



Module 4 Q&A Handout

1. For weight loss, do we eventually have to track protein or fat macros, or just continue with carbs <20?
2. How do we determine the ideal amount of protein and fat to be consuming, staying under 20 carbs per day?
3. How to adjust our total carbohydrate intake for longterm keto maintenance? Stay at <20 or increase? How to determine what number is best for us?
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14. Please talk more about why women over the age of 50 with children shouldn't eat later in the day. What is the science? I'm 60 and on week three but my Dr. Boz ratio is under 40.
15. In the advanced 23:1 you said we could use MCT gels to get us over the hump. So can we put MCT in our black coffee?
16. Last week you answered the questions about hair loss, but I see people talking about taking collagen, will this help or not?
17. I heard you say 0.5 is still ketosis. I rarely hit more than 1.2. Do they need to be higher, how much? How to achieve?



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- [18. Do we have to get off BHB in a can before we can move on? Is that cheating? Or can we continue the BHB supplements and move through the continuum?](#)
- [19. What do I tell my doctor about higher LDL, If he says this diet will hurt me? I just had labs done for an appointment, blood pressure, glucose plus weight way down.](#)
- [20. How often/ frequent should we do OMAD, 7 days continuously, 5 or 2 days a week?](#)
- [21. Can you address blood pressure again? What's the biochemistry behind consistent borderline high and how does keto help?](#)
- [22. Can give us an idea of how many calories to consume in a meal, what does that look like?](#)
- [23. Will you be addressing the final levels of the Keto Continuum?](#)
- [24. Can you go over how sleep affects the boz ratio? I need to fix sleep, but I have lost 57 lbs in 5 months anyway.](#)
- [25. Are there benefits to rotating eating schedules like 16/8, 23/1, 36 hr fast etc. to keep metabolically flexible and not have it slow down?](#)
- [26. Is once a week Dr. Bo ratio of 40 for autophagy, the recommendation or should it be as often as you can reach it?](#)
- [27. If I'm at my goal weight and doing 16:8 as well as hitting my Dr. Boz ratio of less than 20, do I stay there? I want this for healing other than weight.](#)
- [28. I am not losing weight after 7 weeks of keto, 3 weeks with less than 20 carbs and calories less than 1299. When will I finally lose weight?](#)
- [29. How important are the micronutrients, always concentrating on meeting the carbs and protein macros, but only about at 50% fat. Is this a problem?](#)
- [30. Please address in the more advanced continuum. What is the fat level should be?](#)
- [31. Can you speak more about use of the ketogenic diet from mental illness like depression, anxiety, bipolar?](#)
- [32. I'm fat adapted, been keto one year, lost 55 pounds, carbs still below 20. My doctor boz ratio is great, at 40 or less yet when I do the shin test, it's quite in dent.](#)
- [33. Could you please revisit your stance on apple cider vinegar? There's lots of good research on the benefits.](#)
- [34. I still don't understand why your blood glucose is high. Why bothered to produce it?](#)
- [35. You mentioned not fasting for very long due to cytokine storm for people with autoimmune disease. Is that still the case? I was diagnosed with ms 20 years ago. Being stuck for a while doing carnivore, thinking about going for 36 to 48 hour fast but didn't want to stir](#)



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up or add to the cytokine storm. If meat is all you can eat and my body won't accept any other fats other than butter.

36. I am really eager to hear your thoughts about autophagy, and bone broth with osteopenia. I've been diagnosed with osteopenia and have not found much to support the efficiency of ketosis on building bone. I really don't want to take any more pharmaceutical routes.

37. Is fasting for autophagy something you'd suggest for your heart failure patients?

38. Can you tell us when or how to access your course on addiction?

39. Can we get a Dr. Boz certificate of completion?

40. I have been living with chronic pain since January. How does this affect keto? Is it the same as the stresses talked about in module 4?

41. Type 1 diabetic, I would like to know how low is safe?

42. Do you have any recommendations for helping a teenager with a ketogenic diet?

43. Chicken broth, I think you said that helps with re repairing the gut permeability. Are there other things? Should the broth be eaten first with a meal or a separate time?

44. I take hydrocortisone every day for a pituitary tumor. Should I time my eating around that? I'm thinking 23:1 versus 16:8. Any other recommendations?

45. I have struggled with ketones almost always under one. I try to eat as much fat as I can. What should I do?

46. What's your blood glucose ketone? What glucose is? Mostly in the eighties. I have some as low as 60, but it's rare and 100 has been the highest.

47. Would you discuss about the covid 19 virus and if being in ketosis is protected?

48. If we're coaching newbies outside of this course, what parts of the course are or are not okay to share?

49. What is our goal number for our morning insulin number? 100% is too high, right? So what should our goal number be?

50. What about cataracts and asthma? Keto helps them too, correct? Because of lowering inflammation, right?

51. Food tolerance, when will they go away?



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1. For weight loss, do we eventually have to track protein or fat macros, or just continue with carbs <20?

Video Time Stamp: (00:22:16):

As you become keto adapted, you'll learn what your body feels good with. And as much as those 20 carbs are really important to stay focused on.

There are people who are able to keep their doctor boss ratio at a pretty hardy, 40, 50, 60, 70, 80 while on 30 carbs a day while on 50 carbs a day. It really does show you the difference between how people processed carbohydrates and what their insulin hormone is doing. As the protein and the fat become the other places that the cronometer app keeps track of. I mean, when I look at my life at 55 years into the ketogenic journey whenever my numbers are off the first place I focus by numbers. That tracks what goes into my body as much anymore. I really understand my diet well enough to know what does this fit?

Does this look keto? Does this look like it's going to be good for me or not? But what I do check on is my metabolism, which is my ratio. So to say that the energy that's put on looking at what are these macros, what do they look at? Whenever my numbers start to go off and they're not doing what they're supposed to the first place I dial it in is my carbohydrates. I get back to 20 carbs a day. Maybe I've drifted up to 30, maybe I've even had a birthday in the family this past week and had real ice cream which is not common, but it actually is. It's very interesting chemistry set to say, how well did I recover? So when people say for the long haul, is it appropriate for me to think I should be tracking protein and macros?

Video Time Stamp: (00:24:04):

And there are certain situations where I've had people do that for a period of time. But what I have learned is tracking too many things for the long haul. They grow exhausted. There's a way to use it. The spreadsheet that Patrick V has organized for you that does kind of keep track of things for you. And for a season I'll say, let's just do this for six weeks. Let's have you keep track of these numbers for six weeks. But those are oftentimes where I can see what the patient can't see. And so I have them do that, not because I need to know, but because they need to have that confidence in how this is playing out.

2. How do we determine the ideal amount of protein and fat to be consuming, staying under 20 carbs per day?

Video Time Stamp: (00:24:55):



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When you're first starting out, when you're in those first couple of weeks, staying at 20 carbs or less is really that is the first initial section. That's the only place I want people looking. And then as they mature in their ability to do keto. I think the ideal body weight is somewhere between 0.8 and 1.2 grams per kilogram. So grams of protein per day per kilogram of muscle mass. What that really means is take your ideal body weight, turn it into kilograms, that's about the grams of protein that you should be sticking out for a day. If you're severely higher than that it's probably because you're not eating enough fat. The satiety really should get you by the time that metabolism has started to work in your favor.

3. How to adjust our total carbohydrate intake for longterm keto maintenance? Stay at <20 or increase? How to determine what number is best for us?

Video Time Stamp: (00:25:53):

As I look at where's the best number longterm for carbohydrates, 20 or less, the reason that's such a strict rule at the beginning is it's really hard to not be in ketosis after 10 days of 20 carbs or less. I mean, it is a rare person that I find that doesn't have a ketogenic stimulus to their insulin setting for 20 carbs or less. But as you get to these higher levels and these baseline metabolisms, you should be having a dr boz ratio somewhere between 40 and 80 most days. And if you don't, you're probably not.

And you're looking for improved health, you probably aren't getting there if your carbohydrates, whatever your carbohydrate intake is, you'll have some people who take the carbohydrates down to five, four. I mean, really a carnivore type diet or a paleolithic ketogenic diet, they kick the carbs down to five for six to eight weeks and watch what their system does. A 20 carbs gets most people under the threshold where I know they're going to be in the chemistry set of, however, if that drifts upward and you say, look doc, my numbers are fine, then you went, that's great. Getting that dr boss ratio under 80, somewhere between 40 and 80 is a pretty good goal to say. Most days when I check, I get up in the morning, my morning fasting. Yes, during your cortisol spike is what I'm asking you to check.

Video Time Stamp: (00:27:31):

And if you can get a dr boss ratio between 40 and 80 during most days, then whatever the carbohydrates you're taking in is good for you. So let your metabolism be your guide. And I think that's where I see people getting off track on the ketogenic diet is they look at the macros going in and they forget. But you're a study of one. So be sure to check what's coming out. And that's what checking blood numbers really does is it empowers you to say, doc, I must be okay. Look at my metabolism. And the truth is, that's why that spreadsheet is so powerful to me. I look at the last time they ate during the day. I look at the trend, I look at



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what their dr boz ratio has been over time, not one number, just in general. And when they're only checking once a week, I say I need some more data.

Video Time Stamp: (00:28:13):

What's it doing in between these times? Cause I have people that will spot check, meaning they'll do really good and then they'll write their numbers and then they go back to what they were doing before and saying, I don't know why it's not working. Like I need more consistent numbers.

4. During 23-1 does it matter if I don't get enough calories or protein to maintain my ideal weight, or is it okay to just eat till satiated?

Video Time Stamp: (00:28:59):

I want you eating until you're full. What you're looking for is hormones. The key thing there is when you're at 23:1, you're at an OMAD, very strong metabolism and what you get from that metabolism is you should be surging. What's your peptide yy? What does your cortisol do? These are all fat-based hormones that are really hard to churn in the right direction, but when they're working right, you should be full, you should feel satiated. And what you should also be having is a dr boz ratio that really says we're turning out ketones and we're keeping the glucose controlled, especially first thing in the morning. I focus on satiety, not on the calories or the ideal body weight will come. And what happens when they are in an ideal body weight supported with a good chemistry is they level off so that you don't deteriorate the protection of breaking down your muscles, or breaking down things that you shouldn't break down happens in a high state of ketosis. So that is the reason why we have to check, that is we know that you're safe. You're not going to break down muscles for tissue, for energy. You really are protected by that ketogenic state.

5. How long will the Mirror Neurons continue as a FB group?

Video Time Stamp: (00:30:55):

I think as long as I get new students signing up. And so part of that is how well you share what you thought this experience was. The class is closed right now, but we hope to open it to other new students. And what we hope you do as mirror neuron graduates, is that we hope you start your own support group locally. That is really how the wave of ketogenic journeys are most stable. And in fact, I think of the most delicate students I have. They come to our support group with just meeting an example of how this works?



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And that's what I hope. Almost a thousand of you are saying what happens if everybody here leads a few people? And I think of that most fragile patient, the one who falls off very easily but needs this so much more than the average person. And what I don't want you to have to burden is the education. And so that's what the course is for. But the Facebook group, as you see newbies posting online, the things I hope happens in our Facebook group is that you, when you do check ins, you in parentheses put which ketoCONTINUUM you're on. If you're normally living on a keto continuum, I'm six, 48 hour fast once a week. Somehow putting that in the context of your question or your check-in. I think it helps other people that are educated, see where you're at in the continuum and knowing that the goal isn't to get to the bottom of it, the goal is to be healthy. So it's going to be around, I hope it turns into the mentor platform that I dream well.

Video Time Stamp: (00:31:59):

6. Will regular use of Keto #8 (23:1) with all calories in one meal causes metabolism to decline if sufficient calories aren't consumed in one meal?

Video Time Stamp: (00:33:04):

That process of saying what we want for metabolism to grow is the protection that your bowels, body and immune system and brain and heart health are all going in the right direction. We also do not want you breaking down your own muscle for a source of nutrients. That's starvation and that is a calorie based weight loss process. When calories are used as the barometer to say, is this the right amount of energy matched for the body. They use calories only and forget to really take into constant into consideration the hormones that are happening in the background.

So by using you mean you don't have to ketoCONTINUUM number eight. I hope that is obvious by this point that you really have been on the ketogenic journey for a good couple of months. You're going to see in this video today with the fasting that there are some people where we stop them from eating and they start out in a non-heated genic state and we don't let them eat for 30 days. We lock them in a hospital and do experiments on them. They were volunteers, but at the same time, it's insane. It's insane how little their hormones surged in 30 days, have nothing to eat. And it's that metabolism that just shut down their mitochondria. They were truly in a moment of survival. What happens when you're in a state of ketosis is not only do you protect your system from breaking down muscle, but the churn of improved hormones, especially when you take a keto, genetic baseline and you stimulate it, you stress it.



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That is why the ketoCONTINUUM becomes such a powerful toolkit that when we get you to these baseline metabolisms and you figure out what fits your life now we're going to show you what happens when you stress from this point forward. So the answer to your question is yeah, it is sufficient calories. As long as when you're eating that one meal a day, you are satiated. You feel good, you feel full because that means that's my way of checking on you to say are your hormones doing what they're supposed to.

7. When do we decrease the fat intake?

Video Time Stamp: (00:34:56):

Baseline metabolisms will get you to less, not percentage of fat, but less overall food. And again, we want the fat to enter your system because it is the biggest trigger for those hormones to rise to trigger the improved brain function, the improvement tablet. Know that I'm five years into this and my percentage of fat is still very high relative to the carbohydrates and protein. But the overall calories have declined because I use my own fat as energy when I'm busy.

8. Do I need to eat the same amount of food on OMAD as doing two meals a day or eat less & deal with the hunger near the end? Any strategy for this?

Video Time Stamp: (00:35:51):

So one meal a day versus two meals a day is a different rhythm. It is why in the middle between choosing two meals a day, which is keto continuum number four, and getting to that 23:1, there's a couple of other steps where you restrict the hours, you bring your meals closer together and then you specifically keep that morning time with the ketoCONTINUUM.

Number six, where the morning coffee is cheers black with a little salt in it. What you gain from that benefit is you are tightening up the surge of your own hormones. So if you've gone from two meals a day to OMAD, what I would do is say maybe your eating window needs to be six hours instead of one hour. Maybe it needs to be four hours instead of one. And so kind of notching it inward, getting to 23:1 is actually really hard. It's a place that I live most of the time but I probably default into maybe a four hour window where calories get in as opposed to a one hour window and it just seems to fit with my hunger cycle a lot better. If I do need to step it up, of course I deny calories for a couple of days and watch what happens to my metabolism.



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It just really responds. So what I would say is if you're having a lot of hunger for you, it's not the end of the world. Your body will adapt if you can hold, hold that. But instead of pushing it, which I've learned in the process of helping patients when they're having symptoms of hunger or not feeling well, it's a sign. It shouldn't be pushing that hard yet back up to one of those other continuums and hang out there for two months and then see what happens. Listen to your body, your hormones will rescue you. And it's been easy. It really is easy.

9. During the basic 16/8, do ketones in a can account as breaking your fast? The stevia makes my glucose rise a bit.

Video Time Stamp: (00:37:29):

When you add a substance, people write in all the time. Does that break my fast? Does this do this? Well, look, you have the power to look in your own body. I mean, watch what happens when you check your numbers and then you drink water and then you check your numbers again 30 minutes later and you check your numbers again six months 60 minutes later. And then do that same experiment with some stevia the next morning. Add ketones in a can and it does have stevia in it. And if your sugar goes up, you are getting a glucose response to that supplement. Now the studies all say, oh, stevia has no or very little glucose response and very little insulin response.

And I'm like, yeah, those were patients that they studied for that answer in that study, they were insulin resistant, overweight people trying to do a ketogenic diet? Probably not. Especially if it was funded by stevia. They want the answer to have a low glycemic index. That's the point of the whole marketing. So they checked people that weren't overweight and guess what? They didn't have a response. But what happens in my people who've been overweight for 20 years, and instead of saying, let's wait for the study yourself, it's more reflective of what you should be doing anyway. So he says, does this break my fast? I would be keeping all of those calories within the eight hours, including the stevia. And if you're struggling with that, it says, yeah, 16:8 you should be able to succeed at to say there is no calories in those 16 hours. It is water and black coffee only. At first that can be really difficult. So if you need stevia to get through that, if you need a ketones in a can, it is the best answer that I contend. But if you are three months at 16:8 and you're still using ketones in a can to get through those 16 hours, I'm telling you that you need to buck up. You gotta put in the rules, you gotta follow the boundaries, you'll get there. So it's a good bridge at first, but don't let it be your crutch forever.



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10. For a person without diabetes, can blood sugar get too low or ketones get too high on #8- 12 of keto continuum.

Video Time Stamp: (00:39:52):

It's the type one diabetics I always have to hedge about when I answer these questions. But if you're the average person who may have had some insulin resistance but never really got diabetes, you're going to see glucose go down and ketones go up. But the key part of launching from one of those baseline metabolisms into a stressing metabolism is you shouldn't feel badly. Yes, you may have a wave of hunger, but you should not feel terrible when people have low blood sugar and they don't have enough energy for their brain, they feel awful. They will come in swearing, they almost died and I'm like, you didn't almost die. But it felt that way. When they say my blood sugar got into the thirties and I'm like, first of all, I wonder how accurate the point of care things are in that low of a number. I mean even the floor care, which I contend is still one of the highest quality public meters.

Every meter has a range of what their numbers are going to be, but all meters do best when the numbers are between like a 45 and I think it was like 400 you get outside the 400 mark and it just goes, it's too unpredictable. It can't be that accurate. You get under the 40 mark and you're like I don't know if it's really that accurate. So just rest assured that instead of looking at the meter and freaking out how did you feel? Cause that's going to tell me everything. What I'm asking is did your brain get enough fuel? And if your brain got enough fuel, you're good. You're okay and well, what's that fuel that you're using? It's ketones. Okay, so you're like, oh my goodness, my ketones are 8.5 and I'm well, you're going to pee a bunch of those out cause your liver said, we need to make a bunch of ketones there.

They haven't eaten in two days. And so the liver is surging to reach that goal of delivering the energy, the fuel that your brain needs. But if it hangs out in your blood too long and you're normal, meaning you're not type one diabetic, your body's gonna pee them out. Type one diabetics are gonna pee out their ketones too. It's just that we need to find a way that a type one diabetic has the brakes to shut off their ketone production, which is what an insulin injection does for them. Your body will make enough insulin to keep it all contained, even in a state of fasting. So you won't get the 15. And I contend that those beautiful monitors do a great job, but above 10, they are going to tap out. They're not going to be as accurate. So it's really hard to have sugar or too high of a ketone number.

When you're fasting and you watch from a ketoCONTINUUM, you're going to see some pretty impressive numbers. So prepare for that.



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11. I am still having issues getting enough fat without going over on my protein. As long as my numbers are good, is that a problem?

Exactly. You are looking at the output when you get too focused on the input. The only thing I want you to looking at is carbohydrates. Quit looking at everything else. As long as your metabolism of keto continuum, doctor boz ratios are in a solid, low glucose, high ketones. Quit looking at anything else, you're doing fine.

12. How long do we do advanced 16:8 before doing OMAD, and then how long do we do OMAD for? Can we live at OMAD? Or only use for healing?

Video Time Stamp: (00:43:12):

What the beauty of those four baseline metabolisms is you should find one of these that fits with your life. And how long should you be at 16:8. Before you go to OMAD, I like them to be at least two consecutive weeks of really hitting it out of the park, being perfect at it. Like you didn't cheat, you didn't like to count the weekdays and not the weekends. I mean, you really were able to resist food at times of temptation and not feel like you're punished when people are doing this for a lifetime. It isn't, they're able to go to dinner and say, I don't eat the carbs and they don't have guilt. They don't have shame. They don't have like insecurities about it.

They have learned that their body feels so much better at that level that they're without without any struggle. So it's not so much that the chemistry set can't march right up to OMAD. It's that the chemistry set is matched with an emotional and maturity about being in the ketogenic state of energy as long as you want to be. And I will tell you this baseline metabolism of these for this sign over here that says live here, that's right live here. Like somewhere in these four, you should be able to find a place that you live. Like probably live close to an eight. I'm advanced 23:1 meaning I try to eat during daylight hours.

Maybe my calories don't all fit into one hour. Maybe it's a two to three hour version. But it's pretty close. And if it's not a perfect OMAD that's okay. But I was at advanced 16:8 for a year and a half, just saying all I can do, I can not push any harder. And when they do push harder, it doesn't help them, they just fall off. So the answer is really enjoy this journey. Enjoy that you are figuring this out and instead of making it a race to the bottom to say, huh, I got to



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number 12. Well I would contend any of us can do number 12, but can you live there? Can you do eight weeks of this rhythm. And that's really where people start to see not just a little bit of improvement in their health, but an amazing improvement.

Like I get them at the baseline ketoCONTINUUM and they're doing well. They write in and say, no, I'm stuck. I really haven't seen any change and I'll push them to do a 72 hour fast for eight consecutive weeks. And had I done that to them or ask them to do that three months ago, they weren't emotionally mature enough, their metabolism wasn't strong enough and they wouldn't be getting the benefits. They would do it because I told them to maybe, but they wouldn't do it and get this really strong improvement in their health. If you're going to deny yourself some food, if you're going to do this for healing, I need you to enjoy the stroll. This is what we want you to do for a lifetime.

13. Is it okay to exercise long term alongside keto to lower blood glucose and increase fitness? Anything we should avoid?

Video Time Stamp: (00:46:36):

Exercise is something that I'm really particular about for newbies, but I don't want you exercising, especially if you're brand new to the ketogenic diet and you take any medication. I mean from antidepressants to thyroid medicine, I've seen people just struggle with what the chemistry shift does those first couple of weeks of a ketogenic shift. So I tell them, knock off the exercise the most you can exercise is a walk in those first few weeks. But if you're somebody who has been in a lifetime of exercising, good for you, that's actually helpful. We know that once that metabolism, once they are in the journey of saying, hey, I've been living at 16:8 for a year, is there anything else I could be doing to help my body get healthier? And the answer is sure, there's lots of things.

Exercise is one of those, saunas are one of those, making sure your vitamin D is elevated is one of those. There's all kinds of things that we can add. But getting metabolism on your side makes your efforts worthwhile. Meaning, if you're in the fourth week of this and you're saying, okay, but I really need to lower my blood glucose and I need to increase my fitness and oh, by the way, I got 20 carbs or less than, I've got the 16:8 that I'm doing. That's so many changes that something's going to give. So I put the focus on where the money is as for where the return is and that is get your metabolism working for you before you add fitness. When you do add fitness, it does work out for you that it does have a greater return.

But it doesn't pay to add that sooner when your metabolism isn't helping you. So you'll know that you're in the right spot. If you're getting a dr boz ratio of 80 or less most days of the week and you say, but I want to go a little faster. Okay. Add exercise a couple of times a week. Sit in



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the sauna at 180 degrees for 25 minutes, twice a week. Those things will stimulate a metabolism. You're going to get a much greater return on that investment. Once your metabolism is doing what it's supposed to.

14. Please talk more about why women over the age of 50 with children shouldn't eat later in the day. What is the science? I'm 60 and on week three but my Dr. Boz ratio is under 40.

Video Time Stamp: (00:48:49):

My wife and I eat the same things. I produce more ketones and I have a lower blood glucose than her. Why? What can she do to improve her dr boz ratio? So again, both of these are looking at a, what's the difference between men and women chemically, especially those women who have given birth. So you look at the churn of hormones that your body does and you win as the most advanced human beings to produce hormones and surge and relax them. But because of insulin resistance, those hormones have been blunted. They've stopped cycling. They cycle in a way that don't reach the higher level of surge valley that we want people to hit. So if we look at the best rates, let's go at number one. Why do I want women childbearing age over 52 get their dr boss ratio under or get their food in daylight hours or earlier in the day?

Because that morning cortisol rise. Cortisol that comes from your brain and goes to your liver because you're a woman, it's more cortisol than the average person. You have more, okay, praise your children and the ability for you to reproduce. That's why it's more so to deliver more cortisol to your liver also means you're going to get more stimulus of glucose coming out of storage. So you're going to raise your sugars more in the morning than the average person if you're able to eat at eight o'clock at night. I mean, after the sun's gone down and you're a women of childbearing age in your sixties and you still can wake in the morning at sunrise and at that time get a dr boz ratio of 40 then you're pretty lean. You don't have insulin resistance and you have a strong metabolism.

The thing I worry about when I read that statement is I'm on week three. So if week three is I wasn't doing keto and now I'm on week three, I'm telling you, you're still in the hyper phase of making excess ketones. You stress your body out by decreasing to 20 carbohydrates or less per day. And what that did was knock on your liver to say, hey, this lady is not eating like she used to. We need to make some ketones to keep up with her crazy ideas of what she's up to. We're sure this will fade in the future, but just put out a bucket of ketones and you're still in that first phase. Whenever we get newbies into our support group and they come in and they have his doctor, they have these blood ketones. I'll sometimes do them around the table and



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they're like 2.5 ketones and they're 1.7 ketones and they're only in the first couple of weeks of keto.

You can see the veterans just give them the hairy eyebrow browsing. Just wait til your body settles down cause it's going to settle down. Your body's going to say, oh, she didn't, she's not doing this forever. She just needs a few ketones. Her metabolism isn't really that strong and it will settle down and you'll be writing into the channel and about five more weeks saying, I cannot get my ketones above 0.6, something's wrong. And I'm like, nope. You settled back down, you stressed your body, which is what the decrease in 20 carbs are. And then you are here and it means wherever you're at, we need to step you up to the next level of the ketoCONTINUUM and increase the stress at first. If you're still eating after dark and you're getting dr boz ratios of 40, don't worry about it.

You'll get there. As for the guy who says, what's the difference? Why is her blood glucose lower and her ketones higher? Number one, she's a woman with different ratios of mitochondria inside her blood cells. Meaning women don't have as many, many mitochondria inside their muscle cells. Men have more, they are able to produce a higher level of muscle mass and energy from those mitochondria. The other thing is if she's bared children, she probably got some insulin resistant while pregnant. It's protective of the baby when we use that insulin to put on a little extra weight, have that available for the baby, able to nurse the baby after they're born. All of those protections are a response to that elevated insulin for people that are in reproductive years. So it will get better, but she needs to follow some rules.

The wife who's having this, she needs to not eat after the sun goes down. So if you want to be the supportive husband, you make sure that the meal happens closest to noon hour and then you find anything to keep her away from food from three o'clock on. It's not your job. But if you can be supportive of that, that's a good husband.

15. In the advanced 23:1 you said we could use MCT gels to get us over the hump. So can we put MCT in our black coffee?

Video Time Stamp: (00:53:51):

Of course you can. You can put MCT in your coffee. You can put cream in your coffee, you can put butter in your coffee. MCT in the coffee was like a hit on the airwaves as bulletproof coffee because that MCT does cross. That does cross the portal vein. Get right into the liver and push out though it's a fat that turns into ketones for four to five hours.



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So if you want the best brain response, you add caffeine, cheers. And then you put in the fat that turns into ketones. But what I learned was that's a great beginning. Use it until you don't want to anymore. Because as you graduate into higher levels of ketone production and ketone continuum, eventually you'll be able to produce those kinds of ketones from your own fat storage, which is how your body gets continually leaner. You really do trim up some of the autophagy. MCT can still break off. I mean, it still breaks your fast and so autophagy is not as strong even though you have high ketones. What's that autophagy ratio is you really want to check it on a fasting number. So check your numbers. As long as they're doing good, keep it up. But if you run into a stall, don't be afraid to remove it in the future.

16. Last week you answered the questions about hair loss, but I see people talking about taking collagen, will this help or not?

So there's one video out there that's in the beginners, the list of ketone beginners, everything. Beginner's ketone list. It's my beginner's playlist on Facebook, and it's probably about two thirds down the playlist where I talk about snippets of protein that stimulate fibroblasts. And that really is the best evidence for improving your thickness of your skin, improving hair growth. So it's actually proteins that do not count as nutrients. They are snippets, they're tiny little micro proteins. And one of the ways you stimulate the upright upregulation of these fibroblasts. So fiberglass are part of the cells that make bone, make cartilage, make hair.

They're all in this class of connective tissue and it's stem as you age, these fibroblasts go to sleep so you can wake them up again if they see that muscle is being broken down. So the way to trick the body into muscle being broken down is that if you have snippets in the collagen powder, you can find increased fibroblasts. Now, I'll tell you, most of the supplements out there do not have the snippets in them at something that I have had interest in figuring out, but I haven't gotten to collagen. And yet in my settlement line I'm still figuring out how to meet the demands on right now. But it's a very interesting science. And when I look, I mean I learned a lot by just diving into the research on how do you stimulate hair growth for real.

And it's all based on fibroblasts stimulus which can be done electrically. Some can be done, some derm abrasions but those are all pretty heavy. If you find an inner way of stimulating it by decreasing the inflammation and then having snippets in circulation. Boy, there's some pretty good evidence out there. So I don't know. I wouldn't be adding collagen for hair loss because most of the collagen don't have that in it. But yeah, it doesn't hurt you.



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17. I heard you say 0.5 is still ketosis. I rarely hit more than 1.2. Do they need to be higher, how much? How to achieve?

Video Time Stamp: (00:57:24):

No. You're looking for a ratio. So when the ketones are at a certain level, what are your glucose at the same time if you've got a ratio, if you've got a blood glucose in the morning of 70 and the ketone at 1.2, that's a pretty good number.

That's like what, 50 something. So having a stimulus of, and again, what is a higher state of ketosis do? It's protective for breaking down muscle. It's also a reflection that you're pushing your metabolism, you're stimulating, you're working it out.

18. Do we have to get off BHB in a can before we can move on? Is that cheating? Or can we continue the BHB supplements and move through the continuum?

Video Time Stamp: (00:58:18):

I still do that. I still use BHB when I have tough times. What I learned, and again, you'll see some ketogenic educators out there that are really anti BHB. And I used to be that until you're in the real world where you say, I see that your metabolism isn't working. And if I was a fancy researcher and I had a whole metabolic team behind me, I would take you to the hospital.

I've locked the door, I'd make you fast for this many hours. I'd put in Ivy magnesium. I do a whole bunch of things that are super expensive. But that isn't available in the real world. Instead, what I need to do is churn your metabolism to using and wanting ketones. And by adding that BHB, it really does spark the improvements in your body's want for ketones. Ketones are actually a hormone they stimulate and they communicate with cells. It's not just a fuel. So that's a powerful subtext of message that I've learned more and more about. Every time I go to one of my metabolic conferences, it's those metabolic signaling lectures that I really don't miss and make sure to like, push an audio recorder so I can listen to it a couple of times and make sure I understand it.

That is a powerful transition. And when I watch the people like who have dementia or have severe depression and they can't quite follow all these rules, they don't have a support system and I'm trying to get their brain to wake up even I just add BHB and they eat carbs all



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day long. Their brain started to use the ketones above the use of glucose. And the healthier they got, the better their energy got, the better their brain worked. And eventually they stepped onto the ketogenic wagon. But I think a couple of them I supplemented for seven months to saying, just keep drinking it. You're not ready. And it's super expensive, so I don't do that. Whimsically but when using ketones in a can on your journey there've been times where I'm trying to do a fast and it hits and I feel terrible and I'm crabby and I'm irritable and I know that if I could just wait an hour, my liver would make some ketones.

But that takes a rational thinking. Instead, I'll just sip on a few ketones to get me through my irritability. And it does, it really has saved so many of my fasts to say I would have given up. And then you get discouraged and you say, I just can't do it. My body's not ready or whatever their excuses. But instead, if you can say, all right, you sip on these BHB things and they're in your circulation in 10 to 15 minutes and they're doing their job, they're making you feel better. You raise your ketones, you have an appetite suppressant, you raise your ketones, your brain works better, your irritability is less, your concentration is better. I'm like, wait, that's everything I was trying to go for in the first place. So the answer is of course, use the supplements. No, it's not cheating.

It shouldn't be the only thing you do forever and ever. But I find much like when patients come to me and say, doc, I need help getting healthier and I have this list of prescriptions that I can write you. I pray to God you don't need them forever. I pray to God, you find the want and desire to get off them as much as I want you off them. But I also know life has seasons and sometimes those seasons are easy for me to help you with. And sometimes they are over faster than I think they would have been. Sometimes they last a long time. And if you need them for a longer period of time, don't be afraid of them. Just don't go broke buying the kind of like they're expensive.

19. What do I tell my doctor about higher LDL, If he says this diet will hurt me? I just had labs done for an appointment, blood pressure, glucose plus weight way down.

Video Time Stamp: (01:02:15):

I want you armed with this and I think there's a couple of my videos on YouTube that you could probably make sure you help your doctor get it on their phone or whatever. But I want you to say, okay, what do you mean hurt me? If you look at LVL, what I think you mean is they worry that you're going to have a heart attack. Please don't have a heart attack, right? So you say what predicts a heart attack and the things that predict a heart attack are high blood pressure, high fasting, blood sugar, high triglycerides, high cholesterol, and obesity.



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Those things we know predict your risk of a heart attack. Those things are what hurt you. And what you'll notice is not on here is LDL cholesterol. Now this isn't one study. This is hundreds of actually thousands of patients that have been studied to say, well, we got something quirky here. We keep talking about LDL, bad cholesterol, but it's really not the biggest crunch of what goes wrong. Now there's some advanced scientists and LDL cholesterol and I'm happy to maybe make a bonus video about that somewhere in the future, but only after my book is published. So the other thing I like to point out is what I am trying to show you with the doctor boss ratio. And if you take your spreadsheet in to your doctor, first of all, the almost always reached out and not almost many times they reach out to me and I feel it's such an honor to take the time to educate the providers by saying you know, listen to the audio book just shows you my skepticism and my journey about how I helped my own mother and then why I've really dove in to say, how can I be a voice of education for people so that when they go to their doctor, this is exactly one of the reasons I did this course is to say, be educated.

This core curriculum gets you through most of the education. The fasting video you're going to have later today is way more than your doctor's gonna know. So I'm so excited for you to have that on your side and have the confidence to say you're on the right path, but you better be following your numbers. Because if you're going into your doctor saying, I'm keto, but you are not in ketosis, then that's a party foul, then you're going to get me in trouble. You gotta be checking your numbers. You gotta be looking. If you're going to say, I'm going to go in and defend against my doctor. Well don't go in without some numbers. Have that spreadsheet from Patrick V downloaded or printed out and filled out and use that as a way to show your doctor. You said, Dr. Boz says that if my doctor boss ratio is down, then my insulin is going down.

And that is true. And this study says when we follow these people for 25 years and they were not old overweight, they just were normal, they were policemen. And they said, okay, we get to control your healthcare cause they were on some kind of like union or something we're going to study you. And so they said, well, who has the most heart attacks? And they measured all these different things and insulin is awful to measure. Insulin goes up and down. So they measured insulin, but there's problems with insulin. But even despite the problems of insulin, insulin was the biggest predictor of who had the heart attack, they were the lowest insulin and the lowest chance that they were going to have a heart attack in those 25 years now is either a heart attack or sudden cardiac death. They weren't messing around.

They actually had to show that they had a heart attack. I don't think stroke was in, I can't remember from stroke of it. But so if as the insulin went higher and the highest insulin 20 those were the people that at 25 years they had one fourth of them had an incident of major cardiovascular heart disease. That's a lot. That's just huge. So showing you that look, we can show, we can predict who's going to have a heart attack. And by having a high doctor boss ratio, it means your insulin is way too high. It's been high, it is high. And to get it down



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between that 40 and 80 says now you have a lower insulin. Now I can play with your hormones, you can do so many things. But if your doctor boz ratio is always above a hundred, you got work to do.

20. How often/ frequent should we do OMAD, 7 days continuously, 5 or 2 days a week?

Video Time Stamp: (01:06:34):

What you're trying to do is get the rhythm for your life. So I put this picture in here because I wanted to make sure at some point I said, look, these baseline metabolisms are you for you to live at? I live it 23:1. I mean, I live somewhere between eating in this one to four hour range and not having any calories the rest of the time.

Now, do I screw it up? Of course I do. But that's my rhythm. That's my baseline. What you're going to see in this next video today is I, I feel very confident that I'm okay because I check my metabolism. Especially morning fasting. I'm a female of childbearing. I had three beautiful children. So my hormones do a little more than they should. They're a little robust and I want to make sure that then my morning fasting numbers are as low as they and controlled as they should be as I age. And so I do a fast once a week to really tighten in that metabolism. But then I go back to my normal living, which is keep those calories within that three hour window. Don't try to have calories outside this window. This is when you eat.

If you don't get it in by then you're going to fast till tomorrow morning. But that gets for me. I have a really great patient who lived at 16:8. That's all what he could do. And he is amazing. His whole life has changed, but he lives at 16:8 because that's where it fits with him. He's tried 23:1. He's done a couple of 72 hour fasts, but he lives most of his days where he can handle it. So the answer to this question is kind of a hedge, but I want you picking what fits in your life.

21. Can you address blood pressure again? What's the biochemistry behind consistent borderline high and how does keto help?

Video Time Stamp: (01:08:05):

In a state of ketosis, and again, you are looking at numbers, not just the way that you're eating.



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So you're peeing on a stick. There's lots of ketones in your urine. If you get to the part where your blood sugar, what ketones you're checking you've got a good ratio of 80 on most days. What that means is you don't have a lot of extra sugar floating around when the sugar is floating around in your body and your system is trying to pump insulin into your body to say, get that sugar down. You can't have high blood sugar. It's really going to change things. It increases your blood pressure. The best way to lower somebody's blood pressure is to bring down their blood sugar. When we look at people that really dropped their blood pressure in those first few days of a ketogenic journey it's because their blood sugar is higher than they thought it was and they drop the blood sugar, which then the sugar is a way that it kind of pulls and holds onto water in circulation.

So when those glucose molecules are no longer keeping the water in circulation, when you lost that osmolality, you now don't have anything holding it in and you pee out a bunch. When people say, oh, you just lost water weight on that first week of the ketogenic diet. Yes you did. And that's why your blood pressure dropped. But that water should not have been in your body. It was causing a chronic damage to the back of your eyes and your kidneys and your brain that high blood pressure is dangerous. It is not going to be good. So if you have a constantly high or borderline high blood pressure, instead of looking at your blood pressure, I would invest in looking at your blood glucose and say, well what is it first thing in the morning when you sit on the toilet and empty your bladder, what's your blood sugar?

And if your blood sugar is above a hundred, you got a problem. You need to be tighter on your ketogenic journey. You need to find a way down the progression of a tighter ketosis. So instead of saying, I need more blood pressure medicine, although you might, I mean if you've got really stiff old blood vessels, that could be the case. But I contend you get on a ketogenic chemistry, you will soften up those blood vessels. They will become more flexible as your kidneys will do a better job of keeping up with the demands. So lower blood pressure is the best way to lower your blood sugar. You might need to start checking that to know where you're at.

22. Can give us an idea of how many calories to consume in a meal, what does that look like?

Video Time Stamp: (01:10:26):

I want you eating until you're full. And again, the whole point isn't to have the calculated input, it is that you listen to your body and you feel full at the end of that meal because I know at that point that means your hormones have surged and you win. That's what we



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want. That's the whole point of a ketogenic diet is our key to that chemistry is to get your chemistry working for you.

23. Will you be addressing the final levels of the Keno Continuum?

Final levels are coming in the next video.

24. Can you go over how sleep affects the boz ratio? I need to fix sleep, but I have lost 57 lbs in 5 months anyway.

Video Time Stamp: (01:11:12):

It's a huge deal. If you're not sleeping, well is a really important deal. But it's all on brains and how to heal brains and the amount of energy I spend answering questions and doing the sleep part of it. It's insane. It is, I mean my kids know this lecture by heart cause I would go to all their health classes and talk about how important sleep is. So the effects of sleep are when you do not sleep well, your cortisol rises. That little trickle from your brain to your liver is much higher. It's a stress level when you get deep sleep. And I contend that the only place you get deep sleep is in stage four sleep, which is like dangerous. You can't wake people up from stage four sleep. I'm going to get into the selection. I don't mean to you should be getting there every night though. And as that sleep progresses, as you improve the depth of your sleep, your cortisol goes down.

So when people say, I didn't sleep so well, my doctor boz ratio is high, I'm like, yup, welcome to chemistry. That cortisol goes to the liver outcomes, a bunch of extra sugar, the body feels stressed, like it's going to need glucose and it will affect it. So continue to work on your sleep hygiene and not using things like Al Prez, lamb, booze and the pills. Xanax, those things are not helpful for you the way you sleep.



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25. Are there benefits to rotating eating schedules like 16/8, 23/1, 36 hr fast etc. to keep metabolically flexible and not have it slow down?

I like to do it because, I mean, you want to find what fits with you. So first of all, find the baseline metabolisms which fits with your life right now. So the benefit for rotating 16:8 and 23:1 is, well, you can try a couple of different ones to see what fits in your world the best.

And then try to find that as your main rhythm. Adding a flex of 36 hour fast is another way to give your metabolism a workout. And there is a benefit of that. That's kind of why I do my fast every week is that I'm making sure my metabolism gets stressed every week.

26. Is once a week Dr. Bo ratio of 40 for autophagy, the recommendation or should it be as often as you can reach it?

Video Time Stamp: (01:13:42):

It should be there as often as you can reach it. So I've had a few people say, hey, I got my doctor, I was raised, you're down to 20. What so dangerous about that? This is very hard and either there in the first few weeks of making ketones, so they're making a bunch of them and their glucose was never that high to begin with.

Or we've got a really strong metabolism. Good for you. But that's not me. My doctor boss ratio is somewhere between 80 and 40 most days. And when I wake up in the morning, I love it. If it's in that 60, 70, 80 range, but I have to fast to get it below 40. And that's what I do each week. So you see me hit that. But when you look at people fighting cancer, they live under 20. They do not eat enough calories in the day and they fast the rest of the time. They eat all the within one hour and it's usually less than 500 calories. Again, very advanced protocol. Don't be doing this without a physician watching you. But they live under 20 and it is a huge metabolic stress to their system. If they're not keto adapted before they do it, there's a lot that can go wrong.



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27. If I'm at my goal weight and doing 16:8 as well as hitting my Dr. Boz ratio of less than 20, do I stay there? I want this for healing other than weight.

Video Time Stamp: (01:15:07):

Yeah, you're doing great. Perfect. If you hit the ratio, I mean, again, that's why when people say, which one should I do, I'm like, I don't know. Test your numbers and look where is your metabolism. And again, the purest looked at your metabolism is first thing in the morning. Morning fasting numbers give you the highest quality with the least amount of variables going on.

Like, did you eat, did you have a bowel movement? Did you sleep well? Hopefully you slept well. So you're good. Keep going. Since I'm already underweight, is 23:1 a plan or extended fasting a good idea? I want autophagy but can't lose any more weight. So again, what I would look at is not so much that when you look for autophagy, you're looking for your ratios. So if you say, I want this diet for my autophagy, so you're hitting a dr boss ratio 40 most days, then eat to keep that you know, maybe you don't need to be at 23:1. Why would you need to be at 23:1 if you're doctor boz ratio is already at 40. You got a good autophagy. You're on a plan that fits your life.

If you look only at the scale whenever anybody goes on the ketogenic diet clean and they think, oh, I can't afford to lose weight, I tell them, you can't afford to look at the scale. You got to look inside, you gotta look at your metabolism. So quit looking at the scale. If they lose weight the first few weeks of a ketogenic diet, it means they had inflammation and water where they shouldn't have been. We'll get you back up there eventually, but you've got to have a strong metabolism in the background. Okay, so I'm at my ideal body weight and would like to maintain it in a healthy way. However, I am still losing a little weight all the time. Okay, well let's stop again. What I would look at is what's your ratio?

If you got a dr boss ratio around 40, that's a pretty good autophagy. If you're doing this for health reasons, stick around that autophagy ratio of 40 to 80 most days in that process. You can eat the number of carbs that keep your insulin high enough to keep you at this level, but you're kind of like threading a needle. Now people know what that is for them when they've been checking. So as soon as you get in the habit of just looking at those numbers, plotting out those numbers, fill out that spreadsheet, you're going to say, oh, look at that. When I eat 30 carbohydrates per day and I keep them within a five hour window, my ratio between 40 and 80 and I feel good. You win. Perfect. You found your answer. Trying to say this is what you need to do while still losing weight.



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You gotta have the spreadsheet involved in order to answer that question fully.

28. I am not losing weight after 7 weeks of keto, 3 weeks with less than 20 carbs and calories less than 1299. When will I finally lose weight?

Again, you have some chemistry stuff that's going on in the background that's not there yet. So if you've got I'd love to know what ketoCONTINUUM you're at there. So if you're at two meals a day, then you need the scrunch in those meals to keep them in the daylight. And then if you're at a 16:8, keeping those meals in the daylight hours then you need to move a little further into the daylight hours. The biggest trend that I see when people aren't losing weight is they're fighting their inner chemistry. There's a question here that I really wanted to get to that has to do with like why do you want me to check this in the morning?

29. How important are the micronutrients, always concentrating on meeting the carbs and protein macros, but only about at 50% fat. Is this a problem?

Video Time Stamp: (01:20:07):

So the micronutrients is something that when I look at my healthy keto patients, their emphasis has been on sealing up their body to not eliminate so much of their micronutrients or even macro vitamins that we don't get into micronutrients until I see a symptom or a problem. Micronutrients like zinc and selenium and some of those other micro things. That's why the cronometer app is so helpful. If they are having a problem, I can reverse check that diet and make sure that that's not the issue.

But when you'll hear keto teacher leaders say a well balanced ketogenic diet and what they're trying to say is that experiment that I had you all do about opening up the can of sardines and actually tasting them. It is to try and push your palette. It is to try and say, no, there are super easy to stay nutrient foods as long as you're eating them. But if the only can or the only foods you're eating are like three nutrients and you never do things like bone broth with chicken feet in it, cause there's a lot of nutrients in that or you don't ever do bone marrow. And those are the extremes. Or fish, I'm from the Midwest, we put our fish in a camp, but I'll tell you macro fish can taste pretty good.

I bet you've never bought that. That was like what? That's sort of something like you, I don't know, like who buys that? I don't know. Truck driver or something, but, no, that's the reality



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was that the types of food in a well balanced ketogenic diet come from fish and they come from Oregon meat and they come from these micronutrients can be very well delivered as long as it's eaten often enough that you get to count that. So I put that in there that when, when you're eating, when I say put liverwurst in your fridge, have one bite every couple of days. Put those sardines in your cupboard and have a can at least two a month. I mean, I'd like one a week, but start somewhere and using those as a barometer to say, how well are you doing at staying balanced.

30. Please address in the more advanced continuum. What is the fat level should be?

Video Time Stamp: (01:23:23):

You have a carbs, protein, but not seeing fat amounts. So again, when you look at the amount of fat that you're taking in, what we want when you eat is for you to feel full. Okay? So what does that mean? You don't feel full from carbohydrates. You don't feel full from protein. The satiation, the feeling of fullness comes from eating fat. So when we look at the percentage of fat and when we look at a meal that's filled with fat, if you say, well, that's my only one meal a day. That focusing on the fat, don't I want to drop the fat?

Think of it as dropping the interval of fat and knowing that the stronger your hormones get for satiation, for satiety the less volume of food they eat to feel full. I mean, I think one of the hardest switches to transition from a calorie based eating or some eating where you really keep track of your numbers versus a hormone based eating, which is really what a ketogenic journey is doing is that you really do have to listen to your body. And so as much as the like, oh, I'm not getting it, when do I cut the fat? I want to lose weight and I do cut the fat. Well you're going to eat less and less to feel full, but the stronger your hormones are and you will find yourself doing things like, oh, you're going to learn about that today. I eat five meals a week, I am 24 hours. Once a day. This is not me. I'm just giving you an example. And when I eat, I eat until I feel full. Cause that's how you sustain this. You start snitching on oh I want to lose more body weight, I want to cut out the fat. All right, as long as it's in one hour, as long as that cortisol surge or an insulin surge of eating, even though it's fat, you still serve some insulin is once a day.

The reason we want women to bring that surge of eating the fat closer to sunrise is women. You're going to have cortisol. You've had babies, you're going to make a lot of cortisol. The more the closer you can overlap your surge of eating to your morning cortisol surge, the less overall you're going to have the morning cortisol surge anyway. The sun comes up every day and that looks like you ate, but you didn't eat. Welcome to being a girl. But if you move that one meal a day to be under the curve of your cortisol surge, of your hormone surge, and then



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when you do that, you have high fat in it. That process really does give you the rewards you need for improving that. Not just the ketogenic journey, but the outcome for sustaining this.

31. Can you speak more about use of the ketogenic diet from mental illness like depression, anxiety, bipolar?

Video Time Stamp: (01:34:17):

This is a big deal. The reason I'm here on the ketogenic forum of education is that I take care of brains as my chronic illnesses, what I take care of. But healthy brains are what really drive me. So when you look at some of the best performing brains and I'm talking like Navy seals, they ask these things called human beings to do machine like behavior and process in a way that is so advanced that it's impressive. But watching a mental illness wilt out even the best of brains once it gets headed in the wrong direction whether it's from anxiety, whether it's from poor sleep that's what the other course is actually all built on.

But it's not just keto. There's one little sliver of it's keto to say, you want to see a brain heal I put it in a state of ketosis. And I don't mean for a week. This is ketosis for 18 months. And during those times we're doing things like magnesium soaks because they got to have magnesium to slow down that brain. It's got to have it. That's one of the micronutrients is they're low on their vitamin D level should be 50, not 25, 30. It's better than it was doc. No, you got to get it to 50. When you look at the ketogenic diet and how many other subsets of an unhealthy patient are linked to being out of ketosis? It's been amazing to me that when I'm working with somebody who's either had a head injury or mental illness or a chronic debilitating like Parkinson's disease, I'm shooting for their dr boz ratio to stay around 50 for a lifetime. How do you do that? Or at least until they're in a season where they really have a mental health that is strong off of all their medications, sleeping well without any help. They really are turning their life. And their brain is functioning well. Really well. Again, head injuries are known for just really wrinkling a healthy brain into a mess. But mental illness also, once it's got these wires of worry and anxiety, it's really difficult for them to think they can ever get better and be off those medications. So when I looked for mental health, it is the spectrum. Like this core curriculum is got a huge amount of them in there.

We covered sleep, we covered magnesium. I didn't do vitamin D, but again, a fat-based vitamin, a fat based molecule that there is no way you can supplement your way back to health, especially if you're not absorbing fat very well. And if you want to see the best way to protect against immune systems and make your brain work better and be 90 years old. And you know, way on stage doing comedy or something, how it really advanced brain function isn't, it isn't one or two little problems that you have to deal with when you're taking care of mental illness. It is that global holistic approach. Like when working with addiction so we've



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got heroin, methamphetamine, chronic marijuana and their brain is just wilted. It is not anything close to what it was designed to be. And the outward symptoms are their anxiety.

They got what they call bipolar, which is ups and downs to their mood, but they weren't designed that way. They've really have a consequence of that brain problem because of the way they've treated their brain, just their brain didn't get nourished. So to be in a state of ketosis, and again, this is not, it is a chemistry set that you're measuring inside their circulation, but they're there for 18 months. Like I wouldn't raise a kid. And I have three boys, plenty of activity, not hyperactivity, just they're active boys. Their brains need to have a state of ketosis multiple times in a week because I want their brains wired in a way that don't go in a loop. Having chronic anxiety, chronic worries. You know, spiraling deathtrap saying, I just want to kill myself. You know those mental health processes are a form or a consequence of brain health and there's not a subtle problem.

I mean, I'm really spending a lot of time on this question because it is super important for you to hear me say, I can give you Prozac, Paxil, Zoloft, olanzapine, anti-psychotics, lithium, and I'm going to change the way your brain functions by a percentage, like 12% maximum. When you bathe them in ketones, you have a 70% change in the way their brain functions. Now, you don't bake them in ketones for a day though. Just like you don't take Prozac for a day, you become a ketogenic journey with a goal of being a dr boz ratio of 50. But most of my people with mental health, depression, anxiety, they can't get there. They sure can't get there without a support group. When I said at the beginning of this video that I hope that the thousand people that got into this course who are teaching, what connects with you and what doesn't, I hope that by you starting a support group, but there's somebody out there with depression saying, I'm just trying to figure out how to get out of bed every day.

And there's a support group and it happens and I only make it once every fourth week, but I try to get there because that's one place where they get to see what does it look like to be normal. When I'm coaching a meth addict back to a normal life, I put them in. I don't put them in a meth group to watch what other meth people do. I put them in normal, healthy support groups, keto support groups, and they get to see what a normal people struggle with. Oh, we struggle with a screwing it up and forgiving ourselves too. That's not just you who's got a drug problem. We want your brain to look healthier. Part of that is that mirror neuron thing we talked about in support groups. When people write into me and say, I have this severe problem, my kid has attempted suicide two or three times, I'm saying, the best thing you can do is focus on you.

You have to be his healthy example of normal. And if all you're doing is worrying about that kid he's gonna see. That's what life is about is people need to worry about him. He needs to worry about somebody else. He needs you focusing on you on a healthy journey. And that sort of support group is in the background though there are some medical things that are



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really important and they have to be sleeping routine. They have to have a deep shutdown of their brain. They cannot be shooting their eyeballs full of bright lights in the evening hours and expect their brain to heal. He can't do that. So getting them away from screens, getting them into a magnesium, float spas. I mean I've taken my kids with me to say we're all going to go to the spa and of course they have no idea what I think they're going to get their toenails point painted or something and the boys thinking this is the most awful thing that the mother has ever done.

And we go to the float spa. Everybody gets in their own little pod and we'd go, we float for an hour. And it's just giving them those examples of saying, how do you shut down when life is busy and your brain is going super fast.

32. I'm fat adapted, been keto one year, lost 55 pounds, carbs still below 20. My doctor boz ratio is great, at 40 or less yet when I do the shin test, it's quite in dent.

Video Time Stamp: (01:40:54):

When you are in a great phase, you're like, oh, look at how much healthier I am, but I do the shin test and I'm still got some inflammation. So that is a sign just looking inside your body saying why is that still there? So it is in those pig people where I say, I need you to do a little exercise. Or if you don't like exercise, I need you to go to a sauna and sit in 180 degrees for 25 minutes and I need you to do it twice a week. I'm looking at just stressing your system in a way where your mitochondria are asked to do this next level will help you flush out the final inflammation.

The inflammation is to stuck. Okay? It was there for so long. It's been there for awhile. It's always the easiest place to go back to is the place that's kind of been the longest, which are these lower shin areas. That's why it's such an awesome test to just say, yup, you've lost a lot of weight. There's a lot of things going right. But if you could leave that imprint in your shin, don't stop. So having a jump rope routine, I like jump rope cause, you can even if you got bad knees, you're only jumping this far off the ground, but you get one minute every or three minutes every twice a day. But that's a pretty easy routine. I'll tell you, you're going to need an accountability partner cause it sounds easy, but it's one of those things that just a little bit of push every day is how you get better.

I really like the data behind what happens inside of sauna. But you gotta hit the mark of 180 degrees for 20 - 25 minutes. That's really where the body gets this improvement in how the body is metabolically stressing. So good job, you just need to stress the body in another way



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is why that swelling is still there. I'm a big fan of CrossFit even for the old and who've never done it. I like the tribe that happens in CrossFit because you come together, you do this whole workout. And I'm always the worst one in the group. I don't care. The fact that I tried was amazing and I haven't done that in over a year, but I love that mentality of just being in a team, trying to do your best and watching these other young folks flip around.

33. Could you please revisit your stance on apple cider vinegar?

There's lots of good research on the benefits.

So Apple cider vinegar, it's going to shift your pH. It's going to do it for a short period of time. It is going to break your fast. So it's like a fermented liquid except the fermentation gets all the way down to, I mean vinegar is usually like 2.8, 2.7 pH. It's pretty acidic. So you can shift it. It's a chemistry trick that you can do. It's not as good as ketosis. So it's just bridge. It's another place for you saying I'm in a fast, I'm trying to make it through. Can I have Apple cider vinegar? Sure. It's gonna do what it's gonna do. Be sure to check your numbers afterwards and see what it does when they start taking apple cider vinegar and then they add honey and they add other things to make it taste sweet and like you gotta keep the pH down in order for it to get all those benefits.

It's not bad and there is plenty of research. What I think is they're trying to talk about the decrease in antioxidants and how it's protective of this and it shifts your chemistry. Well, there's nothing more acidic than ketosis. Your kidneys keep a very close eye on it, keeping you at the edge of ketosis with those ketones, you get too many ketones and it's keto acidosis. It's a very acidic setting for your body.

But what's also happening in the middle, you have all that is you're not making as many free radicals. There's not as many electrons zinging around. So you will never be able to drink as much apple cider vinegar and reduce the inflammation on your body as much as living with a dr boz ratio 50. It is not even in the same chapter. It's not even in the same cyclepedia for improving your health.

34. I still don't understand why your blood glucose is high. Why bothered to produce it?

Video Time Stamp: (01:45:51):

So it is relative. Okay. So when your blood glucose is high, and I like to show my type two diabetics that are injecting insulin. So we have a couple of those in my local support group



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where they've been on this for a couple of years and they are finally getting the rhythm of living at one of those baseline continuums, but they can make ketones.

And it's every time they stress their body by taking out those bunch of glucose. I mean they're not eating a bunch of glucose. And then asking their liver to release some of the glucose and they've got a lot of stored glucose. When you watch this fasting video later on today, you're going to see that they can fast for a month and still not have the hormone surge that you should be having in 72 hours of fasting from a ketogenic state. So it is, you are totally, why would your body even bother? It's exactly what you should be asking. That's a good question. Because they really do have a wasteful process of making ketones, but it is the relative effect of their insulin.

So take that type two diabetic who's got injecting insulin and she's got excess insulin, but she reduces her glucose and her body makes ketones. And it's because she may have all this insulin, but it is so she has ineffective use of her insulin essentially. And even though there's so much around it's been around for a long time. It's just screaming everywhere. It's been yelling at ourselves forever. But there's a mismatch in her ability to use the glucose because influence is doing it's goofy thing. It makes it so you can't use some of that glucose because you've abused the insulin cycle. The insulin is now just like, it's that boy that cried wolf, he's screaming over there crying wolf and nobody's going to help him anymore. It's just like, okay, it's insulin resistance, insulin screaming. You you should come over here and help me.

But you've been saying that for 10 years, buddy, I'm not helping you. You've already used, I don't trust you. And so that insulin doesn't have its effect at releasing glucose as quickly as you'd think. That is what the turn is that living at that baseline metabolism, and as you drop the insulin, as you drop the glucose in the instance, kind of figuring out what's going on here, I mean, there's less glucose. What's going on here? There's a mismatch in the delivery of energy. And that's when the liver shows up to say, hey, we gotta make these ketones. Don't quit quick. That's how they make it. And then what happens though is they'll be the first ones to plateau out cause the influence says, oh well we can correct for that. We've got a whole bunch of stored glucose. And so the insulin kind of resets over the next two to three weeks.

And then people write in saying, I was doing great. I have these awesome numbers. My glucose was under a hundred and now it's back up to 127 it's never been that high. And I'm like, oh, but you know what just happened? Your insulin corrected your insulin said, hey, she needed all these ketones because they made this shift, but I'll show you, I'm going to just reset to whatever she's at. And now they're back at this level and they're like, well last week I snuck in 40 carbs a few days and I still was fine, or I stayed at 20 carbs and I was fine. And I'm saying, okay, now that you're back to this stable level, your insulin needs to be challenged again. And that's where they'll drop the glucose and I'll have them fast for 24 hours or something.



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They'll change, they'll go to the next layer of the continuum, they'll give up something else. They'll stop eating during the day something and it will totally drop the shift again, the insulin doesn't change very quickly. The glucose drops, then they make a few more ketones and then over the course of about two to three weeks, they're insulin resets. And they have to do this churn several times before they finally get to a healthy level of not doing that turn again. Their insulin really resets and it can take a couple of years. I mean, it just depends on how often they, I mean that's somebody who when they follow that doctor boz ratio, they hang out at the doctor boz ratio of 80, and then they see it. Or maybe they hang out at a hundred, but then they see creep back up to 200.

And that's why I'm like, you got to challenge it. You got to stress that body again. You got to keep that ratio there and what you're constantly doing is just never letting that insulin get comfortable again. You're just knocking it down every step of the way.

35. You mentioned not fasting for very long due to cytokine storm for people with autoimmune disease. Is that still the case? I was diagnosed with ms 20 years ago. Being stuck for a while doing carnivore, thinking about going for 36 to 48 hour fast but didn't want to stir up or add to the cytokine storm. If meat is all you can eat and my body won't accept any other fats other than butter.

Video Time Stamp: (01:50:40):

I'd tell you to go eat liverwurst or eat fish and you say, but that's part of me. I'm like, your body will accept it. It's that you have had a time where your response, this histamine response was super reflexive and so they'd throw it up or they get diarrhea every time they eat it. And it's because of the response their body has to the food arriving in there. They're very sensitive part of the body, the stomach. So don't be afraid to reach, challenge those foods and then just start small. Your body will figure it out. But start with really good meats like Braunschweiger and Sargent. But the other part of the cytokine storm, if you're in a brand new autoimmune problem, histamine sensitivity, like they really are allergic to things. They have foods. Intolerability is a trope. This is a group of people who have these same problems and they will walk into the ketogenic diet and they're on the third week.

Say, I'm doing fine. Can I do a fast? I'll tell them, no, I want you living one of the baseline continuums for four to six weeks before you stress. And you're gonna learn about stressing today at this next video. But stressing has everything to do with how much you push the metabolism at a time when the system really does need stressed. It needs exercise if you



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would. And when they do that, the body will respond. They do pretty well and they have the hormones to back it. But if they push for that stress when the hormones are like, we're still struggling with cytokine overreactions, I would be very curious to say before you do a fast, I would be stressing with things like eat a bite of liverwurst one bite every day. Eat a bite of sardines.

I mean, do liverwurst one day starting the other day. I mean, living off of butter is going to give you, I'm assuming you're doing eggs then if you don't do meat, it's not very nutrient rich. You're going to end up with a micronutrient deficiency. Other places you can protect against that would be like bone broth with chicken feet in it. Just other places where you get a little creative to get that inside your system.

36. I am really eager to hear your thoughts about autophagy, and bone broth with osteopenia. I've been diagnosed with osteopenia and have not found much to support the efficiency of ketosis on building bone. I really don't want to take any more pharmaceutical routes.

Video Time Stamp: (01:55:44):

So osteopenia is one of the stages for melting bones. That's not terrible. It's not osteoporosis, but it's not perfect either. The best thing you could do is actually add a growth hormone to your body. Growth hormone is a fat-based hormone that comes when you stress a metabolism. You're going to learn about growth hormone today. It's kinda why I'm feeding you this. Growth hormone has a alcohol. The sex appeal. If you look out in the world of athletes, athletes get in trouble for this, but let's go to like Broadway dancers. We need to have a strong musculature and they need to have really beautiful, youthful bodies until the day they die. So they inject growth hormones. Except they use growth hormone and not from their own body producing it. They come and they get it from a physician and they get, or maybe they get it illicitly I don't know. But they inject it and the growth hormone is given in a surge and it stays high and then it comes down.

And that's not how the body intended you to do it. It's supposed to be volatile. It's another one of those like insulin up and down, up and down. And when you do that, when you search growth hormone, your hair gets thicker, your eyes get cleaned up a little, your bones grow denser. And it really has if I have a genetic deficit and I'm trying to outsmart human nature and give you the answers that mankind can give you today for making bones stronger, I'll give you growth hormone and it will make your bones stronger. But it's going to screw up a whole bunch of other things. Mental health. Men get lactating breasts and their testes get to be the



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size of peanuts. And I mean it really screws up a whole bunch of the sex hormones, a sex drive, instead of when you make your own growth hormone it surges them and relaxes.

And as you surge, your brain does a whole bunch of things in response when you ask a physician to deliver it. When you put it in yourself, it changes everything to the reflex of how you leave out the intricacies of what happens with growth hormone. We want your growth hormone to have this response to your body. And that really is how well where the ketogenic diet leads into things like what can it do for osteoporosis, right? What can I do for osteopenia? Well, it can stimulate your growth hormone and today you're going to be able to say, well, how do I do that? I don't want to take a medicine, so I want to do this right away. First of all, you should be eating absorbable calcium.

There's plenty of calcium in your body. It's in your bones. What you're trying to do is keep it in your bones. Vitamin K two is actually one of those vitamins. I don't recommend a lot of them, but K2 I can skip the science about saying I could go into it, but it would probably only satisfy a few of you. But the answer is it's really hard to replace those ones that are low. But when you get to a baseline ketoCONTINUUM and you stress the metabolism, you're going to see growth hormone surge. It's about 40 minutes into the video today, you're going to see me talk about if you're on ketoCONTINUUM and you search for a stress watch what happens to your growth hormone. And so if you were in my clinic and you were saying, how can I do this without adding medication, I would put you on a protocol, a fraternal plan saying, where are you at? Okay, you're on a ketoCONTINUUM baseline. You've been there for eight weeks, you're stable, you've got a plan, you know what you're doing now. I need you to stress that every week. And then we'd spend out 12 weeks and then we test things in 12 weeks. But even you're going to see what that plan is when you watch the video. So it's not so much that bone broth will fix you there, but it's that you're going to stimulate the production of growth hormone.

37. Is fasting for autophagy something you'd suggest for your heart failure patients?

Video Time Stamp: (02:00:11):

That's an advanced question. Okay. So here's the problem with heart failure is like what is the cause of their heart failure and when heart failure has set in. So let's go back and say heart failure at its very basics. That person who a couple of questions ago said, hey, I'm pushing on my shin and I leave this imprint in my shin.

And in the very like textbook version of heart failure, you could call that heart failure. That heart isn't creating enough pressure as well as the whole from the kidney to empty out the



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fluid that's in the wrong spots in that body. Now her heart failure for the one of the question is probably because she's not exercising. That's why I'm saying go exercise. Push your heart a little. Go in a sauna, sit there for 25 minutes, push your heart a little. So that heart failure is lack of use. But that's not most people, when people write in a question like this, they're usually talking that I had an echocardiogram. Instead of squeezing the heart, every time your heart squeezes, it says, how much blood does it squeeze out? And we want it to squeeze out like 60% of the blood. Every time that love dub happens.

And if it's got a nice strong heart, it squeezes out 60% or more. And when it gets weaker, either the muscle got really thick or it can't, it doesn't have the energy to squeeze it out. Now is that because there's a lot of fluid in the body? Is that because the blood vessels are really tight? Is that because their blood pressure's too high? So when I look at heart failure, autophagy doesn't become the first thing I think of. I just push them to ketosis. Okay. Like I know that if I was watching them, I could figure out where it is that they would need to be. But when I answer in a general way, what I can be confident in is that get them to live in a state of ketosis, get them peeing on a stick. You gotta have ketones in your urine and they never need to even check their finger as long as they're ketosis. Because usually heart failure is associated with age, unless for some sad reason, their virus took over their heart and they're young with heart failure, which just sad. The longterm problem there is it's the salt that you have to be careful of at the beginning and they need it to stay in healthy ketosis, but you got to keep track of it. So it's a complicated question, but it's a good question. So I might have to do a a lesson on heart failure. I don't know how I do that. After the book is published.

38. Can you tell us when or how to access your course on addiction?

Video Time Stamp: (02:02:43):

So I haven't released it yet. This is the one where I did this for the department of defense and it's like a 12 hour workshop, but people can't concentrate for 12 hours, so you gotta break it up.

And it's amazing. It's my favorite work and department of defense hired me to do it for their people for a couple of years. But when I was doing that, I tried, I thought, oh, that's a great online course. Therapists could use it, they could use it for their curriculum. And I have a lot of parents who, I mean whenever I give the workshop, I invite people through Facebook to say, just come, I've had churches sponsor it and pay for me to come and give it to their audiences. And it really infuses a level of education for the brain cause it's really a brain repair. It's the protocol I use for brain repair. And I use the example of addiction, which is usually the worst, bringing in, so then I went to put this online and the department of defense contacted me saying you can't do that.



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And I'm like, what? So they didn't lift that until February of this last year. So I actually thought before I do the keto course I was going to release that cause it's like ready to go. I've been working on it for like a year. Yeah. So, but then this happened and then the coronavirus and release and then thousand students. And so it's coming. There's all I can say. And it's going to be a lot. It's a lot more expensive than this one. So, but I mean I really want people doing that course in a tribe as much as these people can. I'm hoping for \$200 you do this and you spread it and you become the tribe leader. But for that course, I hope people come together as a church or as a support group or as a family. And they use that as a place to educate a tribe. You bringing a tribe together and work through this curriculum. It is great. I've made all my kids do it. All of their teachers know exactly what I would teach them if they came. And it's a great course. So stay tuned.

39. Can we get a Dr. Boz certificate of completion?

That's a really good idea. I didn't think of that. So I was really excited about the little ketone buddies. That's a really good idea. I bet I can do that. I will work on that.

40. I have been living with chronic pain since January. How does this affect keto? Is it the same as the stresses talked about in module 4?

Video Time Stamp: (02:05:33):

So chronic pain does increase your cortisol level. So when you saw that lecture on cortisol we know that they produce more cortisol, especially if you're in the newer phase of chronic pain. When I get patients that come into the clinic and they've been on like opiates in Neurontin for 20 years that level of chronic pain is totally different than if you're in the first year after an injury. Step one for chronic pain is always you've got to fix your sleep before you can do anything else.

If their sleep does not improve, we're not going to get ahead of this. Pain is controlled in the brain and when you don't fix it, you don't have a healthy brain. You can't fix this. It is the other component or the other reason why my purest approach at the beginning was you don't need to drink ketones. Your liver can make lots of them, but it's a great example that people with chronic pain, their brain neurons are lower, their brain function is lower. Their ability to just wrap their minds around this change is difficult. Their depression is real, their anxiety is real. So I have them sipping ketones and then you gotta find a support group. The support group is so valuable that you gotta be going, it doesn't have to be a chronic pain



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support group. It's how do I improve my life support group? You can call it Bible study, you can call it stitch and bitch. You can call it a ketone support group. But it's where people are coming together to say, how do I improve me? And what you're doing is you're activating your mirror neurons about. Everybody else has pain too. Now it's not the level and you have a much worse story. But if you want a healthy life in the end of what you're after as a healthy life, we got to get you imprinting off of people. But show you how to get out of it. But keto you're going to have a harder time producing ketones with a higher level of stress, but just like that insulin resistant patient, if they improve that glucose a little, their ketones were produce and you improve the whole process of your brain shutting down and waking up just a little and you'll make ketones and brains producing ketones are healing better. They're wiring better. I mean, the best data, and I know this was one of the questions on the poll from yesterday was what about kids in ketosis and where do I go for that resource? And I would have you go look at the Charlie foundation, which is specifically was started to help kids who have seizures. How do we get their families and their support groups doing keto the right way, which has all this curriculum you guys have gone through in the adult world. But they did this for kids and they did this for people with seizures. And the truth was the most important part of what the Charlie foundation did was they weren't alone. These families trying to help their kids live on a ketogenic diet. And as soon as they got left alone, the world one saying, oh, you can't do that for kids. Oh, you're going to have a stunted girls. Oh they would just come up with all these other ideas and the families would get scared saying, I don't want to hurt my kid. Same thing happens with a chronic syndrome. Like you've got chronic pain syndrome, they get a little bit forward, and then they have a tribe of other chronic pain people saying, you're never going to get off your opiates. You're never going to get off your antidepressants. Your brain's going to be broken forever. And you got to stop that. You're a human being and the human beings can change, but they have to have examples and lead you and support groups.

41. Type 1 diabetic, I would like to know how low is safe?

Video Time Stamp: (02:09:55):

I'm going to guess how low is safe for a type one diabetic and the key with a type one diabetic. First of all, if you go to my playlist on YouTube with Lachlan, she's the type one diabetic that I walked through for a while.

So that just gives you some insight to saying it is something you gotta follow closely. I always like my type one diabetics to be partnered with somebody that's in their circle of support so that they're not doing well. Like the first fast that Lachlan did, we wanted just her to be around people that knew she was doing a fast that we're going to say you can't fast. You're a type one diabetic. Like, yes, you can fast. It's just got to figure out what that means in your story. But when you look at the changes had you taken diabetes type one diabetic taken the idea of a ketogenic diet to your doctor a year ago? Cause they would've said, no way. This is



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dangerous. Don't do that. But I bet if you go now, there is enough of the literature that supports that a type one diabetics best long life is linked to a chronic ketosis, living in ketosis for a lifetime.

So having this curriculum gives you kind of a spreadsheet of where can you march to next? You have the same rules that apply emotionally, which is you can't just hop over to a 72 hour fast and think that your hormones are going to be ready. You've got to start with going keto getting that magical moment of I missed a meal and that's good. And then saying, okay, I'm going to make a choice. I'm going to step over this line and make a choice to eat two meals a day and then do that for a little while and then cut the hours down so that you're only eating for this eight hour window and then moving it to eight hours of sunlight. And then maybe you get to six hour window, then a four hour window, and you really do get to one meal a day.

Or at least in general, and I'll just say for type one diabetic, the best part about the one meal a day of a high fat meal is how much less insulin they need and how much better their vitamin D gets, how much better their gout numbers get, which they don't. I mean they have all other kinds of things following. But if you look at some of, like if I get two tests and somebody to say, how bad is their health, I'll check a vitamin D and uric acid. And it's because they take a long time to change and they don't get better with one little dose of a supplement. They don't fluctuate up and down. But there's a gas that is a waste product that should not be in your body. It shouldn't be. It should be really low. And the more inflammation and the longer it's been there, the higher that uric acid gets.

And vitamin D is a nutrient that is fat-based. And if you're absorbing fat and you're activating fat, I don't care if you take 50,000 units, eight for 12 weeks, you're going to raise it a little bit, but you're not going to be at that healthy, 50 to 60 units. Unless a lot of other things are going right. So if I get two tests to look at it, that's where I start.

42. Do you have any recommendations for helping a teenager with a ketogenic diet?

Video Time Stamp: (02:12:57):

I got teenagers. The first part I'll helping a teenager with ketogenic diet is hopefully they still live with you cause you buy the groceries. I start with making sure they realize this isn't punishment.

This is their brain. Whenever I go into middle schools or high schools and I'm asked to talk about brains and development, I talk about, look, you can feed your brain the stuff that wires inappropriately or causes inflammation. And your brain is going to decide who's going to be



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the most successful in this room. And I will tell you, the answer's not out yet. When you're a teenager, your brain isn't developed. You get till 26. And so even if you've messed it up and you just smoke marijuana and you drank booze and you were diabetic, all the nasty stuff brains can do dangers. The best outcome comes from those who get it together, decrease the inflammation and grow their hippocampus to the longest, thickest hippocampus by the age of 26. I know that's kind of a tangent, but when you look at what motivates teenagers trippy parents aren't, you aren't in that list.

Playful is helpful and then find what motivates them. And I'll tell you what's worked for me is the brain stuff. Like you want to be the smartest one in the room. You want to be, I mean, everybody does, right? You ask the kids who want to be the most successful person in the room, and even the guy who is struggling to get passing grades in his mind, he still wants to be the most successful in the room. He wants to find a way. I mean, that's the beautiful part about teenagers. So finding what motivates them is step one. Step two is my kids don't have cereal and don't have sugar and don't have pancakes. Those things are not in the house and we don't buy them. The third thing is they don't get a gatorade drinks. They sit on ketones.

And that alone has helped just keep them from craving. And it's a hack that I like and they like, and they understand the reason why. One of my kids like to debate. And so it's like the sport for arguing and brain. So I don't know why you'd want to teach your teachers to do this, but it's actually very fun to watch them do it. But in the same respects, it's a mental sport. And so when they're up against other mental athletes they have learned that the best answers come from a debate tournament are. At the end of the debate tournament, whose brain is the most efficient. So for every debate tournament, they fast and they sit on ketones all day long and they're like everybody else. Cause the only thing that goes on these debate tournaments is bake sales full of sugar.

And so all the other teenagers hype up on sugar all day long by the time they get to the final round. The best performances. This is the most stable brain and anyway, the great little hack. So those are some, I find what motivates them. Remember that parents imprint by behavior that they don't imprint by stripping and then you do buy the groceries.

43. Chicken broth, I think you said that helps with re repairing the gut permeability. Are there other things? Should the broth be eaten first with a meal or a separate time?

Video Time Stamp: (02:16:37):



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The part about the broth is, especially when it's got that chicken feet in it, it's just very highly nutrient. And when I'm looking at several of the questions that come in saying I've had gastric bypass, I've had leaky gut, I've had a fat malabsorption and every time I eat fat, I get diarrhea.

I can't do this. I don't know what to do. I will first go to bone broth because it's got some nutrients in it and it's broth, right? So it's easy on their gut. Now the nutrients still has some fat in it, which if you make your own bone broth and you do the thing that the recipe of put through the cheesecloth and then you put in your little jars, there's a whole rind of fat that shows up on top. So if they're eating it, you want them to eat that. That's part of what you want them to swallow. Now if they throw it away, whatever, there's probably still a little fat inside the broth. But what the bone broth, the chicken broth has to do with gut permeability is we're trying to rest the gut and only deliver the highest nutrients in small doses.

And so the reason I keep saying broth for these people is because the next step is fast them. Shut off the gut. Don't do it for two days. And it's really hard. They are just mentally not ready for that. Like, you're crazy. You don't want to do that to somebody. I'm like, you gotta heal. And if you've got that leaky gut to stop, stop eating, there's a whole bunch of other things that go wrong with that. So be careful.

44. I take hydrocortisone every day for a pituitary tumor. Should I time my eating around that? I'm thinking 23:1 versus 16:8. Any other recommendations?

Video Time Stamp: (02:18:22):

Yes. You should eat with it or a later. Good idea. So what is happening is her pituitary the cortisol, that is part of life. You have to have cortisol to keep. I mean, people call it a stress hormone and say, oh, you can't have too much. Did you have to have it? So in the setting of supplementing after a pituitary tumor or in response to a pituitary tumor, that cortisol surge, you know exactly when yours was going to happen.. And so you're going to also produce that release of glucose from your liver. What would be fun is for you to say putting your hydrocodone and check your sugar, check your doctor boss ratio every 30 minutes and you'll see when the peak well when the peak go higher.

So as you get the highest amount of the dr boss ratio in response to that hydrocortisone you should center your eating to match that peak because you're already having a cortisol surge. It's not going to wipe out that the only cortisol you make. You'll still have some response of your body after you eat. But if you can overlap the two, that's a good idea.



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45. I have struggled with ketones almost always under one. I try to eat as much fat as I can. What should I do?

Video Time Stamp: (02:20:03):

When you look for low ketones like that it says, okay, you are making them at least it sounds like they're probably above 0.5. But I would look at pushing your meal to be during the daylight hours and if it's during the daylight hours then I would push you even further into the day. Like three o'clock should be your meal. And what you're trying to do is inch more towards your morning cortisol surge that goes up and down. It's natural what's going to happen every morning when the sun comes up. If you can overlap your eating to that same time. Why do I keep focusing on cortisol? So if you go back to that lecture, cortisol is the hormone that says, hey, release some sugar from storage. And when the sugar releases from storage, you do not need to make ketones. Okay. Ketones are going to have very little production because you've got all this glucose floating around. So if you do that, when you eat, you produce quarterly.

I mean you have this response, glucose goes up. If you can eat under the banner of your cortisol surge, then you just have one time that your body goes through this metabolic process. So ideally you should eat in the morning and not eat dressed the day. I think that's really hard and especially if you're going from an American life and you try to tell people to do that right away, they're going to fall off the wagon. But what you can do is start to clean up the evening hours, which is essentially what this ketoCONTINUUM does is it starts you out at two meals a day, then it switches them closer together. Then we clean up the morning drink and then we get you closer together and we finally get you closer together. And so you're saying, well why won't my ketones go higher?

It's because insulin is doing something in your body or cortisol, which is part of what insulin and cortisol work together. It is working at a time where you don't have the chemistry that says you got enough glucose around, you don't need any ketones. So then you need to stress it. And the first dress that I tell women to do is clean up the evening, start at sunrise, and you back up 12 hours and there is nothing but salt and water that goes in for those 12 hours. And if you do that for five days and you still have blue ketones under one, I'd probably do it for seven days. And you say, okay, that didn't work. Now you back up 13 hours and then you back up 14 hours. And so what's happening is sunrise happens at six o'clock in the morning.

So that means you have to stop eating at 5:30 so that it's in your stomach by 5:30. You know, like that's the end. Then you go to 4:30, then you go to 3:30. And so that's a much different life than most people do in eating.



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46. What's your blood glucose ketone? What glucose is? Mostly in the eighties. I have some as low as 60, but it's rare and 100 has been the highest.

First of all, I would double check to make sure your tester on your what meter is, make sure you calibrate it. Those are great numbers if they are true, if they are truly a reflection of your numbers, the next thing you need to do as fast.

So it looks like you've got pretty low blood glucose, but you're at a stable state. Your insulin is matching what your needs are and so you don't need a lot of ketones. If you want a surge, then you have to separate the time between the meals, which means 36 hour fast. That's what I'd do next.

47. Would you discuss about the covid 19 virus and if being in ketosis is protected?

Video Time Stamp: (02:23:57):

There's a couple of things that I can say with covid19 and that is if you are in ketosis and that means the chemistry set that your white blood cells work at a different level of communication and that they are not filled with as much inflammation as somebody who has never done this.

If you were in the first week of ketosis and you're surging the ketones and you've got this mismatch going on, you're going to stabilize. And it's in that stabilizing level that I can really predict how did your white blood cell respond? It is a process of improving your immune system that's happening in a ketogenic state. You are doing the right thing. But to order that up on a prescription pad and say it's going to be delivered in the next two weeks isn't fair. That process of a change in your immune system. It means it's the lifespan of making those white blood cells. Do I know that my white blood cells are going to handle coronavirus better than the next person? Yes. There's a few other things that you can say, well, how do you know? Number one, I have a good vitamin D level.

So vitamin D isn't one of those markers. Again, one of the first thing, if I get to check saying, okay, this anonymous person wants to know, if I got to have one blood marker I want to know is vitamin D above 50? And if it is, then I know he can absorb fat. He got enough fat in his body that he can activate it as vitamin D is not just a vitamin, it's a hormone. Every cell in your



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body has a vitamin D receptor because it is so valuable in how it responds to infection, how it responds to stress. And it is another predictor to say, well, you're keto, but are you keto with a normal vitamin D? Okay, that's another separating factor. And if you're keto with a normal vitamin D, not just keto for two weeks, you really have been practicing and living at a baseline metabolism and you've got a normal vitamin D, you've got protection.

I don't have to know anything more about you to say if a cytokine storm was going to happen in somebody, the least likely it's going to happen in cytokine storm is the process where that virus comes into the lungs. And much like those people with food allergies, they respond, they hyper respond. Their body is twitchy in its response to things. It's not methodical. It doesn't do a focused attack and then back up with covid when that response happens and they're overweight, insulin resistant and their histamines overstimulate it's a cytokine storm and all that fluid comes into their lungs. And that is not a good outcome. That is where the people die from coronavirus. So to say with confidence, I know that if you're truly in ketosis, a baseline ketoCONTINUUM for a couple of months and you have a normal vitamin D of 50 or above, I mean not just, it's out of the twenties, which is disastrous. It's a normal vitamin D that's healthy. That's where you can hold onto protection.

48. If we're coaching newbies outside of this course, what parts of the course are or are not okay to share?

Video Time Stamp: (02:27:16):

So the beauty of this is you own the rights to get into that videos. If you say, I want them to hop in and watch these videos and be part of a support group, I don't care. I want you to help people. That's really the truest intention. Now, if they want to get in and they want to have access for themselves in the courses available to them and they want to spend the resources, great. But that isn't you, especially as being one of the first ones nobody else can get in right now.

Because I got to tweak some things and then launch the next round. And I'm trying to write a book too. Let them start with where are you at in your journey, as we've done this week by week, we released a module at a time and as new people come into the course they will start at the beginning and trickle open courses as it goes on. But once you've covered a course, you can go back and watch it a hundred times. I don't care. So sharing is what this is supposed to be about and maybe that's not the best marketing approach, but it really is about finding value in creating these support groups. And I don't want you doing the teaching. If you're asking your people to watch these videos and you've got a group of, I don't know, five people that are joining you, great use it.



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49. What is our goal number for our morning insulin number? 100% is too high, right? So what should our goal number be?

I think what you mean so morning insulin is your dr boss ratio. So if you can get it under 80, that's great. I mean that's what my goal is. I like to live between 40 and 80. I never get close to 40, but I am somewhere between 60 and a hundred. So that's a pretty good number when you're actually measuring insulin. I don't want to give out those numbers cause it's distracting. And then people want to go check their insulin numbers and there's way more problems with checking your insulin number, then just the cost. You actually need to cover this in a couple of videos.

One of the ther goals are when somebody writes in and they want to know what's the goal for their morning? Dr Boz ratio and they're fighting cancer, their goal is 20. Their goal is 20 in the morning and at night and it's hard. It's hard to stay there. Once they get keto adapted, almost always they've got to keep their calories less than 500 to stress their body enough to stay there. Now when they have cancer, there's a lot I can ask them to do and they'll figure it out. It's not how people live though. They can handle it for a stressful season and then they back off. So they're real quick. The real way to answer your question is to say what else are you trying to accomplish? Are you trying to reverse some arthritis?

Are you trying to lose some weight? Are you trying to get off some diabetes, blood pressure medicines? Then I want your numbers 80 or less most mornings. That's hard at first, so don't get discouraged if you start checking your numbers and you can't get them below 200 for the first couple of weeks, you'll get there.

50. What about cataracts and asthma? Keto helps them too, correct? Because of lowering inflammation, right?

Video Time Stamp: (02:30:37):

So asthma for sure, asthma is an inflammatory reaction. Keep in mind that the longer the inflammation happens inside your body, the more scar tissue it creates.

So if you're an asthmatic at the age of eight, it's a much different reaction than a asthmatic at the age of 80, cause 80, you've had all these years of inflammation causing scar tissue. Now that scar tissue is there. I don't care if I take all the inflammation out, we still have scar tissue.



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That the same thing can go for cataracts. Cataracts are a blurring of your vision because of proteins that ended up in that lens. And once the proteins were there to remove them, really difficult going to have to get a dr boz ratio 50 or less for three or four years to see if there's a difference. Now you can improve the focus ability of the eye by eye stabilizing the blood, and that's the removal of inflammation. So cataracts, the fastest way is to go see the eye surgeon and put in a new lens.

I know that's expensive, but it's really an amazing technology advancement for our times. But that isn't just cause you get cataracts replaced doesn't mean that nothing else was wrong with your eye. The inflammation reduced in an eye leads towards less likely chance of glaucoma of a retinal that damages the pressure in the back of the eye for the blood vessels from high blood pressure, diabetes, or high blood sugars all get better when you're in a state of ketosis. So the answer is yes, that does happen. But if you've got cataracts, you might need a long time to make them better.

51. Food tolerance, when will they go away?

Video Time Stamp: (02:33:16):

The good news is they do, but much like any other chronic inflammatory response it stages. I mean, I like to think of a young man whose name isn't as important. This is a problem. He was helping out at a keto forum like teaching other people about keto. And I couldn't help but notice he was iron deficient from across the room. I could tell he was iron deficient and he has a pretty big part of the team. So you got to hear a little bit about his life. And he wasn't keto. That's all, I found out what he was, helping to deliver this conference, but he wasn't keto. And so we're at the final event and we're having the convention closed down and I say, so do you know that you're iron deficient or you're just choosing not to treat it? And he kind of gets defensive. Like, how do you know? I'm like, I know you're iron deficient. And then I went through the reasons why he was, I envisioned.

And so this led to a conversation and he knew everything about the ketogenic diet. He'd been running sound or visuals or something for this conference. So he knew a lot of, from experts on why this ketogenic diet was so powerful. But he's like, oh, I can't eat eggs. I can't eat protein. I can't eat peanut butter. I mean, you couldn't find a list of, I mean, what the heck they eat? No wonder you're iron deficient. You don't eat anything. And he's like, hh, I've had allergies and sensitivities my whole life. I said, well, do you want to live the rest of your life that way? And he thought it was just like forever. And I said, all right, you got to find the beginning. And then you start. And this is where the MCT oil lick the spoon begins. Like, just get at least some of the purest MCT, bite the capsule, swallow that oil.



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Start with that. And then know that the longer you percolate ketones you're reducing inflammation and as you start to add in food, start with one and your body will get used to it. Now, this isn't to the point where you say, I have a bite and I flush out diarrhea, but what was really amazing in his story was he, first of all, I didn't think it was possible. Second of all, he was floored after he went to the doctor and saw that his iron so bad. And I'm like, told ya now how do you, it's like, well how do I fix iron? I'm like, liver, he's got a food allergies. I'm like liver. He's like, I have food allergies. I can never, he's like there's pills. I'm like, yeah, but here's the problem with pills. They are elemental iron in a perfect gut.

Nothing wrong. No food allergies, no leaky gut syndrome. He's perfectly healthy human beings. They're iron. When you tag the iron, the best thing ever can absorb from elemental iron, which is what's in those pills is 10%. But if you take liver, which is iron that's been in circulation, you will, in the perfect gut, they absorbed 90%. So to get an equivalent of one bite of liver for iron replacement, it would be 26 of the capsules of the best iron supplement he could buy. And he's like all be constipated. I'm like, I know cause you're pooping it all out. Cause iron is constipating. Ask any pregnant woman who's taken a multivitamin and you don't absorb it very well, 90% of it ends up in the toilet, even in the perfect absorption system. And the reason I take time to explain this was what he learned was he had to step over the threshold.

I'm like, take a bite of something. I mean the other thing that I didn't apparently do a good job of, but I will be adding it to the handout is the Lima bean story. And I think I made reference to it, but apparently I didn't put it in the handout yet, but I will. It's in the book of my first year of practice. I was in Utah and I was going to have intubated patients. I was going to be in an ICU with not outpatient care. But I had a baby and I wanted to be home. So I chose this path and this gal comes to see me and she seen me four or five times and she just thinks I'm the greatest doctor, so awesome. And next time I come, I'm gonna bring my husband and I'm like thinking, I don't know, like to introduce me.

I'm like, I see. That's okay. Bring your husband. So she comes to the next time and that's been, six months or something. So I'm looking at her chart, remembering who she is. Like oh yeah, she was getting better. She looks pretty good. The numbers look good. Labs look good. I'm kind of reviewing this as I go in and I see who she is and I sit down and her husband's there. I'm like, oh it's nice to meet you. And then the woman says, and I'm here actually so that you can help my husband, and her husband and I kind of looking at each other cause he clearly doesn't know this was going to happen either.

I hold the silence and she goes, you need to fix him. Well I'm like, oh what, what are you doing? It's so embarrassing for you. So she goes, he will not eat vegetables, he can eat any of them. And I'm like, yeah, which I saw as anything. And I'm trying not to think of any. I have lots of many things I could think of at the moment. And I'm like, just shut up and don't say



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anything. And so the husband can see that she's floundering and she comes to her rescue and she goes, you know, doctor, she's right. I have food allergies. If she makes me a smoothie and she puts vegetables in it, I can taste them. Like I start retching and I vomit. If she puts them in soup, she's tried to hide them in cookies. I'm like, well, what the hell are you doing lady putting vegetables and cookies? I didn't say that. So I let him talk and he goes, every time I have one, I just throw up, I get up, I get nauseated and I can't do it.

And I'm sitting there trying to think of how can I answer this? And I said, all right, I want you to imagine if he gets stranded, you, the guy, the husband, you get stranded on a desert Island and there is no way for you to get anything. You are stranded. And this is the Island of Lima beans. Like the least coveted vegetable on mankind is just the look of wine being secrets. Does this look on his face, right? He goes, I said, all you have to eat is Lima beans. Well, what do you think's going to happen? He goes, I die. Okay. And his wife looks at me like, see like, Oh, you chose him. So I said, well so you, you wouldn't want to eat those the first few days, but eventually you would get hungry enough that you'd eat those remedies.

You'd eat those Lima beans over starving. And I said, and guess what? If I came back to get you in two years and you'd lived in the land line of beans, you would be able to tell me this line of bean was picked on day 14 when it's the ripest and this one was picked too late. And it's not the ripest you would be able to, your palate would be able to tell me that. Why? Because you trained it. Okay. So somewhere along the line you needed a mother who said you need to find new foods to put on your palette. You need to train your palette to try different foods. This is in part what I was doing with this, with the sardines. But this line of being guy, it was like I said, there is nothing I can do as a physician to make you want to eat vegetables.

I'm just like, there is nothing I could have done to this guy who had low iron to make him want to be keto or eat something like liver. I said, you're going to resist it and you won't want it from now until the end of your life. Until you choose that you're going to want these foods, these new foods you're on your own. I can't help you. I can give you some pills, but I'm telling you now they're not going to do nearly as much as one vital liver would do. And if that same thing, I call it the Lima bean story, and I've used it for 20 years of my practice is say, you got to make, I mean, I can come in and be your mom and say, hey, you gotta spread your options a little. And I'm sorry your mom didn't do this.

But when my kids are here, they have to have one bite and then ask me what am I doing? And they kind of go to notice that you're expanding our palate. They do it with that kind of cynicism. And I'm like, yes, I am. And it's my job as your mother to open up your taste buds so that in your puberty years you've had the tastes. And if you choose never to eat them again, I just gave it to you often enough that you know what it tastes like. One bite and we'll be done. Get it over with. And in many ways, that's what people with food allergies, they get stuck.



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They have been scarred by the reactions their body had. And as they marched through improving their food allergies they'll say, when does it go away?

And I'm like, it's never overnight. Just like this guy with iron deficiency. I had him start with liver, like go by liverwurst, put some horseradish sauce on it or whatever the heck you can eat that's not allergic to and have one bite. And then tomorrow I'll have another one and the next day have another one. And eventually you'll find a way that you can, you'll be attracted to it, but at least his body will start to say, oh, we can absorb this. When he was super inflamed, everything got thrown up, everything had diarrhea. And now that he had been keto for, even if it was keto in the weirdest way, like coconut oil and MCT was what he was eating. I'm like, you're going to die. You got to have a little better variety in your foods. And now he's totally keto, allergy free, migraine free.

And he's a young guy. He was young. But he had never expanded his palette. He had never cooked these foods into him long enough for his body to figure out what to do with them. He lived in Atlanta, food intolerance, and he'd had no line of being challenged.