the other pieces. Before we come to how people can find out more about you and your work just one thing I know that is also important and I think has been somewhat implicit in what you have been saying is that gut healthcare doesn't necessarily have to cost the earth and I think a lot of people that have been down, either the self treatment path or they've been seeing a lot of practitioners they have been spending a small fortune on tests and supplements.

So how do you encourage people to be able to do this in such a way that it doesn't end up necessarily re-mortgaging their house to pay for the process?

Dr Ruscio: You are absolutely right, the runaway cost of functional medicine is also a serious issue that I think needs to be reformed and there's definitely a faction of the functional medicine movement that are trying to make this reform. And I think this is a growing pain in the field, which is a good growing pain which means we thought we needed a lot of stuff to get people healthy. Now with the gift of having increased scientific scrutiny of what we are doing we are realising that of all of these things we were doing offering a patient, a couple of them may have really been responsible for the benefit the patient was receiving. So we can consolidate to those things and cut the fat out of the model. Some are fighting that and other people are embracing that, but I guess that is just what happens with the tides of change. That distinction in philosophy can be the difference between a couple of hundred dollars of treatment or a few thousand dollars worth of treatment.

This is legitimate and the same thing applies with testing which is why in the book I don't call for any testing because you can see most patients fully improve without needing any testing. Is there a time and place, yes. But there is no way I could scientifically defend the statement that to use these diets, to use these probiotics, to use these anti-microbials, to use the immunoglobulin's or elemental diets that we have been talking about you must have testing pre/post to do that. That is not a scientifically defensible statement to make and therefore it's not something I endorse.

Now can you use those tests to help guide these treatments, yes, but you would really be surprised how far you can get if you administer one therapy, listen to the person's symptomatic response and use that to inform what your next step should be. And yes that will bring down the cost of care. You can go through, depending on how stubborn someone's case is, you can go through the entire protocol in the book for the cost of one to two functional medicine tests. So that by the time you are just getting started you could be done, from a financial point of perspective.

That is important to mention and again it is not to say testing is bad but it is in my opinion vastly overused and to the financial detriment of the patient. Also I should mention that if these tests are not interpreted appropriately you can have people thinking that they have a condition that they don't have and we already hinted at that with thyroid and the same thing happens with the gut. Some of the gut tests are very, very cutting edge and also experimental and so even though the test says positive we don't really know how often that positive is actually positive as compared to just some noise. And that is incredibly important to the mind because some patients when their labs are being interpreted by an over zealous provider they walk away thinking they have 10 things wrong with them and they have nothing wrong with them at all it is just some of these markers are experimental. There is one example, really quick here. Zonulin are in the market for leaky gut. The evidence showing

zonulin is highly correlated to conditions, it is not fully born out. Yes there is some evidence documenting that people with certain diseases will have higher zonulin but there's also evidence showing that when people go on certain diets and feel vastly better their zonulin tests get worse.

So I mean these things have to be accounted for with how we interpret these tests, which is one of the reasons why I would not necessarily recommend repeat zonulin testing. You could make a case for it and use it cautiously but again we have to be careful with this. How do we account for these couple of studies showing these people improve their diet feel way better, but their zonulin tests got worse. So because of that I am cautious with testing. Testing helps bring down the cost and you are absolutely right cost is a problem and something we want to be sensitive to.

Alex: I think one of the points that you make extremely well is also the importance of getting fundamentals in place and taking things in the right sequence. And i think it is absolutely right, that it is very easy to get seduced by the shiny objects of this kind of new magical thing without recognising those fundamentals have to be there.

Dr Ruscio I am mindful of time. For people to find out more about you and your work what is the best way to do that?

Dr Ruscio: There's a couple of resources available to you. You can go to our website, which is drruscio.com. There's also the book, 'Healthy Gut, Healthy You', which really gives you the full information and then closes with that stepwise protocol that you can go through to heal your gut in a personalised fashion. If you are looking for a bit of a quicker on ramp then we have developed a quiz at drruscio.com/gutquiz and this quiz will help give you a personalised, kind of simplified on ramp protocol, to help you, based upon our quiz answers, what might be the couple most impactful changes you could make to get started. So those are a few options for you there depending on if you are highly motivated or if you are kind of overwhelmed and are just looking for just kind of the easy on ramp.

And there is way more out there on the Internet regarding what I am doing. If you are a clinician there is our clinician's newsletter where if you go to drruscio.com/review you can plug in and start with information with that. I would really encourage clinicians to plug in because I like to think that the group in this newsletter, it is actually really valid and to see other doctors now seeing these mis diagnosis, these over utilisations of tests, and making changes with their patients and getting patients healthy otherwise who weren't able to get healthy. So it is not just me able to do it. If i document it and share it with other people they can replicate it and see the same positive experience for patients. Which again has been really, really gratifying to see. So that is a few things that people can plug into.

Alex: That is awesome. Dr Ruscio thank you so much again for your time and once again congratulations on an excellent piece of work. I would highly

recommend people get the book. As i said I think it is one of the best I have read in a lot of reading over the last few months. Thanks again for a fantastic interview. It has been really insightful, I really appreciate it.

Dr Ruscio: It has been a pleasure. Thank you.