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### 1. How long can it take to become truly fat-adapted?

Video Time Stamp: (00:16:34):

Remember in medicine I told you the reason there's 50 different ways to take magnesium is cause there's no really one good answer. The same reason that how long does it take to become truly fat-adapted? It is variable depending on how insulin resistant your body is. If you have only been insulin resistant for a couple of years and you're 32 years old and you've really done great with keto and lost 20 pounds in the first weeks, yeah, you're going to become fat-adapted a lot quicker than somebody who's been a type one diabetic on an insulin pump for 20 years in your level of insulin resistance is so much higher. That answer of fat adaptation depends on how long excess insulin has been circulating in your body. That's one part. The other part to how long it takes to be truly fat-adapted is how strict are you at



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the 20 carbohydrates per day? When people want to shift away from that 20 carbohydrates per day?

The part of that question of math is, how much did you stimulate insulin that day? And if you marched through this ketoCONTINUUM, I am trying to guide you into layers of advanced stress to your metabolism in a methodical way. When people show up and say, I want to do keto, I've got a wedding party to be in six months and I need to lose 70 pounds. And if they start right at fasting or eating one meal a day, but in the process, they really didn't increase that fat adaptation. They do one meal a day. They will get fat-adapted over the course of six months, but it's living health. They didn't use the hormones that make Keto feel good. The chances that person is going to stay consistently Keto when they hop over all these other steps is truly why this course is here.

Thousands of people write into the channel saying, why isn't it working for me now? And in part it's because they did not become fat-adapted before they started doing all these advanced stresses of their metabolism. So when they say, how long does it become fat-adapted? Number one, I have to wonder what their insulin levels have been over the last five years. And number two, how strict can they stick to those beginning rules? Those ones I'm truly trying to say, do not distract the newbies with all these other rules. It is really blinders. Seeing 20 carbohydrates per day, total carbs stick there and watch what happens. So the answer is a hedge.

The good news is your body is going to tell you the symptoms of being fat-adapted are so much louder and more consistent than any blood test than any measurement. Your body will tell you. There are some psychological parts in there that can derail people.

There is this guy who will eat three meals a day. He is totally fat-adapted, but his rhythm of eating three meals a day was stuck and he could not advance to the next level. Not because the chemistry wasn't right. He was totally not hungry. He was nauseated by the third meal. But because his rule book said I must eat three meals a day, he totally got stuck. He was fat-adapted, he could move on, but the psychology of this kept him shackled.

### 2. Can you experience autophagy even if you aren't fasting?

Video Time Stamp: (00:21:46):

Yes, absolutely. So the Dr. Boz ratio gets you a chemistry set that says, we know if you lower the glucose enough and raise the ketones enough. The module four gets you into even more of that Dr. Boz ratio, really gets you into the science of this.

We know that the ratio of low glucose and high ketones will spark autophagy in several, in a crop if you would have cells. So the purpose of autophagy, the word apoptosis is a science



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word that says, once a cell turns on apoptosis, which means to program it's death. You can't undo it and much like that, apoptosis, it starts in a process and the cell will die so is autophagy. At least that's the theory based on the science today, that autophagy once that still starts to process the recycling of those unused proteins into those cells, they don't go backwards. They really finished doing the cleanup right there and in the proteins that are activated.

Now the question is, if you've got a pile of proteins that all need to be recycled and you clipped autophagy, you pulled off one of them, then yes, you did autophagy, but you say, well, you know, doc, you said your skin is going to look better and your hair is going to have more color and you're gonna not have flabby arms. Why? I did autophagy yesterday? Why is that still there? And it's because you have, it's the pile of proteins that are waiting to be recycled. That impart will show you the outward symptoms of autophagy.

Autophagy is a whisper and it's a cellular whisper of science that's happening. We know that beauty is you can measure it. Now, I don't have everybody out there checking blood numbers, but if you are checking blood numbers and you look for that ratio, the reason I reached for a Dr. Boz ratio of 40 every week is I want a high level of confidence and I just don't think I can do a Dr. Boz ratio of 20 every week. I just don't know. I don't want it to be that strict that this fits with my life, that I can hit that number and then go back to my normal keto journey the rest of the week.

And then week after week I clean out a few more proteins, sometimes sitting at a Dr. Boz ratio 40 without fasting. But the cleaner, if I would, if I was perfect and never had a mistake I bet there would be multiple times in a week I would hit a Dr Boz ratio 40 without fasting. And when you hit that chemistry set, that's what triggers these cells to start recycling.

### 3. I wake up three times a night minimum. Does this raise my glucose every time I wake up? Why am I not feeling all this great energy?

Video Time Stamp: (00:24:46):

So let's just review the difference between the dawn effect and awakenings within the night. In the process of a brain sinking down into the deepest sleep that is where your body repairs, that is where your body resets. That is where your healing happens deep in the depths of your sleep. Awakening three times a night is a really tough break in that repair process. You want the best sleep for heaven sakes, don't try to sleep in a hospital cause they're waking you



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up way too many times. The rest that's needed for repair is long, stable, deep sleep of that six to nine hours, around eight hours of sleep. So when you wake up three times in the night, it's not necessarily, it's the pattern of awakening slows down a healing pattern, but it's not the same reason that you wake up in the morning due to the stimulus of your cortisol that comes from your brain that goes to your liver, which we call the wawn effect.

So this ties into those. The dawn effect is that message with the brain senses the sun is rising. And again, even if you've been working the night shift for 30 years, your brain still senses that the sun is about to come up and that rise in the sun sends a message from the brain to the liver. And what's it doing? It's saying, hey, I'm going to send you some cortisol. I want you to paint me, open a bunch of these leakages and bubbles inside the glycogen. Bubbles are stored glucose and that glucose flows out. Your brain loves using glucose. When it's available, it will use it and that increased energy will wake you up. Now it's all relative. If you've had an average blood sugar of a hundred, and then that cortisol surge happens and now your blood sugar rises to like 120, most people can not feel the difference between a glucose of 120.

And that process is dangerous to say we don't want you to feel that the energy you get from the glucose that is resulting in your liver releasing glycogen is enough to wake you up. But that's probably all. So it's not really this big surge of energy that I often find as people do fasting.

### 4. How can people have a very low Dr. Boz ratio and not be losing weight?

Video Time Stamp: (00:28:34):

I think I understand what this question is really asking, which is people can look at some of the posts on Facebook or on Instagram and they see these super low numbers. But much like what you don't see me posting throughout the week is what I do, what's my Dr. Boz ratio the rest of the week.

Now I sometimes check it and whenever I check it, I like to post it just so you can kind of see the transparency of what it does, what does a normal ratio look like? But when people hit a Dr. Boz ratio of 20, but then they go back to eating, the ratio doesn't stay that low. It is the process of saying, when we worked through this ketoCONTINUUM you're gonna see me, especially this next week, say each time that we tighten up the metabolism that we stimulate the metabolism, we now would have an average. If I could have a catheter measuring your glucose and your ketones at a constant rate for three days straight, you would see that when



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they fast and go hours without eating, that ratio really does seem. Again, Dr. Boz ratio reflects insulin so that insulin sinks.

But as you look at the ratio over time it's not nearly as low as what those posts are. So again, people post the shiny pictures of their life. They'll often have really good numbers, but then they go and eat and then the insulin gets stimulated and the ratio doesn't stay there. So if I could put you in a study and watch your Dr. Boz ratio sink and stay there, you lose weight, you would definitely lose weight.

### 5. Once fat-adapted, do we need to worry about shutting down metabolism with lowered total calories?

Video Time Stamp: (00:30:21):

What you're looking for fat adaptation is you want the chemistry on your side. So when you know you've got fat adaptation, you feel good, you can find energy even in hours of not eating. And when you eat you have a sense of satiety. That it really can take you for 20 plus hours of no eating. The question that's being asked that I talk about is low calorie metabolism by definition. When that fat-based chemistry is flowing within your body, it is a stimulus of protecting your metabolism. I'd like to just compare it to, go back 500 years where you weren't guaranteed a meal every day. When they have fat adaptation, when they have lean bodies, their chemistry was designed to protect the muscle from breaking down, which is what fat adaptation does. That dial down metabolism really has a tendency to use the breakdown of muscle products more than a ketogenic state would. That really does summarize the difference between using a ketone based weight loss chemistry versus a calorie based weight loss metabolism.

Can you absolutely protect from shutting down your metabolism? There's no absolute, but it's a really good sense of confidence that if you're eating at an interval of one meal a day or one meal every other day. The total calories isn't what matters. It is that sense that you feel, you will feel good when the metabolism is working in your favor. You will start to have symptoms of not feeling good, crabby. I don't mean like I'm fasting and I got crabby and irritable. This past week we talked about cravings versus hunger. I'm not talking about a craving where you smell cinnamon buns and you really kind of get crabby with everybody around you and start biting heads off. No, I'm not talking about that.

I'm saying it in the sense of really feeling punk like they want to take, they want to sleep, they have low blood pressure, they just feel very low energy that is assigning, you should probably break your fast. That you're pushing it a little too fast, too hard. When the chemistry is



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matching the weight loss, they feel good. So keep that in mind as you're trying to sort through what's the difference between fat adaptation. Do I need to worry about shutting my metabolism down, especially if you stay in the process of following the ketoCONTINUUM? Again, these next couple of weeks are going to really fold closure to a lot of these advanced questions. You should feel good. It's one of the key things when I'm interviewing my team, my folks in the morning, 2:30 in the morning, My weekly keto group when they have questions for me, I keep asking questions until they are able to say, well, if you don't feel well, there is usually something to this.

But most of the time that weight loss is accompanied with a pretty good energy level and a good sleep pattern where I have a lot of confidence that they're doing the right things.

### 6. What effect does exercise have on ketone production? If I'm fat-adapted, could exercise lower the ketones in my blood?

Video Time Stamp: (00:33:21):

Absolutely. So ketones are fueled when your body is making ketones and you've got, let's just say 2, 2.1, 2.2 that's a lot of extra ketones. Your body is actually mismatching if you have that many ketones around. So it's wasteful for your system to mismatch your, you will reset to not produce that many ketones. Unless you keep stressing your metabolism and you can stress your metabolism by doing a little exercise or denying food.

When people fast for 18 hours, they get to 36 hours, get to 48 hours and they say, well, my ketones are up to 2.5. I've never seen it so high. It's because you stressed your metabolism and the body produced a bunch of fuel. You can use that fuel by going to do a workout. You will lower the ketone. There's a season last year where I would check my numbers in the morning, I would go for a workout and then I'd get home and before I'd even drink a sip of coffee, I would check my numbers again and you'd always see those ketones lower during exercise. So they are fuel. They will lower your ketone number. It's when people say when should I check my numbers?

I'm like, there's so many variables that go into ketone production and ketone use as well as glucose production and glucose use. If you're going to spend the money and you're going to prick your finger, do it at a time where there's the least amount of variables and that is first thing in the morning, that message from your brain to your liver is very stable. It sends the same cortisol drip every day. How your body responds, how much glucose is stored, how





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much glycogen is in storage will change as you lose weight. But the delivery of the hormone is very, so morning. Fasting is a great time to check it and yes, you're going to see a higher production of your ketones.

### 7. How long do I stay less than 20 carbs per day?

Video Time Stamp: (00:35:03):

It depends on what your goal is. If you look at 20 carbs or less per day that is a really great way for me to know that you're probably continuing to stress your system and have ketosis adoption. So when people first come on the ketogenic diet, when our newbies come in and they cut their carbs to 20 and they lose all this weight, really put a stress on their metabolism and then you show up a year later and maybe they've kind of drifted up towards 50 carbs per day. But even if they never went to 20 carbs today, they only went to 50 carbs today, but they got all that weight loss and they stayed the course, that is no longer a stress to them, their body's used to that. I know that the human body at 20 carbs or less per day has to be continually stressing to improve their system.

But if you're healthy, if you reach your health goals, then you certainly don't have to stay at 20 carbs per day. There is a variability of, I added this back in my weight loss at my weight, stayed stable, my blood pressure didn't go back up, my glucose didn't go back up. I feel good. This works for me at the season of life that I need. So when people come to me and they say, I'm on to this ketogenic diet, I have cancer like your mom. They do really well for the first couple of weeks, but they don't have a support system. They hopped over all the hormonal improvements and they're still trying to hold it to 20 carbs per day and their brain is like, I don't like this. I stopped.

I say, it's too much for you at this season. I know cancer is scaring you and you really want the metabolism. But the process of improving your health has to fit your life. If you stress to 20 carbs per day or less per day, and then the confinement of Corona virus has ticked off at everybody and is irritable and you're going to sleep in a tent for the next two weeks cause nobody can stand to be around you. Oh, for heaven sakes, make an adaption. But know that the rule of 20 carbs per day, it's just the highest confidence to know that is truly a metabolic stress for the human body. It's 20 carbs or less per day. I really remember I still probably stick to 20 carbs or less per day most of the days. Like it's only when I screw up and cheat that I would have more than 20 carbs per day. My body's used to that. I am constantly in ketosis. I can flex my metabolism to be strong when I needed to be. And I know that if ever I had a reason that my body should attack a virus, that I would need to take chemotherapy, that I have a metabolism that's very strong because I'm constantly stressing it. I'm working it out by not using carbs as my primary fuel. This is a human race. We're trying to help people with not this crash course in misery. So 20 carbs per day, amazing for getting people started and then



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people adjust to what fits for them. In my little support group, we do talk about when people are having trouble, I want them looking at, reset to 20 carbs per day.

Watch what happens, look at what your sugar does and know that your system is saying, hey, I got plenty of places, I need cleaned up. You can't do that unless you give it the chemistry setting to get that accomplishment.

### 8. What do you suggest for sleep medications if you're fat-adapted but you're still not sleeping well.

Video Time Stamp: (00:39:16):

In the handout I shared with you, there is a blog post that says a case for sleep. Jennifer Marie and her husband we're trying to really kind of tighten up their keto adaption. Her husband had a pain syndrome where he'd had an accident, he wasn't sleeping well and he was using some of the not so good medications. It's great for pain and great for short term, but they had really turned into a messed up sleep schedule. Unfortunately when you don't sleep well, the pain gets heavier, the cortisol will eventually get heavier and they don't do very well. So I talk about the ones that are safe in my practice are Tramadol's and then what I call the atypical antipsychotics. I know that sounds really bizarre, but they are a very wonderful reset of sleep. Again, sleep is one of my first loves in medicine where the science of getting your brain to sleep really well, like it's one of my favorite things to help somebody with because so many things in their life get better when they sleep better. Now when you tell somebody antipsychotic, in fact, before I would let them fill the prescription, I'm going to say, when you go to Google this medication, you're going to think, I think you're crazy, but you're not crazy.

This medicine just shuts down those processes of sleep. It's like the hard reboot to a computer where I can fix your sleep in a trickle, but that means you gotta be perfect for about a hundred days. Or I can fix your sleep in three days, which means you need to take a vacation from your life and let me control your sleep. And of course I'm not doing this to you, but the reason I'm telling you all about this is when you read that article, a case for sleep, I tell people, print that article out, print that blog post. Out at the bottom there are links to the science based articles that show why these antipsychotics are so powerful at resetting sleep. And that's where you'll find that Trazadone is also a very good one, but it doesn't screw up sugar.

The ones that are the dangerous ones, they act like boost. And I do a lot of this teaching in my brains of addiction course where I go through what is it doing, why is it doing it and how did we come to treat people with medications that act like boost. And if we want the blue boost



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for five days, we call it Librium. If we want the boost to last for three days, we call it Valium, if we want the boost for two days, we call it Klonopin, the boost for less than a day we call it Adavan or Xanax and it ages a brain and it does not help your metabolism. That is not the sleep medicines to repair somebody who has diabetes or is overweight. You will not make that problem better. But these are some of the medicines on my list. Obviously you need a doctor to do this.

### 9. How do I increase low ketones? I'm adding MCT oil and BHB and it increases, but later drops back to under .5 (blood measurement)

Video Time Stamp: (00:43:25):

So this is really important because there's been a lot of you that I said, if you're struggling, if you're in that 200 club, a sip on BHB, have some MCT, and slowly work through the plan for the next two weeks. Cut those carbs down. If you're above 300, cut it to 200, then cut it to a hundred, then cut it to 50 and then get to the 20. Those steps into becoming keto adapted are super important to not give you such a crash course that you drop your blood pressure and you end up in the hospital while we're trying to help you.

So if you're in that zone saying, hey, I can make my numbers look really good when my blood measurements, when I take these ketones in a can or when I use MCT, yes, these are really good biohacks for me. Making sure that you're a little mitochondria know what to do with the ketone because that first week when we have people keto adapted our newbies, drop their carbs to 20, their body made a bunch of ketones and they peed most of them out because their mitochondria didn't know what to do with them. It also is part of that mental sync for the transition of becoming keto adapted. Their brain doesn't quite know how to lift ketones from the blood across the blood brain barrier cause it's not seen them. So by using MCT and BHB, you can totally surge those ketones and your body knows what to do with them.

So it's not a bad thing. It is something that is a tool that as you learn to say no to some of these other things, the better your ketone production will be when you have ketones of 0.5. First of all, that is ketosis, but it's probably not enough stress to lose weight. So if you're looking or saying, I want autophagy, I want these better numbers. Well that means you need to stress your system. So the first stress that we went through for newbies was cutting to 20 carbs or less. As we move through this ketoCONTINUUM, you're going to see me use different ways to stress your body and, and then leave some of these bad habits, at least compartmentalize to a few hours a day because that is what causes your body to respond. Low ketones are assigned that, yep, you're in ketosis, you can stay in this stable zone forever,



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but if you're looking to improve the repair, we're going to move you along to ketoCONTINUUM.

### 10. Will you give us some daily meal plans with <20 g carbs and a good cronometer fat/protein ratio before this is over?

Video Time Stamp: (00:45:16):

No. When it comes to food plans and food diet meal plans, first of all, there are a ton of people out there that make them and they do a lot of work putting into them. Thank you for those of you that do them, but just like this past week where I asked you to taste sardines and if you need a good belly laugh, go look at the sardine comments over the last week and those striking, just like pinch your nose, I can barely handle this. Then realizing, okay, it isn't that bad of a taste. It really isn't that bad of a taste. But as we take your palettes from a very carby palette, one that's been using carbs a lot, and then I try to to write a a meal plan, it will be specific to what your tastes are and they change so much in the first year of keto that I could have a 20 gram carb meal plan for week four. I could have one for 8, I could have one for week 12. I could have one for week 16. Each time you might get stuck at one of those palette, but if you're maturing your palette, it changes so much in the first year. That's why you see these things fail and I contend you will have the best control by using this little trick that I'm going to start sharing that our friend Spencer is going to share with us.

While we don't offer a specific meal plan in the cronometer, what we do is we have this feature called suggest foods. I'm going to give you guys two different examples. You can access it on the web. Basically what it does is it looks at your current macronutrients and your current micronutrients. If you have, so you can see this, the account on today has a good amount of vitamins but not quite enough minerals and the proteins still need to be dialed in. You can take a look at that. I'll just click that here. It's going to take a minute to load and it's going to suggest foods that fit your macros and fit your remaining requirements for the day, right? And so you can see here we have a couple couple of things and obviously because of the way I have set up my account, that is according to the 20 total 20 grams of total carbs and the protein fat requirements according to Dr. Boz program, you're getting foods that actually fit perfectly within that, and so again, you can see, you can like the foods or not and this program out your further recommendations.

If you just want to cycle through and see a bunch, you can just hit the X button and you're going to see all of the things that are recommended. And now on the side here, if you're a vegetarian or vegan, you can also switch that up here too. This is where you get like the



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helper of the year award. Cause this is the question that I cannot answer for these patients. I just don't study it enough. I just keep saying go to the cronometer app and find this button.

Yeah, it's a tough thing. That's a vegan ketogenic diet is a pretty masochistic way of life, I think in my own opinion though. So anyway, you can also exclude other things. If you have dairy, nuts or seafood you can exclude those things here. I also have a bunch of funky recipes on here, I've excluded my recipes too, but if you've created a bunch of custom recipes, you're going to be able to see those as recommendations too. Now, the second scenario I wanted to show you guys, now this is in the middle of the day. You may not have the things that we're suggesting in your pantry, but if you want to plan out your meals, actually build your own meal plan. We'll just go to a day in the future here and we're going to click on suggest foods here. Now, I don't have anything logs for the day, so we'll get a sense of what it's going to show me. I'll go to whole foods so you can see you're getting a lot of nuts. On the vegan diet here, if we go to all foods, we'll just take a second here to load up. We see a great protein to fat ratio. And this is basically because we're at the empty day. This is mirroring what the ratio is, purely from that macro a target standpoint that you've set up, following Dr. Boz program. This is where I would recommend if you're looking for some food suggestions, you're not sure what to eat or you're not sure what to shop for in the store. I would go here and check it out so you could get some good suggestions and see how those things fit your macros.

The other thing that we talked about was finding a way that when we ask folks to say, don't look at calories, look at those total carbohydrates. Just go back and show when they were setting up that account where that total carbohydrate a little dropdown is.

Absolutely. There's two things that'll show you here. Go to settings and you'll actually, before I do that, so you'll notice in here, I'll jump back, it would be more clear. I've set this column over here, two grams of carbs, and I can see what the total grams of carbs in each of the things that I've logged on. And to do that, we're going to jump over to settings display. Just in general diary, you can choose what to display in that right hand column. It's by default, it's calories consumed, but you can set it to total carbs here to get a sense of how many carbs each thing you're logging is contributing to your total. So one way I would recommend to kind of filter out the calorie information day to day and also just jumping back to targets to make sure that you have total carbs selected up here and your macronutrient targets area. And you can select total carbs here. We have a couple other more advanced options if you're further down the line in the program. And then at the ketogenic calculator, we recommend the rigorous, I believe the rigorous is the setting that works. That's what I recommend. And if you are doing any adjustments to that you're customizing, I would select custom and again, you can actually edit the values in here so you can either just mirror what's in rigorous or put your own values for your own needs there. And that's it.



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There are other carb counters out there that are super easy for patients to learn, but it is at the risk of not really solidifying the level of education that can carry forward for a lifetime. And if your app has all those tools, it does take a learning curve.

### 11. Dawn syndrome, what to do?

Video Time Stamp: (00:55:54):

This dawn syndrome, they don't mean down syndrome. They mean dawn's syndrome, which is when the morning comes, their sugars are high. What do I do? This is one of those measurement tools that I think plays into the next question to say, yeah, when your sugars burst up above a hundred in the morning, it really is a reflection. That's your insulin. It has been high for a long time. In the mornings you do not have insulin. Your insulin is never zero, but you have the lowest levels of insulin when you're in those deep hours of sleep. When you awaken in the morning, that signal from your brain to your liver is releasing sugar. If it releases an abundance of sugar, like your morning fasting sugars are above a hundred, you have been insulin resistant for a really long time in at least six months, probably a couple of years. And to get that to go back down, it takes months of staying the course. We know that if you want to do it faster, we're going to move you down that ketoCONTINUUM a lot, to higher numbers or to more advanced levels of ketosis.

We're going to go through some of that in the next week. Saying when I get you from right now, end of module three, people are hopefully at least two meals a day. And then I shuffle you through the higher levels of metabolism in this next week. It's those times when they're checking that morning fasting sugar, when they say, wow, my sugars are so high. How do I get this to go away? I'm like, you gotta stay the course. And that's why you're going to see ketoCONTINUUM number six, show up in ketoCONTINUUM number seven. And even if you can't stress all the way up to seven and eight, staying the course at keto continued number five and six for six months, you will steadily see that morning sugar come down. This is a long game.

This is the tortoise versus the hare. And you stay the course to slowly undo what your body did in secret. It didn't tell you it didn't send out an APB saying, hey, this is what's going on. Stop doing that behavior. And now that you have awareness of it and you want to undo it, there's some fast ways to undo it. Once you're fat-adapted and there's some slow ways and really the answer of how quickly you take care of that will be what your life looks like? How is your support system? Which brings you back to making sure you have a support group.



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### 12. Insulin resistance - how do I know without going to the doctor? What are indicators?

Video Time Stamp: (00:57:32):

Get that little piker for your finger, but for those newbies, you do not need to do this. You can stay measuring urine ketones the whole time as long as you're healthy. I mean when you get to follow your health, okay, if you run into trouble and you want to hack it, that's where we start talking about poking your finger. So please do not be overwhelmed that everybody has to buy a meter and poke their finger. I contend that most of the people watching are ready to put this into high gear. I want to be better. I want to leave my house from Coronavirus. No, I'm not going to have a cytokine storm. All of those things are very real. That's not fake news, but it is not something where you can start the ketogenic diet two weeks ago and today have a beautiful immune system. You have to address this insulin resistance so when people have insulin resistance, one of the ways they know they have it is they're on the ketogenic diet.

They're following Keto and they don't lose weight. They get stuck because your insulin is still outperforming your stress. So I need you to stress to the next level, which is what the ketoCONTINUUM really outlines for you. Insulin resistance is a stubborn or ineffective amount of insulin. It shows that the morning fasting glucose is high and those ketones in the morning are low. Even if you scroll back from my history and Instagram and watch what were my sugars a year ago, what were they two years ago? What were they at the beginning of my fast a month ago? I still have numbers that aren't perfect, that aren't great and they are especially not great if I don't follow the rules. I'm human. We know that when you look at a Dr. Boz ratio, which you're going to learn about in this next week, you can measure your insulin.

I mean, I can do that. I do not measure insulin in my patients anymore in the office unless I am at an extreme puzzle because so often insulin is this very volatile, very high moving hormone that if we happen to capture it at the moment that I am expecting, then all is right with the world and peace and harmony. But more often it fluctuates. It goes up and down. And if they have a bowel movement before they go into the doctor to get their blood check, they just wasted their money. I can't make sense of it because of the stress. It wasn't 20 minutes after the bottom of, what was it, 50 minutes like, oh my goodness, that's too many variables. But I can look at the two molecules that insulin controls, which is glucose and ketones. When you look at them in relationship, which is what the ratio does, which is what the book ketone index does, this is the science behind quit looking at the volatile insulin.

Look at what insulin controls, which of these two numbers that slowly change, which is glucose and ketones. And by slow, I mean less slow relative insulin.



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13. Must I progress to OMAD or one meal a day in order to lose the last 10 or 15 pounds. Been keto for a couple of years. Or is there anything else I can do? Can I just cut?

Video Time Stamp: (01:01:00):

Here is the best answer, you're going to find out in the next two weeks. OMAD is one option, but I would contend it doesn't fit in everybody's life. And I think some people do Omad and they say they're not really doing the chemistry for OMAD. So you're going to learn about that next week. You're going to totally learn about my pet peeves from people saying, I've been keto for a year and it doesn't work.

I'm saying you're not looking at your chemistry. A keto is not a diet. It is a chemistry set inside you. Look at the chemistry and you'll know where you're going wrong. You do not need any new OMAD in order to do this, but you might have to have, if you're trying to get that extra 10 or 15 pounds down, you might have to have some stresses that I will outline in the next little bit. I have a couple of people who were chronic gum tumors and the chewing of the gum, their insulin, and I don't care if they would have not eaten for four days. They still had so much insulin production. Okay. Maybe four days, but they had so much insulin production that they couldn't lose weight until we addressed that. And that's coming up in the next few weeks here in the next few modules.

14. Is it possible that some people just can't lose weight on a ketogenic life plan? Following for eight months and old weight loss but feel good.

Video Time Stamp: (01:02:35):

Here's the key to this question is she says, I feel good, which means she's fat-adapted. Okay? So if you're fat-adapted, the beauty of being fat-adapted is to use the fat that's stored in your tummy and your thighs and your arms. That fat is sitting there as a fuel source for you. You cannot, you can't get it when you're not fat-adapted without a major price to the human body. When they feel good, they're keto, they're like, gosh, I feel so much better. I never want to go back. Okay, now lean up your body, improve the overall prediction for health. And if you





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haven't lost weight in eight months, it means you got to a certain level of that ketoCONTINUUM.

And you said, good enough for me. And if that's fine with you, and you do not need to lose weight, you're otherwise healthy. Great state of course. But if you're saying, no, I probably shouldn't be losing another 20, 30, 50, whatever pounds then your ketoCONTINUUM needs to be stressed and you're going to see how to do that in the next week or two.

### 15. What do I do if I don't absorb fat? Floating poop and diarrhea.

Video Time Stamp: (01:03:26):

Yes, this is important. I know 52 of you said, what do I do about this? And the key thing is staying the course is really important. I know in the group this past week, there was somebody who struggled with gastric bypass and as a consequence, she really can't absorb that. And if there's ever a patient that I, my heart just breaks for it is the folks who have had the surgery and the surgeon cut out or rerouted their gut to a point where they can hardly have the food, hardly gets exposed in the section of their gut where the hormones are made, where the feedback for how they're going to advance there.

It's either cut out and gone or it's rerouted that the only food that sees it is the burping food that goes backwards in their gut, which it shouldn't do. Floating poop is malabsorbed fat. And again, this is probably going to be a focused video in the future that I do because there's so many people that need to hear the science behind. Why do I keep saying, if you're fat-adapted, I need you to lick the spoon with that MCT, I need you to take one capsule, one bite on it, and you do that three or four times a day and you just switched the oil mouth and swallow. You don't have to bite it. You can swallow it. But I'm just saying a tiny, tiny dose of MCT, and what you're doing is you are upregulating the receptors in whatever part of your gut.

It's still working, even if they've had this surgery, you can see some of those receptors migrate downward and they somehow absorb the fat eventually. But it is a long haul. One of the key things, if you can't absorb fat, you are going to have dementia. I'm not joking. This is a huge deal. The reason I'm so strict about saying, listen to me, if you have folks floating poop fat in your poop, it is a malabsorption that will rot your brain from the inside because you are low on fat. Fat has essential parts that you can't make. You have to absorb them. You'll know



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you're getting close to a problem by looking at your vitamin D. Vitamin D is one of those minerals that yes, you need to, the sun helps you turn it into the usable version of that.

But your ability to absorb fat is one of the major steps in how good is your vitamin D? And if you have an inflamed gut one that's so inflamed, you can't absorb the fat that it goes into your guts and your guts just squirt it out the other end. You're in trouble. You might not feel it yet. You might not have enough storage in your body that you don't feel it. But I would push you to go back and look at your vitamin D in your labs over the last five years. And if it's less than 50, focus, listen to me, it's a really big deal. Your journey to figuring this out is slow and steady. Put that MCT on your tongue. The reason I keep saying MCT is it's the one fat that you don't have to digest. It gets absorbed and then your body can use it. Now, it doesn't have essential facts in it. You still have to put those in your life. But it's the one place where I can methodically put it in a pill and say, please keep putting it in on an empty stomach and just take one pill and watch what happens. Because you're going to have this as your barometer to say how well is your gut healing? And if you take a biopsy of somebody who has fat malabsorption, it is so swollen, it's almost not recognizable as gut as endothelial lining which you're not going to care about because it doesn't look like the normal gut shit. The cell structure is goofy, it's broken and it comes back when the inflammation goes down.

That's why this ketogenic journey is such an important part of saying, don't give up. The gal who said, I just can't handle it. It breaks my heart to say, the problem is you're going to show up in my office and I mean metaphorically in 20 years. And you're saying, well, why didn't somebody try to help me? The truth is fat malabsorption and people after gastric bypass you know, my whole clinic is a collection of brains that don't work. Why am I so passionate about the ketogenic diet? Because it fixes brains in a way that I've never been able to do with prescriptions, but they can't fall off. They have to stay the course. That's why this course is so important.

**16. How do we get calcium on Keto? Dairy has too many carbs. Cronometer tells me I get 15% of what I need.**

Video Time Stamp: (01:08:36):

Okay, good job using a cronometer. I bet my groupies are gonna know exactly what I'm going to tell you. So first of all, calcium is one of those minerals that you don't need as much of as the human, as we've been telling you. You have so much calcium in your body, in the form of bones. Now you say, wait, I don't want to use my bones. I'm like, I know, but if you're worried about calcium being, well, I'm telling you it's not critical. Eating a healthy amount of calcium is a good idea. But it's not the highest focus for what I would have you looking at. Instead, when



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people talk to me about how do I get this mineral in? How do I get more selenium? What about taking in cocuten? I say, wait a minute.

When I look at people taking in a supplement, the supplement is supposed to replace something that's missing within the body. So calcium is a good example of saying you're not missing calcium, you're just leaking it out your body and specifically the gut. So in most people they don't, I mean they have irritable bowels, they have inflammatory bowels, they have ways where their gut is supposed to be this nice tight knit, you know, fit. But as they swell, the cells don't fit. And that's where these little micronutrients slip out. So when people talk about vitamin replacements, and everybody focuses on the supplements and what's going on. I'm saying stop fasting and, and really allowing your gut to heal, which is what other thing for that fat malabsorption that I didn't say is you're going to heal a gut fastest when you slow it down when you stop using it.

If you want to stop, if you want calcium to be higher in your body first of all, I would make a huge bet with you that it's not low, that the cronometer app is showing you. You should have more because it's using the ADA guidelines and stop looking at the guidelines, the nutritional guidelines. I would contend the chances you're low on calcium is so close to zero. I'm not worried about it, but what it does give me a teachable moment is to focus on stop thinking that you have to replace all these minerals. When I look at my advanced keto patients, they don't take vitamins, they don't take supplements. They don't even have kumon or there's another one that somebody keeps asking about, berberi. They really have restored health to the part where the food that goes in is a high nourishment.

Then the most important part is they don't leak out so much fluid, so much minerals and vitamins because they're not chronically swollen. It's a really good teaching point.

17. If you fall off the keto wagon briefly go over 20 total carbs, do we jump back on where we left off? When is it best to start at wk 1?

Video Time Stamp: (01:11:10):

You go back to 20. Okay, so it says you go back to peak one. Well, again, what you're trying to do is reset where you know their success. Okay? Why do you do that? Because your ketones, especially if you've been fat-adapted, your ketones are going to rise, your glucose is going to go down, you're going to have less inflammation.



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Just like when people fast for the first, let's say you're on a carb diet. I lock you inside a jail or a hospital, call it what you want and you have nothing to eat for three days. You just get water. If you watch what happens inside their body, they flush out a bunch of fluids. That salt that they flush out is what we want you replacing. But most importantly, they tightened up the inflammation. When you fall off the keto wagon, what we really want is you to feel good as fast as possible. So 20 total carbs or less helps me know that is absolutely insuring you to say you'll feel better. Stay the course for a week, 20 carbs or less. I mean, I live my journey that way now because it's just such a better way of living.

### 18. Why does your heart pound after an epsom salts bath?

There was lots of talk about the Epsom salt baths and I pushed you to say, oh for one of these floats, it really changes how you see it. First of all, you see vacation cause it really is a vacation hour. But looking at the way magnesium goes into your system and really stays there is a powerful change when you look at the heart pounding that happens after an Epsom salt bath. That influx of magnesium does change how your heart conducts. But also if you were in a nice warm bath, you are a vasodilator, which means that your blood vessels are nice and wide open. You go to stand up and your heart can really pound when you stand up. Not bad. This is normal. This happens to every, almost everybody after an epsom salt bath. Just know that this is a shift of chemistry that's happened in your system. It is the real deal. You are adding magnesium to your body when you're in that epsom salt bath. I contend that the best sign that you're not super low on magnesium is you have one of your absence. I'm talking about the float spas. They go in for a float spa and they sleep well, but they don't have the palpitations. They don't have some of the other things that happen when adding magnesium to their system.

### 19. Does absorbing abundant magnesium during a bath or float have the same laxative effect? Why or why not

Video Time Stamp: (01:14:39):

So it does not have the same laxative effect. It is the lax of effect of magnesium is the salt within the bowel. When you swallow it , it attracts, especially when you swallow a big glob at a time, it pulls in fluid and then the salt is a salt. It flushes the salts. It's a great laxative. But adding magnesium to your circulation is not a laxative. It's just a mineral. Okay, so alternative to baths. I was showing somebody was saying they just don't have access to that. So this is where the float spas really good idea. My 76 year old dad, now he's on dialysis and that would



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not work for him. But prior to dialysis he would go get in a float spa and do a float a couple of times a month, maybe two times a month.

Just looking at replacing that magnesium at a level that was predictable, and felt good. He doesn't have a bath that he hates bathrooms. So that was how he did that. Other ways of doing it include like you have whenever I'm doing writing at my desk at home, I have this garbage bin, this plastic garbage bin, and it's filled like four inches from the top with water. I think I have like surge pounds of magnesium in there. And then I grew up on a farm and there was such a thing as a cow tank heater. Now you can buy them in South Dakota. But my friend in Texas says, I've gotten a forecast of Gambell supply and I can't find them anywhere, but it's a heater that you put inside a cow tank in the wintertime so it doesn't freeze over, but it's an awesome source of heat that keeps the water warm.

What I will do is I'll put the heater in my water of epsom salt and then I'll heat up the water nice and hot. Then you take the heater out before you put your feet in it, you'll electrocute yourself. Don't do that anyway. You heat the water up and you then have nice warm water for my feet with lots of epsom salt so I can sit there and do that cycle about six times if I'm writing for a day. I love the energy I get from the magnesium, but I also just like it's calming and it's another way to get some salt. The problem with that is the equation for absorbing magnesium is how much area of your skin is touching the water. If your water is only this full, you're going to have to put your feet in there for 60 days or something to get the same as you would in one hour of being in a full spa.

Just really keep that in mind as you look at the benefit of looking for a float spa, everything in the country seems to be opening up again. That would be an awesome place for you to try, a full spa.

### 20. Can sleep apnea really go away with keto, or will a person always need the c-pap?

Yes. I have so many patients who have given their C-PAP back to the universe. They are truly off of sleep apnea. Number one predictor of sleep apnea is what is the circumference around your neck? 17 inches. Next for the conference is a huge difference between what that cutoff 17 is really important. Have you lost weight? Measuring to see if you have a 17 inch neck. This was actually the case for people who were like NFL bodybuilders, linemen, if their neck size was 17 or more, the chances they have sleep apnea is much higher. Once you lose weight, just like you lose weight in your fingers, you also lose it in your neck. That decreased neck circumference does decrease sleep apnea.



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21. Do you recommend staying under a certain carb level at each meal? I heard that eating over 7 g of carbs at a meal could spike insulin?

Yes, you're going to see this ketoCONTINUUM as you work through it right now at the end of module three, you should be trying to reach for two meals per day. The reason is that every time you eat you spark insulin. If you're a hyper insulin maker, if you've already got insulin resistance, every time you have a bite of that food, you make insulin. Even if you only have one bite, the insulin spike has a minimum peak. When people say, I'm all mad, but I have a handful of carbs or a handful of nuts at bedtime and I have cream in my coffee, both of those spike your insulin. If you're trying to repair, I need you to stop doing that and you're gonna learn about that next week.

22. Please explain why you might stall with weight loss after being keto/lCHF for over a year? Is it metabolism? Is it hormonal?

You're gonna learn that next week. I wanted to make sure to address the gastric bypass story and just say that's a really tough case. That's why the course was created. You got to know the basics in order to get you to the higher chapters.

23. Why is the scale not moving?

I think I've talked about that. You've gotta be able to challenge your metabolism. We're going to go through some stresses this week. We're going to have some real stresses in the bonus video.

24. Why is sugar not dropping



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Your insulin resistant to fix insulin resistant? You're going to follow the videos in the next week?

### 25. Smoothies

Video Time Stamp: (01:20:31):

I think don't do that. Don't do smoothies. I don't know. I think of particle size, I think of what are you putting in a smoothie? How do you have a smoothie without carbs? If you have high fat in your smoothie and water? Okay. But that's probably not very tasty. What can you possibly put in a smoothie besides protein powder? Well, why wouldn't you just eat the protein? The satiation or satisfaction from food is about the mastication, which means chewing part. You skip that with a smoothie. Don't do that. I wouldn't do that.

### 26. Snacks? When to add? Before or after a meal?

What are you doing every time you put a snack in? You add insulin. If you're trying to reduce insulin, quit stimulating insulin.

### 27. How many snacks while fasting? On and on and on

No. No, no.

### 28. I have gained weight on the way to changing my body chemistry. What happened? Maybe all the whipped cream. How do I help myself against stubborn insulin resistant liver?

Video Time Stamp: (01:22:28):

It's a really powerful teaching point and it definitely belongs right here in module three. When you look at the first two weeks I think back to when my mom had, again, I didn't know nearly what I know now about keto. We just were doing high fat, low carb. That's all we knew. We knew that she had one shot. And we couldn't screw this up.

We didn't lose any weight, but oh my goodness, did we feel better? As you are going from a sign of really insulin resistance, meaning the body is holding onto a bunch of water, the body



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is definitely not in its healthiest version, but you are switching chemistry. I just need you to know with my whole heart, I need you to stay the course. That process of changing chemistry has to happen for you to arrive at the other side and then journey through the improvements that are found in your chemistry. I have a great example of a gal in our keto group who, oh my goodness, if you could find somebody who tries harder, I don't know how you'd do it. She injects insulin. She's been insulin resistant for awhile. She loves herself with carbohydrates or she has for most of her life.

Now she's been coming to the keto group and she's really trying to address this. I think she's stuck at a stable, like we've told her, stop stepping on the scale. Whatever the scale is going to do doesn't matter right now. I need your chemistry to change because it guarantees that you're going to get better. Once the chemistry changes, the weight will come off. It is a chemistry, it is a chemistry effect that is a consequence of arriving over this hurdle. Your stubborn liver took years to get this back. It's going to take us maybe a few weeks in your case. It has everything to do with how could you keep the blinders on. Could you look only at total carbs, stay with total carbs, don't look at anything else. When you do that, the chemistry does change.

If the scale is going up, just don't look, do not look at that. I mean I talk about it there. The most I would have somebody check is weighing once a week. Sometimes stepping on a scale is this kind of therapy. So I put it in one of the challenges at the end of, I don't know if it was week two or week three, where I just finally let them step on the bank scale cause they're like, I want to know if I've lost weight. I'm like, I don't care. There's so much more to this than the weight loss, that chemistry becomes the goal. Once you have that, you'll be amazed. You'll be, why didn't somebody tell me it was so stinking easy to lose weight? It's because the threshold you're about to go over. It involves trust. I would contend there are many people in the circle of trust in medicine that we blew it.

29. Science based impact of sweeteners, stevia, erythritol, monk fruit on ketones and glucose. There is quite a evidence of literature out there where they put it. I see how that dana green, or erythritol four grams of carbs per teaspoon. And I need at least three for coffee. I don't count those carbs. A friend said that type doesn't count, but I'm using nothing because it's a waste of four carbs to me.

Video Time Stamp: (01:28:44):





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The point I'm making here is there's a lot of ways to manipulate the counting of things in the ketogenic diet. These sugars are a blessing. Before these we really did have to say no sweeteners, stevia, monk fruit and erythritol actually are pretty good at keeping those sugars low. But I'm hedging here because I don't look at any of those. I don't put any of those in my diet anymore because of what happens to the palette. This is another reason why I don't write food plans. I want you getting rid of that sweet taste. I want you having a sweetener in your body once a year, once a year for your birthday. I mean, like really rarely. It should be a treat that is truly a treat, not an everyday treat. Now I didn't start out that way. I started out using erythritol and stevia and I was very used to having sweet land on my tongue. Now it's a rare treat and the difference really is it does provide a lot more pleasure when I do have it.

But the bigger goal for having the sweeteners is less, less, less, less, less. That's why you see me doing things like I need you to drink something with nothing sweet in it. Get your tongue used to tasting what it looks like. They have no sweeteners in it. And then knowing that yes, there are, and if you saw on the cronometer app, he said you could see those sugar alcohols. That's things like erythritol. I think once there is sugar alcohol keep in mind that I use sugar alcohols in my clinic to help you prepare for a colonoscopy. They go in one end, they suck in a bunch of water to your gut and they flush out the other end. And we let me put a scope up the bottom. It's the cleanest ball we've ever seen. That is what sugar alcohols do.

They are a laxative, so they're not good for you. They're not the best thing I would be putting in your body. They are a bridge that can be used in a time of a craving and they are easy to love. If you're using them, that's where I say then get scientific. You want a science-based answer, then use science not for a population, which is what every one of these studies is done on, and so you'll say the erythritol people are going to study what arithmetic does and bodies. Guess who they select to study. They look at healthy, lean people using erythritol. They don't look at insulin resistant people. They don't look at people with a high fatty liver. They look at the perfect people and their study comes out to say, look at how little insulin we simulated. This is a great sugar alcohol and I'm like, party fall.

That is not who I'm taking care of here. Wean healthy people don't use a lot of stevia. They don't use a lot of erythritol or if they do good for them, it's not affecting them. The ones I'm trying to rescue from the edge of the cliff are the people just like that woman I was saying, she has been in our keto group trying to change behavior for the better part of a year. As she started out just rescuing from all of the different ways that you can change and eat carbohydrates. She is addicted to these things and she'll put in like six packs in her morning coffee. And I'm like, what? How do you not have diarrhea all day? It's because her body has really grown used to it. I said, all right, here's what you can do.



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If you want to see what that does in your body, wake up tomorrow morning and check your morning fasting glucose. Okay. And then take one of those packs, dissolve it in a little bit of water and drink one and then set the timer and check your sugar at 30 minutes at 45 minutes and an hour, 30 and 60 minutes is really enough. And what you'll see is if you do, especially ketones and glucose, it's really looking at your insulin. If you only have a glucose monitor, then checking the glucose is another way to say did it give you an insulin search? Did it give you a glucose search? Cause if you're a google search, then your insulin searched. The best way to measure it is to look at the ketone glucose at the same time. It's to say what did it do to your body?

Because unlike a population study where you can google and say, I have evidence that shows me what it does. Yeah. Did that population they were studying look like you. I mean on the inside, did it have an inflamed liver? Did it have high insulin? Did it have an addiction to those sugars? And if that's the case, then you can make some conclusions that match you. Most often they did not look like you.

### 30. Is it true if you drink apple cider vinegar with water before bed will help you lower the dawn effect?

Video Time Stamp: (01:32:42):

What is Apple cider vinegar? It's a fermented drink now. I showed you the little pH monitor that I use when I do my kombucha because kombucha at the store has a lot of sugar in it. But if you make your own kombucha, you ferment your own tea with sugar in it, that fermentation decreases the sugar content and you'll know by looking at the pH. The more acidic the pH, the less sugar in it. Apple cider vinegar is one of those fermented sugars that tastes not so bad. But if it tastes pretty good, it's probably cause it's got some sugar in it. What they're doing is they're shifting your pH. I'm like, okay, that doesn't hurt you. But that's just a trick. It's not really fixing the problem. You shouldn't be having anything.

If you've got the dawn effect, the most important time for you to have nothing in your mouth. That includes gum, that includes tea, coffee, all of the above. The only thing you should be putting in your mouth for 12 hours before the sun rises is water. And if you still have the dawn effect, then we'll go 13 hours before the sun rises and then go 14 hours. So if you're saying at bedtime, which I'm guessing is when it's dark out, you're putting in cider vinegar, it's stimulating your insulin. It's stimulating an effect, I wouldn't do that. But lots of people do it, put it during the day if you want, but make sure you check the pH of it.



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### 31. How a person can have high glucose readings in the morning and also have high ketone levels.

Video Time Stamp: (01:34:18):

Yielding a good Dr. Boz ratio or yielding a high Dr. Boz ratio, example is a glucose of 137 and ketones of 2.9. When you're looking at the insulin effect, and you're going to learn a lot about this in the fasting video. As you had a rise in sugar, it didn't happen yesterday. It happened for the last 10 years, let's just say 10 years. And the first year you had enough insulin that it kept your sugar down and the next year your sugar was still normal, but it was even more insulin to keep it down. And then the third year it was this pile of insulin.

To have a blood sugar in the morning at 137, despite producing ketones, says you've done some amazing things in the last six months. You've got ketones producing, which means your body's chemistry has shifted from yesterday, has shifted from last week. So when you're looking at ketone production, when people say, I have this ketone, that's 0.5, why isn't it higher? I've been doing keto, I'm doing everything right. I'm like, your insulin is stable, your insulin is as it should be. If you want to lose more weight, you have to lower the insulin, which means you gotta stress the metabolism. Stressing the metabolism is how to enhance the keto effect. What this is saying is stay in the course. You've made such a huge headway. If you stay the course for a year, you're going to be amazing.

That lowering of the glucose is a sign that you are decreasing the stubbornness of your liver. You're emptying your liver, the insulin effect is growing better when the glucose is still high, it's still coming out of storage that you've been storing for years, waiting for this time where there's no food. And I would contend that if you have that high of ketones, that you could probably benefit from a lot of the fasting cycle that we're going to talk about in two weeks because you have plenty of fuel. You just need to give your body time to burn it. And that isn't easy, but it's possible.

### 32. Is it possible to have too much salt? I have a lower limb swelling and I've only previously had the pregnancy.

Video Time Stamp: (01:36:11):

You can overdo it. But what I would really contend is in a healthy system your kidneys should flush all that out. Now, I mean, I still get swelling when I have too much salt. So you can overdo it, but it is the rarity. The rarity is to overdo it. Here's a couple of things that I would do if just to test the salt. Criteria is if you think you're having too much salt, I would Google float spa and go in and soak in, magnesium, salt, float spa. Now, I should say this with the caveat,



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but heart failure, high blood pressure, diabetes, where you're taking several medications, probably should talk to your doctor before doing any of that.

But if you're just like the normal trying to lose weight and you're saying, I want a lot of salt in, I've had these babies and that gave me some swelling in the ankles. What it's saying is the nourishment is not probably as hard as you think it is. Salt should be delivered to the kidney and the kidney should flush it out and the kidney can handle a lot of salt. So if there's a mismatch, if there's an equation where you're storing that extra fluid I would look carefully at going for a walk that really stimulates the muscles in those legs to pump. I don't promote exercise the first at least six weeks. I really want you focused on changing the food behavior. But if you've got some of that swelling and say, well, how can I undo this? I would push you to go for a little walk or hanging out in one of those float spas. Again, you're going to pull fluid through the skin and watch the dynamic change. I've been impressed to see what happens when they do that float spa. The other part though is if you're having that much salted liquids, you probably should be adding some liquids without salt in it. Cause it shouldn't happen. There's just as much reflection that there is an unhealthy component, meaning a healthy body wouldn't do that. And I know when I've had too much salt that there's still parts of my system from being in some resistance for probably 10 years that says, I'll look at how easy I can put that fluid back in my lower legs. Whenever I take a plane trip, it goes right back in there. So all of those are real.

### 33. After achieving the desirable Dr. Boz ratio, do you keep going? When do you stop?

Video Time Stamp: (01:39:41):

The Dr. Boz ratio is helpful for guiding you, saying you're on the right path, the insulin resistant is coming down. But it's expensive to check these little things too many times a day. It does help you have metrics to follow, but it's not without its own consequences of price and poking your finger. That's why you'll see when people first start out, I push them to check every morning and even like around noon if they can for the first week, if they can get me two weeks of data, you're even better.

But after that, I want you checking two or three times a week and then looking, but you don't have to look every day, you're looking for trends. That means you need to check often enough that you can see what's going on. Again, looking at first thing in the morning, it gives you the least amount of variables when talking about these two metrics. When I fast, I want to know that I hit my autophagy ratio. You'll see me check several times a day when I'm fasting and then I'll stop. Part of it's price, part of it's just fingered. If I was in the perfect world, I'd probably have a catheter in my artery and I would check it every few hours. When we're doing



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this for protocols and we're doing this for like cancer and seizure protocols, we're checking five to six times a day and they have to keep those ratios, the Dr. Boz ratio under 40 the whole time in order to meet those metrics, it is really difficult to do. It can be very off putting people first start cause they're like, I can never eat. I'm like, no, it'll get better, but it is hard. So again, Dr. Boz ratios are just metrics to give you encouragement that you're headed in the right direction. The more strict you are, the faster you'll get better. But sometimes you push them to be too strict and they fall off the wagon cause it was too much change.

34. I went to bed with the best numbers. I've had blood glucose to 79, ketones a three, got up eight hours later with the worst numbers I've had a glucose of 117 and ketones a 0.7. What happened?

Video Time Stamp: (01:41:18):

What was going on when your blood sugar was 79, your ketones were three, your insulin was dropped. The whole point of measuring Dr. Boz ratio is their insulin. When you lower insulin in this point keeps things in storage, specifically glycogen, you have glycogen stored in your muscle cells. You have glycogen stored in your liver cells. When that warning popped up that said, hey, it's time to wake up, the sun is rising and that ping from your brain to your liver happens. It landed on a liver that didn't have much insulin around and that hadn't happened to you in a while. Out came a whole bunch of glucose from storage. And of course when glucose goes up, ketones are like, you don't need to be produced anymore. Throughout the night, you probably use some of your ketones to keep your energy.

That's when your glucose is 79 and you're using ketones at three and you're like, okay, most of your energy is coming from those ketones now that then as you slept, your ketones got less cause you were using them. That's what your feeling was. When the insulin hits, you will release a bunch of glycogen and you're like, oh, we don't need to produce ketones. Look at all that glucose she's got to use. It is a process of emptying that storage and that's a great example.

35. When will the hair loss stop?

Video Time Stamp: (01:42:56):



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Hair loss is a reflection of nourishment. The reason we want you on the other side of that hormone shift is because we don't want to drop calories in trade for nourishment.

And you say, well, should I take a bunch of vitamins? No. Quit leaking out your vitamins in your toilet. That means seal up your gut. Well, how do you do that? You stay keto. You stay keto for a month, for two months. That process of sealing your gut, you cannot take in as many vitamins as what most of my leaky gut or my inflamed patients are leaking out their gut in a 24 hour period. You can't keep up. That's why you're malnourished. That's why the hair falls out. No, that hair falls out in phases too. So it's a cycle. The best growth of hair happens when you're not inflamed and when you're well-nourished. So sardines and liver cover a whole bunch of nourishment issues and they're both very keto. Braunschweiger is my favorite way to eat liver.

36. I failed my sleep this week. Most nights five hours, bed by 9:30, totally awake at 3:30 in the morning. It was my norm trying all the guidance and info. How long to get a sleep line?

Video Time Stamp: (01:43:55):

Sleep habits change slowly. But you have a price you're paying by not sleeping well. So this is definitely something where that's where I really use the sleep protocol for my patients to say, I need you to have three days of vacation and you are not leaving the house. You need to give your keys to your spouse. They need to come into the office to hear what the sleep protocol looks like. And we make you sleep for three days. We reset your sleep. I mean really make you sleep for the first two nights.

But it is a really hard reset. And in the process of resetting your sleep doesn't just perfectly magically go back to normal. Watch that sleep video and look at that sleep hygiene. Is there electronics in your bedroom? Do you have a stable place for your electronics outside your bedroom? When you're healthy, people say, I sleep with my phone all the time. I'm fine. Yeah, you have a healthy brain. If you are trying to repair your brain, get that electronic away from your pineal gland. That little gland inside your brain that senses light. And every time you turn that on, it wakes up your brain to a level that surges hormones that fight our ability to get you to lose weight. So bedtime routine having a stable sanctuary for sleep, following that sleep hygiene, those are all the rules you have to take care of.

If you say, I'm doing that doc and it sucks, I can't sleep, I'm still not doing well, then I want you to print out that it's a case for sleep and I know it's in one of the handouts. If it wasn't in week three, it's in week four. It's such an important part of sleep or of repairing people that I think I



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covered it twice. That is, the other part is at 3:30 in the morning, if you say, I'm done sleeping. I pushed my patients to get up. And then you do not get a nap. You can go back to bed at 9:30 that night, but you're up at 3:30 and you really cannot force the brain to fall asleep but you can't force it to keep awake.

So if you're awake and you're just laying in bed, that's not helping our situation, get up, go do something. And know that as you reset the sleep hygiene with all those rules, this will get better. And when sleep is better, the hormones are better. And I don't mean like estrogen and testosterone. I mean weight loss hormones like insulin and growling are better.

### 37. When to begin my real exercise happens in the big keto life? Can you have initial weight gain?

Let's just start with when do I get to exercise? This is a broad or an answer for a broad audience where you were before matters. When I start talking about exercise on the ketogenic diet, a lot of other other people feel overwhelmed. Like, I want to keep up with everybody.

I'm going to start exercising and I'm saying, if you haven't been exercising, do not add that now. We really need you to stabilize and get your patterns of eating controlled. You do not lose weight in the gym. You gain muscle in the gym, you not lose weight, you lose weight in the kitchen. If you're gaining weight, I really would want to know that you've got a nice solid stable pattern. Like what level of the ketoCONTINUUM are you at and how long have you been there? If you're saying, I'm at ketoONTINUUM number four, and I've been there for two weeks, I would want you to have a weight loss spend keto for a year. And like what number of the ketoCONTINUUM do you think you're on, like, do you have one meal a day? Do you check your morning fasting numbers?

She's been keto for a year. She's one meal a day. She has a Dr Boz ratio that is just over about 103 cause she has a glucose of 103 and they keep you on a 1.0. She started an upright bike and swimming laps seem to be holding the weight and not losing right now.

Still want to lose about 20 more pounds. She really wants to add exercise. How long has your sugar been that high? My glucose levels have always been higher. My goal for the whole year cause I've got keto adapted or I should say my ketones can range anywhere from 0.5 up to 3 and my glucose levels, fasting never are below a hundred yet. Now if I take my blood glucose levels later in the day, I can get them down to, I think the lowest I've ever gotten so far is 82.



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It's a very good case. You're insulin resistant and you're on a journey where you've lowered the insulin to this level and in order to get healthy, which is where the weight loss comes from you say. When you say weight loss, I'm guessing you don't want to lose anything except fat.

So you say, yeah, doc helped me lose this fat. In order for you to lose fat, half to empty that stored glycogen that's in your liver and with a blood sugar of 103, you're emptying some stored glycogen every day, but you're filling it back up as well. The process of saying, I've been this way for a year Dr, crazy. It still can't be happening. How can I not change my weight? In the last year? You say, hey, I've got this upright bike. I've been doing some swimming, both very good activities to improve your metabolism, but at the same rate, you're emptying that glycogen inside the muscle using that energy for those muscles in a way that just keeps you barely at that level of. You can't stress it to make some ketones, but you have lots of stored glycogen storage glucose that has not emptied all the way.

This is so you are keto adapted, you are fat-adapted. That's a huge moment. As we move to some of these levels of higher stress for your body, give me just a quick summary of when you say OMAD, tell me a typical day of what you start out with in the morning. What time do you eat?

I usually start out with coffee and I don't put cream in my first morning coffee. I'll have two cups. Then I took Topo Chico water for the day or unsweetened tea, and then I don't till dinner time, but I do eat at six so that I can eat with my husband and I probably should try to start eating earlier myself.

There's a few things that say you are a female that has four children. Definitely. I'm in my sixties and have grand lovely grandchildren.

When you look at how to take your metabolism to the next level, you have graduated from a six o'clock meal at night that now you can't do it anymore. If you want it to be healthy, it isn't eating at that hour. That was for a younger woman's stage of life. You're no longer there. And if you continue to do it, your body ages faster, your brain ages faster. It is a price that you're paying on top of those 60 pounds that you already lost. You have some undoing. You have some autophagy that needs to be done to guarantee you the health of watching those grandkids live their life out. With that in mind your husband probably shouldn't be eating that hour either, whether or not that's something you can manipulate him into changing.

I'm going to not touch that, I have a husband too. But it really is a powerful learning curve for both of you to stay the healthiest version of you is least inflamed, lean body weight, the least amount of extra fat, and it doesn't mean none. It just means that your body weight should be closer and closer to that normal. And that means you can't be stimulating insulin at six o'clock at night for a full. For your full meal a day, your meal needs to come closer to noon. With that,





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you will see all the things you're doing right. The other option that I've had folks say I just can't, my husband won't do it any other time. Is that first of all, you turn all those other drinks into black only. I don't know what Topo chico water is. It's carbonated water. It's just water with gas in it? Yes. Okay. Perfect. Just as long as there's no other substance. That's one of my favorites too. Water with gas is perfect. You say black coffee is what you should be graduating to if you still need cream in that second one. I would say you can have that during your mealtime, but every time you put that in, you're stimulating insulin. So as much as you're disciplining yourself to OMAD, you're still stimulating insulin. When you put those calories and you're fat-adapted, your body will reach for fat. Quit putting it in your coffee and let it pull it out of your fat cells. If you're trying to lose weight and if you say, I just can't get my husband to do this, six o'clock is when we eat. Then you get supper every other night. You eat supper on Mondays, Wednesdays, Fridays, and Saturday night. And the other nights you don't eat, you are fasting for 48 hours in between that, we're going to get to that in two videos, but you'll stay at this because of your 60 pounds that you've carried for those years and that you were, have the blessing of children. Your hormones have a different set of rules than somebody who didn't bear children and that you're at a standstill saying, hey, but I'm working my tail off. Keep working your tail off. That's fine. But if you really want the weight loss, you got to quit making insulin so often.

38. I don't feel I have cravings for anything in particular. I just love to eat even when I'm feeling full. Since college I've considered myself a food alcoholic. Yet I have worked to keep my weight low. Is this what you mean by a craving?

Video Time Stamp: (01:48:33):

When you are eating because you're comforting yourself, when you're eating out of boredom, you're not eating out of actual hunger. That is in some forms of creating a craving, is an emotional response to food. So they're angry, they're upset, they're happy. They're using food to eat and emotional craving. Then it becomes that's not really hungry, which is the reason we eat. It's very much a time of having food addiction be part of this journey. This past week where I kind of shifted from newbie conversation to this advanced education of people doing a ketogenic diet, that there's a lot of psychology wrapped in this story of when you have ketones and you're trying to get ketone production glucose to be lower, but you have this drive to eat that is not for nourishment.

It is for emotional reasons. It will sabotage you. It will derail you. It is the reason for the support group that you're eating for reasons that you need to address. And you can call food



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a therapist, but it is going to lead to a brain and heart and body that deteriorate and welcome to the internal medicine clinic where once that's down. Oh my goodness, it is a long road back to getting you healthy again. If you're saying I just love to eat, okay, then love to eat less often and eat when it is an interval that's healthy for you. The reason we have the support groups is the craving for sweets after dinner or the food addiction that results in a little bit of a glass of wine and a bite of chocolate turns into what happens every night now.

And boy do they end up in trouble. It's the addiction that just does play forward. So I really look forward to hearing how your first couple of fasts are gonna go. What happens when that thought of food and eating food? What do you do with it?

39. Since there's been some time since the study you cited, what are the thoughts of electronics and blue blocking enabled pre bedtime? I read on a Kindle at night, nightshade on.

Video Time Stamp: (01:59:38):

The reason for that night shade Kindle is because of the lower stimulus to the brain. So it sounds like you're doing the right things as far as the type of reading you do in that reflection into your brain. One of the key things I always talk about when advising people on sleep is healthy brains have different rules than non-healthy brains. It doesn't mean that it's kind of like the same rules that we talked about saying who should step on the scale and who shouldn't. Well if you've got a problem with this and just quit doing that to yourself if you've got a sleep problem, I pushed people to say, just turn off the electronics as much as we have evidence to say it does less.

Those people they are studying had healthy sleep habits. That's the problem. When I look at somebody who's trying to repair their sleep, I push them towards the paper books. The reflective light off of the book is what they're doing now. Those Kindle really do emulate that. And I have pretty good confidence that we're going to be okay with using that setting, but it's in the targeted answer that I had. If you're struggling with sleep and this is your solution and you're sleeping well, then we're in good spirits. If you're targeting this, how do I repair my sleep and you're reading right up until midnight at night and then you wake up three or four times a night then we have a problem. We have a broken brain and to get it to sleep well that is how you fix these hormones.

They will fix it, but you gotta give it the environment to do that. Sleep is a huge component to weight loss. Don't give up. It's being studied. There's quite a few. The reason Kindle has that setting is because of the study. So I think you're in the right place as long as you're sleeping. If



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you're not, then I might switch it up. The other thing that I tell people is not to read in bed. So as much as you have the right light, when you put the setting of reading in your sanctuary for sleep, you are, it's almost as damaging as the reflective light. Sleep outside your cape, go read in the chair, in the living room and when you feel tired, go put your head to bed and you're like, but I wake up and I can't fall asleep.

Like I know that's the problem. We have to train you to do that. And if you're tricking your brain into sleep, it's really not the setting of sleep that you want to age with.

40. I have butter coffee in the morning. Is that no longer allowed? I eat a snack in mid afternoon and dinner is all keto focused. If we put fat in the morning coffee is that considered a meal?

Let's make sure we address, so the newbies don't get distracted. At two meals a day, I don't even talk about it. You're going to see in the next week, keep doing the fat in your coffee. Keep doing what you're doing. There is a time when you graduate to giving that up. Especially in those first few weeks, I really want people feeling nourished.

If you're ketoCONTINUUM number four, which is two meals a day and you still have a high fat coffee in the morning, you're fine. As I'm coaching, some of these people that I'm talking to are for a year, I'm like, then you probably should move along the ketoCONTINUUM. If you want to get better, you've already done the hard part, you're fat-adapted. Now you just need to apply the rules for the science that you've created. So if you're new, if you're just into this and you're feeling satiated, stay the course, you're going to see the next few steps. If you need help. Not everybody needs to advance. If you're healthy, if you're lean and you're feeling good and you're sleeping good and you're healthy, good job, stay where you're at. If you are not, this is where these next few lessons come in.

41. I have malabsorption of fat, diarrhea and fasting. Should I use the chia seed and protocol and BHB at the same time? Should I stay under 20 carbs and how much fat should I eat while my body tries to adjust?



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Video Time Stamp: (02:03:03):

Yes. So it is a difficult equation that you're looking at. What the BHB will make you have diarrhea. So be careful. If you're thinking of BHB and the 20 carbs is where I would say if you can get to 20 carbs or less and hold there, then don't worry about the BHB right now. If you're saying I can't do that, it's too restrictive for me right now. I keep falling off the wagon. That's where I say sip on BHB while you get those 20 carbs to the bottom. If you're having the fat malabsorption, you say, I put fat in, I have diarrhea. The chia seed protocol will bulk up that stool and create a slowing of the diarrhea.

Don't be afraid to use the over the counter medications to slow the diarrhea. Just keep your life on track. As you look at fat malabsorption and the replacement of it, that's where as I said earlier, putting that MCT in the capsule form in the system four to five times a day. When you put the capsule in and it no longer causes diarrhea, then take two, then take three. Remember that in the study where we improve brain function using MCT in the dementia and the borderline dementia patients, that was one of the YouTube videos. Those were 30 capsules to 45 capsules per day. There's a lot of fat that it took to get those ketones that high. Your body will make those many ketones when you're keto adapted. So what the MCT is there for is to bridge you when you're struggling or to train your gut to absorb it.

We want you feeling good during this and if to feel good means you've gotta be able to absorb some of that fat or at least turn the ketones on. Sipping on ketones, give you a ketogenic setting and that does make people feel better. So I really am encouraging you to stay the course is the key thing here. All of these options are ways to say being on chia seeds bulks up the stool, doesn't raise the sugar and really kind of slows down a bowel that's used to a lot of fiber that is often the same as the ones who have fat malabsorption. Fat malabsorption gets better when those cells that absorb the fat wake up. And one of the key ones, we want to wake up with the ones that are associated with MCT.

And that's what those MCT capsules really do help. Not forever, but until we get your gut awake. That is a great way to say just increase that protocol. Usually by the time the patient's at like 11 to 15 capsules per day, I know their guts doing really well because they wouldn't be that high if it was having diarrhea all the time. So start at one and then the next day, if you didn't have diarrhea, go to two and then the next day go to three and you're, what you're trying to work up to is as soon as you get to a part where there's some diarrhea, then just stay at that dose or go back it down a dose until your gut can handle that. What you're doing is you're waking up those intero sites to absorb the fat malabsorption. The key in that process is to stay as ketogenic as possible because in the midst of fat malabsorption may sound like, okay, I don't have a leaky gut. Yes, you do. You have one of the leakiest guts. So you're trying to seal this up and that is a state of ketosis. So staying the course, you're kind of like threatened four needles at once. I know that's difficult.



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42. Why am I so tired? I'm less than 20 carbs per day, getting plenty of fat. Blood glucose is 90 and ketones are 2.5.

Video Time Stamp: (02:07:13):

I'm going to guess you're a newbie. If you're new and you're saying, I'm on this ketogenic, I did everything she said, my numbers aren't that bad. They've made the switch. And if they're new what happened was they had zero ketones and now they have 2.5 ketones.

And what's happening to most of those two point, the high levels of ketones, they're peeing them out. Why? Cause they're there. Their mitochondria is not in shape to use them. How do I do that? You keep making ketones. So the process of becoming keto adapted is impart to make the ketones that you have good ketone numbers. You're doing a good job of lowering the carbs to less than 20 a day. You do not have excessive blood sugars. All really good in the transition of this switch. Many times people feel tired cause their blood pressure's low. That's why one of the things you should be documenting is your blood pressures. So if you have good blood pressures like one twenties to one tens, even like one fives over 60, seventies, eighties, then that's not bad. If you had blood pressure at this level and you dropped it by 20 to 30 points, your brain can say, I just need you to lay down. The symptom is going to tell you to lay down as it's going to feel tired.

If it's a significant drop in blood pressure, you can see fatigue is an issue that fixes itself. But it's a hydration issue, if it's a salt issue, going from a magnesium float spa is going to fix a lot of issues in the next week. But if it is the use of ketones, stay the course. Your body will learn how to use these. And that's where the energy comes from. If you've ever seen me talk about what happens to that campfire effect when making ketones the first time you throw a log on a campfire, it doesn't burn very well, much like the first time they make a bunch of ketones or like, this is not working. It's not a fire. It's after that body really gets in the system of using a ketogenic energy that they finally have this nice steady metabolic energy.

That doesn't happen in a week if you haven't burned them in years. The good news is is once you've adapted to ketogenic way of energy and you fall off the wagon for a week and then let's say you've been keto for six months and you fall off the wagon for a week, maybe even two weeks, you return back to that ketogenic energy and your mitochondria will, they're in shape now. They will return to that. Now you can't spend two weeks off, one week on, two weeks off, one week on, two weeks off. When we gone and expect that outcome, you'll eventually have the sluggish mitochondria again. You stay the course if you have a hiccup, the good news is it will carry you through that once you're keto adapted.



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43. My day 12 still has an edema, carbs are 20 or under daily. Is this the BHB salts?

Video Time Stamp: (02:09:41):

The swelling in your shins, I'm going to guess that's where your edema is, around your ankles. That did take a while to get there. Even if you didn't notice it until you went keto and you're like, why did I get swelling when I got keto?

It is a shift. Your blood pressure changes. Your kidneys are trying to catch up. You're putting salt in especially for BHB salts. So there's a lot of shifts in things. You need everything to catch up. If you still have edema at the end of week two, don't be discouraged. It has always been there between those fascia you have added to it in recent weeks or in these last 12 days by all the shifted chemistry. The goal is for it to go away. There are a few things that make it go away a little faster and that is once you're feeling well, walking is a great way to pump those legs and calves to really improve them. A pedicure does, you don't go for the toenail polish. You go for the massaging of the lower leg and feet.

Unbelievable what that does to mobilize fluid. So don't be afraid of that. That's called a lymph lymphatic massage. But you can just go and get a pedicure, that they're going to do the same thing. As long as you say I want an extra massage or whatever, the key isn't so much the salts that are getting in, it's the body's ability for your heart and your blood vessels and your kidneys to all work in sync to remove the extra fluid and it's going to play catch up. I am five years into keto and I have swelling today. I got my salt rocks from Redmond because I used up all of them. That's what I thought. I had this very diluted solely water and now I have fresh rocks and I keep putting a lot of extra salt in my coffee.

And of course now I love the taste of it. So I had a lot of salt in the last few days and know that part of what my legs are doing is a consequence of what I've been putting in. So how did I get that swelling so quickly? Probably five years was insulin resistance with a small layer of swelling there. And what that does is it just creates the space. This should not be a space where you put fluid, but every human being will do it when we put in this chemistry setting. And so I had that space created and I kept it there for five years. And now even though I have lots of times where I have no swelling, I have a really good, my shin, my thumbprint is zero. When I do have swelling, ankles right back to that spot, I can feel it.

When I do as much salt as I've done in the last week, yeah, I gotta dilute that down a little bit. But it is a human response and you will get to a healthy setting, but even years into it, you push the salt equation in short order and you'll swell. So then finding other ways like the magnesium float spa is another way to cool. Put magnesium in, you say, wouldn't that make



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you more swollen? It is a shift. You are going to move that mineral water. Follow these minerals so you can see the fluid shift during a float spa.

44. When I eat one meal a day I won't gain weight. But if I have two meals the next day I've gained weight. Why is that happening? Even if I work out, did I mess up my metabolism?

Video Time Stamp: (02:14:01):

No. What that tells me is you have insulin that is very robust and that's not what we want. Those things in our life. We want robust insulin is not one of them. When you eat, you stimulate insulin. Insulin stores your food. So when you eat twice, you have two spikes of your insulin, which recreates a deposit of calories. Insulin also holds onto that extra fluid. So you have a fluid shift that will happen in that 24 hours when eating twice a day. The other part that I would recommend is one meal a day isn't a bad idea.

But if you're going to do that, measure something that can be impacted every day instead of weight. Weight will do this and you're gonna find a lot of noise in the weight and people make these decisions because yesterday's weight and today's weight made the shift. And so this is what I'm going to do. And I would say measure this week and next week, meaning take the intervals of weight less frequently and instead measure a Dr. Boz ratio in the morning for two weeks and watch what happens. And when you eat two meals a day, what I would be very curious to know is what happens when you eat? So if you have the two meals, if you eat the earlier meal and you skip the late meal, what happened to your morning sugars? If you skip the early meal and eat the late meal, what happened to your sugars or your Dr. Boz ratio? Those types of metrics are measuring your chemistry within 24 hours. That has better evidence. When you measure weight, there's so much noise in the background that you're measuring the noise and you're making direction out of a noisy metric such as the scale. It's not that weight doesn't matter. It's that weight day to day has too much room for error.



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45. I ate the same thing three days in a row and my blood glucose around 85, ketones around 1. Then out of the blue, I wake up a blood glucose of 110 and ketones at 0.6. What happened?

I'm going to guess you have insulin resistance. She's shifted and does a really good job. She's eating the same thing. She's got this good number, but it takes about three to four days for insulin to really make a pretty good shift. So when they make a change and then they're stable, it's the accumulation of staying stable, of staying that low glucose that just dropped your insulin. I'm like, isn't that good? Yes, but you're insulin resistant. And so less insulin says, oh, we finally get to empty some of this glycogen, especially in the morning because you have that signal that goes from your brain to your liver and it's the same amount of cortisol that comes every day from your brain to your liver.

What your cortisol lands on will depend on what your sugar is. If your cortisol has been landing on a liver field with storage, but the insulin has been at this higher level for the better part of a year and now you didn't, you went keto, you dropped your intake of carbs. Your insulin is less, but it's impact, meaning you may produce less insulin those first couple of days that it really takes that third or fourth day for the glycogen to release more. And what we look at for a glucose of one 10 ketones, 0.6 is you are in a cycle of emptying. It's powerful to keep, especially with that kind of story. My advice for you would say keep your meal during the daylight hours, the earlier towards lunch and the less you have after four o'clock, the better your system's going to be. Again, another shift is going to change your metrics. So just keep an eye on that. That's why those spreadsheets are so important. I don't know if you took time to watch the tutorial by Patrick V and his explanation of what that spreadsheet does, but that spreadsheet captures what needs to be alive if you would need to be recorded for making decisions on metabolism.

46. I am not a newbie. I've been stuck for a long time. The class has helped my dawn effect numbers going lower in the eighties to nineties range. But now with the class my dawn numbers have risen by 30 points. What's happening?

Video Time Stamp: (02:18:30):





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Same thing we were just talking about. She probably, I mean just looking at what happens when you get a tribe, when you get a support group, when you look carefully at the way your body is working, she probably tightened up some things. She took those total carbs down to 20, she just improved things by a notch and at first, not much happened, but as you lower insulin, that whole body has to reset. And the first phase of lowering insulin is if they're checking those morning fasting sugars, they're checking a Dr. Boz ratio.

They're going to say, oh no, I totally just saw this rise. What happened? I'm backwards. My body's not working. I'm like, no, don't stop. Your body is emptying. That is a glycogen response of lowering insulin over the course of those last few days. I would totally stay the course. I really hope you have a spreadsheet that you're keeping track of because once again, I want you following, I mean noise is easy to get distracted with. And by noise I mean lots of numbers that don't do exactly what you want them to do. And so in short order, something happens, but we need a trend. We need two weeks of a data point, like a Dr. Boz ratio to say, watch what happens when you lower the insulin, not for a little bit, but you really lower it. And then you see the response your body has.

Many times when people are stuck at a weight loss stall, it's because the impact of insulin is still the same. You're doing everything right. And I put them on what is one of the strongest instincts to lower insulin. You'll get to that in two weeks and they don't like it. It's hard. But boy, by the third time around, you can ask Angela Earnhardt about this little test where it was not anything she ever wants to do again. But by golly, she broke through that stall and she really did reach her goal. So hang in there, you're not alone. Stay the course and please, use that spreadsheet in case I ever need to help you out or anybody needs to help you. Looking at the spreadsheets, going to you'll be able to easily distract a doctor or an advisor into a flippant answer that makes you feel better. But if you want the answer that's actually going to repair it, you have to have the conglomerate of that data.

### 47. Do you have any insight on melatonin in regards to sleep?

Melatonin's not bad. It doesn't hurt you. It does stimulate that first phase of sleep that syncs your brain into sleep. It does not enhance stage four sleep, which is the kind of sleep that repairs a body improves immune system resets insulin resistance. There's prescription strength melatonin that even does a pretty good job. But once again, it's ability to truly reset that human body is not as great as I like it to be. Cleaning up the sleep hygiene, going through that video saying, have your bedroom for sex and sleep. Nothing else should be going on in the bedroom. Looking at those electronics, looking at what your behavior is.



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If you wake up in the middle of the night, get your butt out of bed, quit trying to like linear in the morning, get up. Those behaviors all change how your brain shuts down. Just like with insulin, it's not going to change tomorrow. You have to change. You have to have this pattern for a couple of weeks for that brain to really get the benefits for sinking into stage for sleep, repairing that brain, recovering from chemotherapy. Very important. I would tell people when they're training their brains for sleep, I didn't probably talk about this in the earlier videos but sending them for that five magnesium floats in seven days is a huge, it sounds like a lot, but really just gets their brain slowing down. Even if it takes you 10 days or two weeks to get those five floats in, it is incredible how much better they sleep once they get that magnesium a little higher. It all does play in, but melatonin doesn't hurt you, but it's probably not the best thing long term.

### 48. Best advice for traveling and not being able to completely control your diet.

Good luck. It's a hard one. My favorite thing, and I usually have to warn my husband because he knows what I like and he'll do things that comfort me. But the travel advice that I do is I try to fast, especially if I'm changing time zones. It just works better as much as I don't like fasting any more than anybody else. And I really don't like fasting when walking past something that smells good. If I tell my family I'm fasting, my husband brings me a bubble water with gas in it. That changes how I respond.

I recruit my support system when I'm going to do this. Other things that if you are traveling just keeping that section of time where you eat very controlled and while you're awake, remember what those people give you on the plane is not healthy. It's just convenient. Please just say nope. The other part about having a successful traveling though is that you do set expectations. If you've ever tried to Google ketogenic food from and then fill in the blank like Qdoba or McDonald's or this used to be a rarity, but it's pretty easy, go into the cronometer app and say, what can I have from McDonald's for this high fat? There's plenty. There are lots of options out there and then just fail upwards.

The fewer, the better. The other thing I do during, if I fail during a travels section, cause I'll try to fast on the day I travel and then fast on the day I'm first home and it really resets my brain the best. But if I struggle, I sip on BHB, it just adds more ketones because the ketones, especially when you're keto adapted, a little bit of ketones, it suppresses appetite and it just helps you get through that tough moment.



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49. I'm five weeks into keto and starting to have joint pain fingers, mostly. Any suggestions?

Video Time Stamp: (02:25:22):

Five weeks is about that time where you had a history of crystals in your joints.

Let's just back up a bit. Removal of inflammation will decrease the inflammation everywhere, in your ear, from your muscles, from your eyes, from your joints. And so a lot of people say, oh, my joints feel so much better. Yes, they do. If you have a crystal process that's been in your joints, it did not come in the last five weeks. It came over the last 30 years. Crystals are, especially if it's a gout crystal, but don't explain that all this gout crystals, people think of toes and ankles. Gout crystals happen in every joint. You only feel crystals when they start to move. Just like a kidney stone, if it never moves, you don't feel anything but if it moves, you feel it. So these crystals, as they start to kind of dissolve and they move, they hurt.

So at five weeks, it makes me worried that it's not a swelling issue. It's a gout thing. So the worst thing you can do if you have gout and you've gone keto and you're in that five week position is, oh my goodness. Of course, don't fall off the wagon right now. If you fall off the wagon and they go a bunch of sugar, the crystal eyes, they really stop dissolving and they can actually form and now they form a new spot in. You shouldn't be getting those crystals out of there. The right thing is they shouldn't have been there in the first place. If you have diffused joint pain in this five, six week time, it is a gout thing until proven otherwise. And I say gout because that's the most common crystal.

But there are about 20 crystals you can put in joints. The top ones are gout and some other calcium deposits. But what we want to do is reverse that. And the reversal is a chemistry state that promotes the melting of those crystals. That is ketosis. The key thing for you is to stay the course and know that the more strict you are on those 20 carbs, the better. The other thing I've done for people with gout is I get them sipping on ketones because even if I augment their chemistry by just keeping ketosis available it keeps those crystals from really flaring. I've had people fall off the wagon at this point and they get every joint goes crazy and they never want to go keto again. If I'm just saying don't do that, stay the course.

You can really hate me if you fall off the wagon and you have a whole eruption of gout. So either sip on BHB or just keep the blinders on. 20 carbs a day. Don't fall off.



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50. Suggestions from my genetics were to be on a Mediterranean diet that I did not handle, saturated fats well, eating lots of veggies, the issue of histamines. I am concerned about doing too much saturated fat. But on a plant based diet. I wanted eggs so I ate four. When I tried keto last year, it gave me too much mucus. Medical intuitive told me it was an issue with gallbladder. That said, I'm worried about the diet.

Video Time Stamp: (02:28:53):

First of all, there's a lot of things going on in that question. I'm going to go to genetics first. So genetics are this very fun thing that we have the privilege of looking at in 2020, that we can look and say, here's what your genetics say, but I need to remind you that genetics are flexible. Like what I was born with them like, yep. But what you flex, what ends up on the outside are the epigenetics of your body is related to how you treated it. If you have the genetics that say, I don't handle this, that, or the other, I'm going to bet that you weren't born with that version of your genetics. But this has been an evolution of what is exposed to your system.

At which point we come back up and say, I can't advise you for all that's going on there. But I do know that the longer I've been taking care of ketogenic people with the most extreme responses, like they have food allergies to everything from eggs to peanuts to shrimp, everything. They have a histamine response. Their body, if you're going to get a cytokine storm, that's the kind of profile that happens, that history. The response to that is to decrease the inflammation in the insight inside your bone marrow. I need this to decrease. You say, well, I made my mucus when I first had this, first went ketogenic. I'm like, yep, you turned something on. That's probably the same process that was making all that histamine, that would give you a cytokine storm.

It is the reduction of this response that we're trying to get to in someone like you. So as you say, should I be doing this diet or shouldn't I? If you were my patient or my family member, I would be walking you very carefully to say, look, the way you're playing forward is guaranteed a malnourishment with a life of restriction, meaning everything triggers her. They have allergies, they have histamine responses, the Mediterranean diet, high fat, low carbohydrate diet. Essentially what Mediterranean diet is, gives her all these reactions and you say saturated fats are not the enemy here. The histamine response and your body's cytokine



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response is the enemy. How do you fix that? You've got to find a way to stay the course. If you're in a 200 club, if you're having more than 200 carbs per day getting you to at least a hundred for a good week or two, and then getting down to 50 for a good week or two.

If you've got a few, I would not go to the cronometer app and exclude saturated fats. That's when looking at those that stimulate the highest responses. Saturated fats do not weigh in on this. Trans fats do. That's something that we can talk about. The long term answers for people who have this over responsive system becomes they have a fear of changing it and they actually have the highest consequences when that bit where they're on the edge of chronic inflammation at all times, meaning they have a high histamine response, they'd make an excess of mucus. When you change their diet, these are all signs that your system is fragile. Not fragile, doesn't mean do nothing. It means you're gonna have to do it slower. But I would be peeing on a stick and making ketones every day and then steadily work your way through that ketoCONTINUUM.

Somebody responded to you saying, my genetics are telling me to keep saturated fats very well. Again, the genetics that say keep saturated fats low, what they're missing is you go back 2000 years, saturated fats are what we ate. That is the only thing that lasted without cooling storage. If you're taking a 21st century technology in a micro clip of your genetics and making decisions that your ancestors said, no, no, no. That's not how it works. So I am just very cautious to say that I can't have that because of my genetics. Alzheimer's, chronic heart disease, chronic kidney disease, those are all chronic inflammatory diseases associated with high insulin. Get that Dr. Boz ratio down. Keep it down. If you want to do it without saturated fats, that's fine, but it's hard. And I would contend it's probably not the best answer.