The Fasting Method #167 - Fasting Q&A with Dr Jason Fung: Stomach Rumbles, ‘Anchoring’ Weight, Stress and Insulin, Body Set Weight, and More.

Megan [00:00:06] Before we get started with today's episode, I would like to quickly read you our podcast disclaimer.

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[00:01:13] All right. And now we'll get started with today's episode.

Lisa [00:01:19] Welcome everyone. A warm welcome to our podcast listeners who will be able to listen to this Q&A with Dr. Fung in a few weeks after our Community members listen to it today. This is a monthly Q&A with Dr. Jason Fung where he answers questions submitted by our TFM Community members. So we're going to start off with a fun question, here at the very beginning, Dr. Fung.

[00:01:43] This person asks, "If the stomach rumbles about an hour after drinking black coffee, does this mean that coffee has raised insulin?" I'm assuming they're talking about the cephallic response that you get.

Dr. Fung [00:01:57] Yeah, yeah. The stomach rumbling doesn't really correlate to insulin. It's just the peristaltic waves. So peristalsis is basically when the stomach-- it's the normal movement through the intestine. So as the intestine moves it kind of goes through the stomach and then the intestines and then so on, so there's really not any correlation to that. And it's very common, especially when you're hungry, because, normally, when there's food, it's not gonna rumble because it's not empty like a drum, right? The food is just going to sort of get pushed through, and that's the normal sort of state of things. So during fasting and stuff, I find that a lot too. During fasting I get stomach rumbling as well, just because there's nothing there, but there's still that normal movement of the peristalsis, and, because there's nothing there, it sort of makes a bit of noise. It's a little annoying but, other than that, it's nothing major.

Lisa [00:02:51] On that same track, this next member said, "Is insulin released only when food is in the mouth? It feels like when a big, heavy meal is in the stomach for hours, I could still add a supplement or a snack to it and it wouldn't make any difference to my insulin. Would there be an additional insulin release in that case?"

Dr. Fung [00:03:11] So yeah, same thing as with the cephallic response is when you sort of anticipate the food, then the insulin is going to start to go up. It's not a huge response, but it's definitely there. And the insulin response is going to be higher if-- you know, when

you start eating and so on. So there is still a little bit of a response with the insulin, but not like a massive response.

Lisa [00:03:35] Right. So there's a lot of talk over in the Community forum about your latest YouTube video, and it's entitled 'Why the Body Set Weight Changes Everything about Weight Loss', and one of the people was asking-- because there's some research that shows that sometimes you need to take a break and 'anchor' after you've lost weight, like 10% body-fat reduction. Some scientists say 5%, some say 10%. Can you say more about this? I presume you would 'anchor' by scaling back on fasting, just adjusting frequency and intensity, in response to any changes in body-fat percent so as to keep it stable. What happens if you go all the way with no break of doing a holding pattern after 10 or 15%? Is it just a question that you have to 'anchor' for longer at the lower body-fat percentage in order to keep it for your new set weight or does the research say that it's not possible to reset it that low if you didn't pause along the way?

Dr. Fung [00:04:38] I don't think there's any research to say whether you need to pause it or not. The whole thing about the body set weight-- it's like a thermostat, right? The funny part about it is that the evidence for this, the scientific evidence, that there is this sort of thermostat has been around for like 50, 60 years, but nobody talks about it, which is very strange. The idea is that if you have a room thermostat, for example, you set the thermostat at 72 degrees, or whatever you want to set it at, right, which is room temperature, and it will control the heat and it will control the air conditioning. So if the room temperature is very hot, it's because the thermostat has been set up, right? At the same time, you can always say, "Well, room temperature is the heat that goes in minus the heat that goes out." And that is true, but it doesn't tell you what you need to know, because it's the thermostat that controls the heat in and the heat out. So now if you take an external source, say you take a portable space heater, and you say, "Okay, well, I'm going to raise the temperature in this room," and the temperature in the room is heat in minus heat out. So let me put a little heater. I'll plug it in and turn it on. Room temperature goes up to 74, 75, 76 degrees, but then the thermostat senses that and it turns on the air conditioning to cool it back down to 72. So you see that just adjusting the heat in minus heat out doesn't make a difference because you haven't adjusted the thermostat.

[00:06:06] It's the same thing with the body-fat thermostat, right? So say you say it's all about calories in, calories out. The question is not bad. If you simply subtract some calories, if you cut down 500 calories a day, well, your body-fat thermostat is going to sense that (that you're losing body fat), and then it's going to push it back up, right? It's going to make you gain that weight. How? It's going to make you hungry, so you want to eat more. And if you still persist in this calorie restriction, then it's going to reduce your energy expenditure. So, in other words, you can't, in the long term, adjust your body weight by simply adjusting your calories because there's this other thing that's controlling those calories as well, so you're simply fighting yourself all the time. So, therefore, you have to say, "Well, what controls the thermostat?" Not calories in, calories out; that's such a simplistic sort of 'let's plug in the heater if we want it warmer', you know, but you're not acknowledging the existence of this thermostat. The existence of the thermostat means you have to adjust the thermostat, not adjust the calories, or the heat, or whatever it is.

[00:07:15] So the important thing is what is controlling that thermostat, right? And it's the hormones. We talk about them all the time. Insulin is the main one. If you give insulin, then you gain weight. Why? Because you've turned that thermostat up, that body fat thermostat, so you're telling your body to gain more weight because you've set it up. So that's why, if you simply give somebody insulin or drugs that stimulate insulin, they'll gain

weight. On the flip side, there are things that turn it down. So leptin was one that we thought was important, turned out to be not that important, but GLP-1 is one that can be very important. And we know this, again, because you can simply give somebody a GLP-1 (which is Ozempic) and they'll stop eating and their weight will go down. In other words, you've turned that thermostat down. And they will maintain that for as long as you take that, right, as long as you turn down that thermostat.

[00:08:03] So we know that there are things that make it go up, things that make it go down. So the question is, how do you adjust that without taking drugs? The drugs are useful as a sort of experiment, if you will, because, when you give somebody insulin, you're not telling them to eat more, you're not telling them to exercise less, you're not telling them to eat different foods, right, you're just giving them insulin. That's the only thing that's changed when I give somebody insulin, and they change their weight. Same thing with a GLP-1. I give them the Ozempic, I haven't told them anything, but they will lose weight. And there are other drugs that do this. The sympathetic tone is another hormonal system that's going to turn down your fat percentage. We know this. How? Because there are drugs that stimulate the sympathetic nervous system that make you lose weight. Which one? Nicotine. Nicotine is a sympathomimetic. It increases sympathetic tone and therefore you lose weight. It's super not good for you [laughs] for many other reasons, but the one thing that was universally acknowledged was that you lost weight. And then they had fen-phen from, I don't know, 40 years ago, if you remember, fenfluramine, which was, again, a very effective drug at making people lose weight. Again, super not good for you for a different reason - you got heart-valve problems and people died and so on - but, when you gave these sympathetic things that increase the sympathetic tone, people lost weight. So, again, that's another example of a drug that's going to turn down your thermostat. So there's drugs that turn it up - insulin and cortisol, which we talk about a lot - and things that turn it down - GLP-1 and sympathetic tone.

[00:09:41] So the question is how do you adjust it? Well, you can make small adjustments on GLP-1. You know, if you eat more protein, for example, if you eat more dietary fat and less carbs, you'll affect GLP-1. There's certain foods that do it. So bitter foods, for example, will affect GLP-1. I can't remember if I talked about this.

Lisa [00:09:59] You did a video of it and it was great - The Five Ways to Activate the GLP-1 Pathway - so that was another excellent video.

Dr. Fung [00:10:06] Yeah. Yeah. And those are, again, not huge effects. So it's not like-- when you give Ozempic, it's like you know ten times the effect of the foods. So you're not just giving a little bit, you're giving a lot. The other one, the bitter foods and so on, can affect the GLP-1s and there are certain other foods - berberine is actually another one that affects GLP-1 too. So that's why some people find it very effective - berberine supplements. And certain herbs and spices will get it too, right? Fenugreek I think is one, cinnamon is another, so certain ones that might be better than others. And again, you see that these bitter foods, cinnamon they're actually traditional remedies for type two diabetes. People have used them traditionally, but the effect is small compared to if you take pharmaceutical agents. That's why doctors don't usually do it because the effect is quite small.

[00:10:56] But, yeah, that's the idea of the thermostat, is that, one, it exists, and knowing that it exists means you have to change the way you think about weight loss, right? You can't simply say, "I'm going to eat a few fewer calories," because, if you haven't adjusted the thermostat, the thermostat is going to fight against you. So do you need to take a

break? No. There's no evidence that you need to take a break. There's also some people who say, "Well, is it better to lose weight slowly?" Again, there's no evidence to say that losing weight slowly is better or more sustainable than losing weight quickly. And there's been some studies that have looked at this and say, in fact, the people who lose weight and keep it off, they're actually slightly more successful if they lose it quickly. You know, I don't know that it makes a difference, but it's not-- some people say, "Oh, you should definitely go slow." No, you can go as fast as you want. Same thing with the breaks. You don't need to take a break, you don't need to take a plateau for a little bit. You can just keep going because it's the thermostat. You want to turn down and you want to keep it going down.

Lisa [00:11:58] Plateaus are very fascinating to me because I was on one for seven months. My weight did not change, but I lost four inches off my waist and three inches off my hips. And Kathy Lee was trying to lose weight for a knee surgery (she needed to lose 20 more pounds) and you could see her shrinking. She kept getting smaller and smaller and everybody was like, "Yay, Kathy, you're almost to your weight for your knee surgery," and she wasn't budging on that scale, but you could just see her physically getting smaller. It was very frustrating for her because she was getting a lot of compliments. And sometimes I think your body just has to shrink-to-fit type of thing, you know, it-- [laughter] You don't know what else is going on. Your bones are getting stronger, your muscles are getting leaner, you know, that kind of thing. So it's complicated.

Dr. Fung [00:12:45] Oh, for sure. It's complicated. And the other thing is that people think, in terms of exercise, that-- so there's a correlation between exercise and weight loss. So people always say, "Well, it's the exercise that causes the weight loss," but actually it goes the other way too - the weight loss causes you to exercise more because we see that again with Ozempic. So, again, you give Ozempic, you don't tell them to exercise more, but they do. They exercise quite a bit more, actually, because, all of a sudden, it's not so difficult to move around and so on. So, you know, as you do that, as you lose weight, then you exercise more. Then your weight will actually plateau, but you're gaining the muscle and losing the fat, which is still excellent.

Lisa [00:13:23] I love when I hear it in the large groups, somebody will say, "I'm exercising again. Who is this person in the mirror I don't recognize? I haven't exercised in 20 years." And it's like, you feel like it.

Dr. Fung [00:13:34] It's totally true - because you feel like it. And the other thing that I hear a lot is, like, when you're heavier, people are like, "Oh, yeah, I just sweat all the time," or, "I just do a little bit and I get exhausted," so then they don't want to exercise because they think it's just going to be worse. But then, as the weight comes off, it just gets easier and you don't have that sort of problem with the heat, and flushing, and all that sort of stuff. And all of a sudden it's like, "Oh, okay, I get it. I'm going to exercise more because it actually feels good," right? It feels good to move more.

Lisa [00:14:03] Yeah, definitely. I love that it brought back exercise for me too. So thank you for that, Dr. Fung.

[00:14:08] This next question here is, "Is it true that a longer fast, for some people, can stress your body, causing insulin to go up, and therefore might even be counterproductive?" I'm assuming they're talking about the cortisol release that sometimes happens with too intense of a cardio?

Dr. Fung [00:14:27] Yeah. So cortisol is really only bad when it's persistent and high. So exercise is actually very good for you. It's a stress response, so cortisol is a stress response, but it's meant to be a short thing, right? So the origin of it is that, you know if you are under a lot of stress, and so this would be like, oh, you suddenly see a lion. So your body gets under stress, it floods the system with glucose, and then you run or you fight, right? So it's a fight-or-flight response. And that increase in sympathetic tone, increase in cortisol, is meant to help you in the short term. It's not meant to be a long-term thing, right? You're not supposed to have cortisol there constantly, day after day, week after week. So if you do exercise, which is a short burst of cortisol, and then down, it's fine. Same as fasting - the cortisol goes up too, but then it goes down, because when you start eating it goes down. It's not stress like, oh, you're having marital problems and it's like six months, a year, two years, or, you know, your child is having problems three, four, or five years of constant stress. That's super bad for you. But stress and then release, and then stress and then release, is very good for you, so exercise and fasting. And everybody worries about the cortisol, but short-term cortisol is fine. Long-term cortisol is not normal.

Lisa [00:15:49] So the longer fasts are perfectly fine. You just need restorative time too, right?

Dr. Fung [00:15:55] Yeah. And, again, a few days is not a thing. It's like six months, four months. Like, even when we give prednisone, which is a drug that mimics cortisol, you don't get side effects right away, not usually anyway. Most people don't. Some people do, but most people, it takes like three months before you really start to see those side effects - the weight gain and all that go. You know, unless you're doing like a three-month fast, which is not something I generally recommend, but it's possible I suppose.

Lisa [00:16:24] This next question is, "One of the biggest effects of spikes of both blood glucose and insulin is the damage to the small blood vessels - your small vasculature of the kidneys, the eyes, the nerves, the fingers, the toes - leading to diabetic kidney failure, macular degeneration, neuropathy. Hyperinsulinemia is really a microvascular disease. Could you please share how you explain this process to non-medical people? I have failed to explain it to my family members in layman's terms exactly what it is about the spikes of the blood sugar and the insulin that damage the small blood vessels."

Dr. Fung [00:17:05] Yeah, I mean, it's still fairly technical because the insulin is just one of the factors that damages blood vessels. There's a lot of factors that can damage blood vessels, so it's not the only factor. And you see this because if you look at risk factors for heart disease, right? There's a whole lot, but there's genetics, and there's age, and there's sex, and there's family history. Not that you can do anything about any of those, but then there's reversible risk factors as well. So high blood pressure, high blood sugars, type two diabetes (which is hyperinsulinemia), but also lack of exercise, and smoking, and all these other things, but also lupus and all these other diseases. So it's a multifactorial disease, but one of the factors is the high insulin levels. And, essentially, the high insulin levels are very conducive. Insulin is a growth factor. If you have injury to a blood vessel-- so the narrowing in the arteries, the damage to the arteries, is a sort of a response to injury. So when you have injury and you have insulin, then it's going to be a growth factor, which is going to promote the growth of this-- sort of excessive growth of this plaque that causes blockages and so on. So it's basically one of the factors that helps encourage sort of blockages of these arteries and so on, which is why you get the microvascular and macrovascular diseases.

[00:18:26] It's interesting because we used to talk about this all the time. This was back in my-- when I did medical school in the 1990s, we talked about this - what causes narrowing of the arteries - and it was clear that it wasn't just a bunch of cholesterol floating around the blood and then clogging up the arteries, it was a response to injuries. So, you had an original injury, then you have platelets, and then you have these foam cells which infiltrate and try to heal it. And then you get this whole inflammatory cascade, of which insulin plays a role too. And this is what causes the blockage of the arteries. So that was in the 1990s, so like 30 years ago. You know, so, at that time when I was studying, it was like this idea that it's just a bunch of cholesterol floating around and clogging up the arteries is too simplistic. It's this complex sort of response-to-injury model. And that's still a very good model, but, now, I find that nobody talks about it anymore. We've gone back to the, "Let's get cholesterol as low as possible. It's all about cholesterol." It's like, huh, 30 years ago, we knew that wasn't true, but I think that, under the influence of a lot of marketing of cholesterol medications, all of a sudden, we think that it's all about cholesterol, but it's like, it's not. We've known this for, like, ever!

[00:19:45] You know, you can see this in so many different things. If you look at somebody with diabetes, so you have the hyperinsulinemia. So if you have two people with the same cholesterol - one with diabetes, one without diabetes - the person with diabetes has like an insanely higher heart disease rate than the one without, even for the same cholesterol, right, which is not what you'd expect if cholesterol was the overriding factor. If you look at risk factors like cholesterol versus high blood pressure versus diabetes, it's like, it pales. It's like a pitifully small risk compared to diabetes and high blood pressure, because the high blood pressure, of course puts the blood vessel under higher pressure, which means that it's more likely to be injured, right? So high blood pressure and diabetes are *way* more, like, you know, ten times more important than the cholesterol, and yet everybody's talking about cholesterol, all of a sudden. It's like, this is bizarre. Like, it's just very strange to me that we've gone from what I think is much closer to the truth, and then, all of a sudden, it's like a fashion. It's like, "Oh, let's get cholesterol super low." And why? Why is it in fashion? Because there's a lot of drugs that make a lot of money that are giving a lot of CMEs, which is medical education to doctors, right? And it's like all touting how important cholesterol is. So they keep talking about it. And, you know, when these drug companies give talks to doctors, it's not like, "Oh, we go to a lecture." No. It's like, oh, you go to the fanciest restaurant in town, and they wine and dine you and tell you how important cholesterol is, right? So a lot of doctors-- I used to do this, but I don't anymore. I think there's too much conflict of interest. But it's like, yeah, that's why all these doctors think cholesterol's so important because you have ten cholesterol companies taking them out to dinner all the time, and nobody talking about high blood pressure anymore because those high blood pressure pills cost pennies and the injections for cholesterol are a lot more.

Lisa [00:21:44] I know as a nurse they did that, too, for continuing education units. And I mean it's very seductive. You want to go and listen because you get a free continuing education credit, and those are expensive.

Dr. Fung [00:21:56] Yeah.

Lisa [00:21:56] You know, then you're more likely to mention that drug to the doctor in discussion, "Well, what about, you know, this calcium channel blocker," or whatever. It's just human nature.

Dr. Fung [00:22:05] It's human nature. And it's unfortunate that they allow it, I actually think, because it's like-- okay, looking at it from a physician's standpoint or a nurses

standpoint, look, you get medical education credits (which you need to maintain your license), you go out with a bunch of friends (because you know most of these other doctors that are there), you've got a drug rep who is super friendly and super nice (most of the time, right?), and they're giving you free-- like, you know, you're talking about like a $200 meal, right? You're not talking about a $10 meal, like at the cafeteria. You're talking about good wine, three-course meal at the fanciest restaurant in town. $200, right? Easy. To them, it's like, "Oh, do I want to go and get all this stuff, and meet with my friends, and get a free meal, and medical education at the same time? Sure, so I have to listen to a talk. Fine." But the talk is very biased. So that's why I don't do the, anymore.

Lisa [00:22:56] Yeah, understandable.

[00:22:57] So this next Community member wrote a question and it says, "I know you wrote in The Obesity Code about a study where they overfed people to get them to gain weight. The study showed that they had a hard time putting weight on because their bodies knew to burn it off." What we were talking about earlier. "So my question is, if our bodies experience this effect, as in the study, what signs would there be (such as a raised temperature, raised heart rate, or blood pressure) to get our bodies to burn those extra calories that were consumed?"

Dr. Fung [00:23:33] Yeah. So you basically will increase your metabolic rate. We see this actually. So if you overfeed somebody, you force them to eat more than they normally do and normally would want-- so, you know, if normally you would stop at a certain number, you know, 2000 calories and you say, "Okay, you have to eat more," what happens is that your body will actually increase the amount of calories burning. So you may notice increased energy, increased body heat, that kind of thing, and your hunger will tend to go down to make you go back. You can force people to gain weight by force feeding them, for sure you can, but all the studies show that, when you leave them to go back to their usual sort of thing, they'll go back to their normal weight, which is the whole thermostat idea, right? You increase the calories, they didn't increase the thermostat. So, you know, people are always like, "Well, then why is it so easy for me to gain weight?" [laughs] It's because the foods that are now very heavily skewed towards those foods that raise your thermostat, which is insulin, mostly, right, so a lot of foods that are highly processed.

[00:24:39] And I've been talking about this on Medium Medium.com is where I keep my blogs. TFM Community members can get any of them (you just have to ask), any of the old blogs or whatever for free, you just have to get the friend link from The Fasting Method. Otherwise, you'd have to join Medium, which is not a lot, it's like five bucks a month. They're not available to the public, but TFM members can just ask, and you can find those old blogs.

[00:25:03] I talk about this because you can eat a lot of calories and not stimulate insulin the same way. So, for example, if you take oatmeal, and you can take the same oatmeal (so it's the same food, same calories, same carbs), but one is steel-cut oats and one is instant oats, the difference in insulin-- because remember it's not the carbs per se, it's the insulin that's the problem. You can take the same food - same calories, same carbs - but a different form, which is called the physical matrix of the food-- so one is steel cut. The way they cut it is less processed than the instant, where they sort of really grind it very fine, so that, when you add water, it instantly turns in. The steel cut has a lot of the cell wall and a lot of this fiber and a lot-- like, the fiber is still the same, but it's structured in a way that is not sort of pre-digested the same way the instant is. So because the instant is sort of pre-digested, you absorb it all immediately. And then your glucose spikes, your insulin

spikes and the total insulin effect is almost double for the same food. Same carbs, same calories, same fiber, the same food, even - oatmeal - but the insulin effect is far different. So there are things. So that's why it's not just about the calories. It's about the physical form of the food. But if you force people to eat a lot of foods, but it's all unprocessed foods and stuff, you haven't turned that thermostat up. So, yes, you can gain weight in the short term, just like with a space heater. If you have a big enough space heater, you will overwhelm the air conditioning that the thermostat will turn on to counter it, but, the minute you unplug that space heater, the temperature will go back down to its thermostat. So it's like, did you adjust the thermostat? It's a more important question than how many calories you're taking or how much heat you're putting in, right? The more important question is what did you do to the thermostat? So there are ways to adjust it without changing the foods, but just changing the form of the foods.

[00:26:58] In the Medium articles I also talked about if you blend foods. So you can take apples, whole apples versus cooked and applesauce (where you take it, you cook it, and then you process it into applesauce). So, again, same foods, same calories, same carbs, same fiber, same everything because it's the same food, right? You just took the apple and you did something to it. You cooked it and ground it up. Again, the insulin response is much higher. On the other hand, if you take seeded fruits (like strawberries and raspberries) and you blend it, you actually get a better-- you have a beneficial effect. You get less insulin. Why? Because the seeds, when you shred it up, it actually releases a lot of the fiber and so on. So a lot of fiber, instead of going right through, is sort of now exposed and reduces the insulin effect. So there are different ways to adjust the insulin effect of the same foods. So that's why calories is not the only measure we should be looking at. There's so many.

[00:27:52] And this is what I mean. Like, it's strange that we take a process that's so complicated (which is weight gain / weight loss), it's such a complex discussion, and all these sort of experts want to boil it down to a single thing. It's like, huh? But it's a complicated process. Why are you just saying that the only thing that matters is calories? Because it's not. You take 100 calories of cookies versus 100 calories of broccoli - different hormonal effects. That's going to affect the body differently. But you can even take the same foods (same calories, same carbs) and process them differently, and they will have a different effect, which is going to affect us because different hormones means different effects on our bodies. So, therefore, we should be talking about that as opposed to, "Oh, it's all about the calories. It's all about the calories. It's all about the calories.".

[00:28:42] Ultra-processed foods - that's gained a lot of attention. It's important. Why? Not because the calories or the carbs or the protein are different. It's the physical structure. Ultra-processed food is in some way pre-digested so that it's easy for you to absorb. When it's absorbed, you get this huge spike, you get the glucose, you get the insulin, and you get the rewarding factor so that you like it. And it doesn't cause the satiety, right. You get the reward, and the dopamine, and all that sort of stuff. That's what ultra-processed foods does. It's about the dopamine, the reward systems, the addictions, and not about the calories, right?

[00:29:22] That's the whole idea, is that you have to know more about this if you want to understand actually what causes weight gain. It frustrates me to no end how many so-called 'experts' think they're experts, but they're actually proposing a very simple and completely wrong number of 'calories in, calories out', just like 'heat in, heat out' for a room. It's like, no, it doesn't work that way. It doesn't work that way at all. That's not how the body works. It's far more complicated, and we know it's more complicated, and we've

known for years it's more complicated. So why are you trying to simplify it into a single thing that is not the only factor?

Lisa [00:30:00] Our bodies are amazing, they really are. And if we give them time to heal-- we're born to heal, to regenerate, and, if we give ourselves time to do that, with fasting and good, whole food, it'll work.

Dr. Fung [00:30:14] Exactly.

Lisa [00:30:14] I actually had a client whose trainer has her eating dehydrated fruit. You know, she's like, "I love having an apple after I exercise, so I've just been eating this dried fruit that my trainer recommended." And I said, "I'd rather you eat the whole-fruit apple instead of the dried fruit because you're spiking-- you're really spiking your blood sugar and your insulin with that dried fruit because it's like mainlining it."

Dr. Fung [00:30:38] Yeah, it's concentrated. The problem with concentrating it is that it's easier to take more without realizing it, right? So if you take apples, it's really hard to overdose on apples because you know how much you should be eating. Whereas with concentrated fruits, like dehydrated fruits, it's possible that you take a lot of these apple chips or whatever and not realize how much you're actually taking. So you could be eating like two, three, four apples right? So, again, as you say, you could be mainlining it without even realizing it. Why? Because you've changed it from a normal form.

[00:31:10] Now, you can always look at the effect yourself, because you can use a CGM or something else and say, "Hey, let me look at this," because maybe it's an important effect and maybe it's not an important effect. We don't know. It's interesting because there's all these people that are like, "Oh, people shouldn't be using CGMs." I'm like, "That's so stupid." [laughs] I don't know why, if you have the ability to get information about the foods versus the glucose, why you wouldn't take that because it turns out that there's actually a huge difference between individuals. We've always known this but we've sort of glossed it over. But, like, my response to a food is actually often completely different than your response to a food. Not only that, but you can actually get a significant proportion of people who actually have a big insulin release to dietary fat. So that's important because for most people it's about the carbs, right? And that's still true but, for a significant minority of people (like 9, 10% of people), when they eat dietary fat, they have a huge insulin spike. That's not what anybody teaches you because that's not normal, it's only the minority of people. But if you're one of those people, it doesn't matter what everyone else does, you shouldn't be on a high-fat diet because you may be spiking insulin like crazy, right? So it's like, okay, well, this is important to know. Now, you're not going to see it in the glucose necessarily, but what is important is that you take some of these things and individualize it, right? That's why we're always like, "Well, you've got to find out what works for you," because there are differences. So even though low carb works for a lot of people, it's possible that, because of the difference in people's responses, people will have a big spike to fat. In which case, eating a ketogenic diet is not going to work for them.

Lisa [00:32:50] Right, yeah. I've had one lady that that happened to and it was pretty shocking. You know, because I wasn't aware of it. I was new to coaching and I went, "What's going on here?" So, yeah.

Dr. Fung [00:33:01] You can have a glucose response-- you have people who will have huge spikes to certain foods and other people who have barely any spikes. So it's like, okay, well, if you barely have any spikes to, like, a boiled potato or something, then there's

no reason why you shouldn't eat a boiled potato. And there's other things you can do, like resistant starches and stuff, right? So if you heat it and then cool it, it may have less effect. And everybody's different. So if you take a resistant starch, like potato salad, for example, which is-- you heat it, you cool it, and you get this resistant starch. Or fried rice, where you heat it, you cook it, you cool it, and then you cook it again. Some people will have a much better response to it and some people have no difference, right? So if you're one of those people that has a great response, and you love potato salad, and your sugars don't do anything, and there's higher resistant starch, and you respond to it well, hey, then you don't need to cut that out because you could have that as a food, right? So, again, I talked about that in one of the videos on resistant starch.

Lisa [00:33:57] You have a blog on it too.

Dr. Fung [00:33:59] Yeah. Yeah, that's right.

Lisa [00:34:00] You have a really good article I link to people all the time because I eat a lot of resistant starches (my GI tract loves them), so I refer them to your article. It's a great article. Thank you, Dr.Fung. And there's a whole bunch of love for you, by the way, in the chat. Just so grateful for you, you've changed so many lives. We're really so fortunate to have you. Thank you for sharing all your knowledge with us today and we will see you next month. Okay?

Dr. Fung [00:34:31] Great. Thank you.

Lisa [00:34:32] Thank you so much.

Dr. Fung [00:34:33] All right, bye.

Lisa [00:34:34] All right, you guys, take care. Happy healing or rebuilding day, whichever one you're doing.