Diet Doctor Podcast
with Dr. Ted Naiman
Episode 70

Dr. Bret Scher: Welcome back to the Diet Doctor Podcast. I'm your host, Dr. Bret Scher. Today it's my pleasure to be joined once again by Dr. Ted Naiman, who's a Primary Care doctor in Seattle and also the author of the very popular P:E book, which you can find at pedietbook.com. He's also on Twitter and Instagram @tednaiman and his website is burnfatnotsugar.com.

But with all that intro, what Ted really is, he's a great thinker. He's a big proponent of protein. And he thinks that if we just can all increase our protein percentage and stay away from the combined fats and sugars, that would do wonders for everybody's metabolic health and body composition and he makes a very compelling case for it, and this interview really is sort of a tour de force of protein.

What the role of protein is, the struggle some people may have to fit it in, what protein sources are best and what the benefits are to our health. So if you have any interest in knowing more about protein, how to increase your protein and why you should potentially increase your protein, this is the episode for you.

So enjoy this interview on protein with Dr. Ted Naiman. Pardon the interruption here, but I want to tell you something I'm really excited about and the timing is perfect to tell you about it because we're interviewing Ted Naiman, who's a big proponent of protein and the protein energy ratio.

Well, at Diet Doctor, we're starting to expand our repertoire, our recipes, our meal plans, our message because we also know the importance of protein. Now, obviously, we know the importance of carbohydrate reduction and that's something that we've really built our site around in our recipes and our meal plans.

But now we want to increase beyond that to help the people who still need help and maybe provide a different way to improving metabolic health and healthy weight loss because that's what it's all about. It's not just about weight loss; it's about healthy weight loss. And by increasing protein percentage, prioritizing protein and still keeping the carbs relatively low, we think a great number of people are going to see tremendous success.

The literature supports, you know, and clinical and anecdotal reports support it. So keep an eye out at dietdoctor.com for more resources and more products and more recipes prioritizing protein to help you achieve healthy weight loss and helping you achieve greater metabolic health. All right, now back to the interview. Ted Naiman, welcome back to the Diet Doctor Podcast. It's great to have you back again.

Dr. Ted Naiman: Thank you. It's great to be here. Good to talk to you.

Bret: Yes, so our first interview was episode #40 in February of 2020 was when it was released and now here we are recording in 2021. It seems like a whole world away. So much has changed. But the one thing that has been really consistent and popular for that entire year has been this book called The P:E Diet. And it seems like it's got a lot of traction, a lot of popularity. So I want to just start by asking you what is The P:E Diet and why did you create it?

Ted: Gotcha. Okay. Well, thank you for mentioning it. Yes, the P:E diet stands for protein to energy and the P:E diet was my way of just looking at eating in general from a sort of big picture perspective. And for me, it comes down to basically energy, which is what plants create from solar energy using carbon dioxide in the atmosphere. So that's chains of high energy carbon-carbon or carbon-hydrogen bonds, and that's basically carbohydrates or fats.

And that's everything you eat in your diet that you burn for energy. And then there's protein which your body mostly uses structurally. And the majority of your body is actually protein, or at least the non-water component of your body is protein.

So I'm kind of looking at diet from like a protein/structural/nitrogen point of view versus carb and hydrogen, carb and fat, solar energy storage, chemical energy perspective. It's sort of a weird way of looking at your diet that nobody's really ever done quite the same way before. And it's a little bit unique and so that's what the book is all about.

Bret: Yeah. So getting the maximum amount of protein for the minimum amount of energy basically or the amount of calories, I guess, you could say. Now there are 1,000,000 diet books and it seems like every angle of diet books have been published. So you just said, it's kind of unique and hasn't really been done before. Why do you think that is?

Ted: Well, I don't know. I know that forever we've had this low carb versus low fat war. I mean, that goes back forever. And there's just die hard people who are low carb or low fat, low carb, low fat. We know from studies that both approaches work. Both approaches are reasonable. Some people prefer one over the other.

There's certain scenarios where one might look better than the other. But I kind of zoomed out above that one layer higher than that to sort of look at it from a protein versus non-protein energy ratio. And when you look at it that way, a low carb and low fat almost actually the same kind of thing or fairly similar. They're both increasing the protein to energy ratio of your diet.

Bret: That's interesting because when you say low carb and low fat, automatically people, I think, get like an emotional response about what that means to them. And so I'm curious what it means to you. Because in the literature, low carb can be 40% or for some people, you know, 40% of your calories. Low carb can be 40% of calories from carbs or for some people it's 20 grams of carbs per day.

Those are obviously very different things, and I'm sure the same thing for low fat. You know, 30% of calories is considered low fat, but not to a lot of the big low-fat aficionado. So when you say low carb and low fat, do you have numbers that pop into your mind or is it more of just a feeling? Like what do you mean by that?

Ted: Well, I do. But I have to admit, it's really been poorly quantified. The average American is eating 300 grams of carbs at maybe 100 grams each protein inside. And so, carbohydrate is 45%,

50% maybe of their calories. And so it's a little hard to define low carb. So for some people, low carb is anything less than that 45%. So, you know, 30% might be low carb.

For other people, you know, low fat is hard to define. If you're a plant-based vegan person, your diet might not be considered low fat until it's all the way down to 10% of your calories or something like that. Some of the low-carb aficionados might say low fat would be, you know, 30% fat or something. So these have been poorly defined in both in the medical literature and just in the lay press and in general.

And you can go by grams, grams per pound, grams per kilogram. You can go by percentage. It also depends on whether you're hypercaloric or hypocaloric, trying to gain or lose. And it gets really murky and really confusing and you go by grams per pound, grams per pound of lean mass, which takes into account how over fat you are.

Bret: That's a great point, though. I mean, all those examples you're bringing up are a great point. How it's just so hard to say the words low carb and low fat. Because when you say... and the reason why I'm pushing on this is because to hear low fat works. I can just see people saying, "Oh, I tried it. It didn't work. Trust me, it doesn't work."

But if you're in caloric excess, if you're hungry, if you have cravings and your fat is, you know, 30% and your carbs are 50%, like that low fat doesn't work. So when - I guess what I'm trying to get at is, like, for the low fat to work, it still is sort of a higher protein, very low fat. Like for that, it's gotta be like down to like 10% low fat and a higher protein so that your carb is lowering through the roof. Because that - am I right there? Do you think that's on target?

Ted: Oh, yeah, you're definitely right and you really bring up a good point. So anytime you go either low carb or low fat, you want to replace at least some of that macronutrient with protein. So in studies, isocaloric replacement of any non-protein macro carbs or fats with protein always improves anything you could look at.

I mean, you know, satiety per calorie, outcomes when you're eating ad lib, any kind of lab findings. Just about anything you can measure improves, when you replace isocalorically carbs or fat with protein.

And so I think low carb works if some of those carbs are replaced with protein. Low fat works if some of the fat is replaced with protein. If you just substituted your carbs for fat or your fat for carbs, I don't know if that would be equally successful at all. So from my point of view, that's one more reason to look at it from a protein versus non-protein energy standpoint.

Bret: Yeah, it's a great point. And especially when you look at sort of the average diet having maybe 15% of calories from protein. And when you're talking about in your P:E diet, if we're talking about percentages, it's more around the 30% to 35% of protein. So that's a pretty big jump for the average person, wouldn't you say?

Ted: That's a huge jump for the average person. But if you look at anyone who's had long term, meaningful, successful weight loss, typically what they've done is they've found a way to go from the 12.5% protein of the standard American diet to around 19% or 20%.

If you look at databases of people who've lost weight and kept it off a long term, they're all getting their protein at least close to 20% mark and that seems to be across the board, no matter what you do with carbs or fats.

And then I think that if you look at, hunter-gatherer macronutrient estimates, on average, we're talking 30+% protein. And you look at fitness competitors and bodybuilders who are, 40+% protein, and all of a sudden, this protein percentage starts being extremely important. And that's why I think that in most of the medical literature, you always have to fix protein before you can investigate anything else because it's such a huge, huge factor.

Bret: Yeah. And that's such a great point. Because there are so many studies showing that a low-carb diet leads to better weight loss and better glycemic control compared to a low-fat diet. But the other variable that changes in the vast majority of those studies is the protein is also higher.

So it's like that combination of higher protein and lower carbs. You know, I've been guilty of this as much as anybody. I say, "See, low carb is better, low carb works." But you could also say, "See higher protein works." And it's sort of one in the same in some instances, but it doesn't have to be.

And I think that's sort of part of what your book and your message gets at. Is that right?

Ted: That's correct, yeah. And we do have multiple studies that strongly suggests that the biggest factor in the success of low-carb diets is the increase in the protein percentage. And so, I do think, that's a huge factor.

Bret: Yeah. And that that brings up this concept of what is a well-formulated low-carb diet or well-formulated keto diet. Because, let's be honest, a lot of people have seen tremendous success, and the literature can support it, of giving up your carbs and adding lots of fat. You know, all of a sudden, eating lots of bacon, cooking everything in butter, adding olive oil to everything, choosing the fattiest cuts of meat.

So the fat is much higher and the protein has gone up a little bit and people see success with that. But are you saying that there's maybe even a better way or a different way? Or would you say if you're having success, leave it alone and you don't need to change it even if your protein is down around, you know, 18%, 20%.

Ted: Well, yeah, I think there is a better way. And we have a couple things that support this. You know, first of all, we have a lot of medical literature on the classical ketogenic diet for seizure control, and unfortunately, these diets were extremely low protein and very, very high in fat.

And we know that anytime somebody looks in the literature for something criticizing ketogenic diets, they're usually pulling from this very low protein, very high fat standard classical ketogenic diet studies where we really did see sarcopenia and osteopenia and still optimal outcomes when we were using lots of refined fat and oil and very low protein percentages that some of these people unfortunately required for high level of ketones in seizure control. But it's definitely not optimal for health or body composition.

And there's a number of studies in the medical literature where they literally kept calories the same (isocaloric), carbohydrates the same (isocarbohydrate) and simply substituted protein for fat or fat or protein. We have 15% protein, higher fat versus 30% protein, lower fat and higher protein always basically destroys lower protein on any metric you can measure - fasting insulin, body composition, subjective hunger scores, emotional eating.

Like anything you can graph or measure or quantify is better when you isocalorically replace fat with protein. I'm sure there would be an upper limit to that. I think if you went from 99% protein

to 100% protein, things would start really rapidly going the other way. But all the way up to 30% protein, certainly, any fat that you replace with protein, you're just going to get a better outcome.

Bret: And that brings up a good point. I mean, can you get to the point where you are eating too much protein? Your body has a urea wasting mechanism, you know, way to get rid of urea, which is sort of the byproduct of protein where it may reach its upper limit. So is there a concern of eating too much protein?

Ted: Yeah, definitely. I know that there's a level that's too much or too high to be sustainable. And we have almost no anecdotes from free-living humans eating, for anyone - I'm talking about 50% of calories or maybe at the most extreme I've ever heard of 60% of calories, which is really only just very extreme bodybuilders, and it's probably not sustainable for 99% of people.

So I think that you're going to run really, really hard into some upper limit there that's probably going to be 50% of calories. And probably even before you approach that, it's going to be going in the opposite direction for most people. I'm sure it's on a U-shaped curve.

Bret: And I guess that brings up another great point, though, and that it's hard to overeat protein. That's part of the benefit of protein. It's hard to hard to eat so much of it. So, do you think that's one of the main benefits or is it the main benefit? Or what else are the benefits of prioritizing protein, that why it helps with weight loss and metabolic health and body composition?

Ted: Right. Well, protein has a couple of really great benefits. First of all, we know it's the best macro for building muscle and building lean mass. And nobody just wants to lose weight. Everyone wants to just lose fat. You actually want to keep as much lean mass as possible. Your whole goal is really recomposition.

You're trying to get the highest muscle at the lowest fat. And that's going to give you the very best health and degree of function and longevity and strength and basically metabolic flexibility, which muscle is awesome for. So you're actually trying to hang onto as much muscle, skeletal muscle and lean mass, as you can and get lower body fat. So you don't just want weight loss; you want fat loss. Protein is the best macro for building muscle.

Protein is also the best macro for losing fat. And so it really has you covered on both directions of recomposition. It's also the highest satiety per calorie. And it's kind of, you know, for all these reasons, it should clearly be the focus of everyone's diet in my opinion. I'm extremely biased, of course.

Bret: Well, so let's talk about the flip side then. I mean, there are people who say too much protein is associated - well, let me rephrase it, that restricting protein is associated with increased longevity. Certainly in fruit flies and mice, and maybe in apes and some, like as one fairly weak observational study in humans.

But then looking at surrogate markers like IA-1 and, mTOR activation and autophagy that - all these buzzwords that lowering protein has beneficial effects on all these potential markers for longevity. So then does this message sort of contradict that? Ted: Well, the problem is we don't have any actual data in humans to support protein restriction and longevity. There's literally zero data there, whatsoever.

So we do have some data in lesser organisms but we don't have any in higher mammals, especially if they're being fed a species appropriate diet. So we have a couple studies in primates

suggesting that if we feed them less, they live longer but the problem of these studies is we are feeding them crap, and if you actually feed them a higher-protein diet, they're going to live longer. And caloric restriction doesn't seem to be helpful anymore.

So I don't know. I really think that most people, if they increase the protein percentage of their diet, the absolute amount of protein they're eating only goes up a little bit, but the amount of non-protein energy they're eating, goes way down. And as a result, they're leaner and they're thinner and they're more insulin sensitive, they have lower fasting insulin. They have lower pre-prandial insulin. Every marker you can measure is better.

And so mechanistically, a higher protein percent might only yield eating a small amount of absolute protein more than you did before, but a lot less non-protein energy.

Bret: Yeah, that's a great point. The non-protein energy is the important cofactor. We talk about the protein, but it's because the protein is taking the place of the non-protein energy. Now although we talk about protein as if it's one thing, which it clearly isn't, right? There are many different types of foods that have protein in them in different protein percentages.

So some people when they hear a high-protein diet, they think of bodybuilders just chugging protein shakes and eating tuna right out of the can or, egg white powder on everything, you know. So when you talk about higher protein, is that what you're talking about?

Ted: Well, I'm really just looking at the ratio of protein to calories or non-protein energy calories in the food and some really surprising things show up. Like if you look at the protein percentage by actual calories in green vegetables, for example, it's pretty high. Green leafy vegetables are way up there with, Greek yogurt or something.

The amount of protein they have is very small, but the protein percentage of the calories is quite high. Things like Brussels sprouts and asparagus and broccoli are actually all fairly high protein to energy ratio foods. I wouldn't suggest anyone get all their protein from those foods because you're going to have to eat a billion pounds of those.

But the point is, the protein to energy ratio and satiety per calorie and the nutrient density versus caloric density is really, really high. So there are some things on the list that aren't just what you would picture a bodybuilder chugging like whey shakes and egg whites.

Bret: Yeah. And I gotta say, I gotta promote your book here a little bit because the pictures and the diagrams and the graphics in the book are phenomenal. And then that's one of the things where you show the dial changing for the different foods.

And although you might have egg whites and whey protein way up here at the highest ratio, that doesn't mean that's where you have to be. And there, you can see in where the chicken is and where the steak is and where the seafood is along that spectrum. The diagrams are awesome. That must have taken a long time to do all those diagrams.

Ted: Oh, thanks a lot. Yeah, yeah, unfortunately, yeah.

Bret: Well, it turned out that well, it was worth the time. And that's the other concept that, you know, anytime we talk about a diet or, you know, food choices or weight loss, you have to talk about hunger and you have to talk about how full you feel from your meals. And the concept is higher protein is more satiating, but is it the same across the spectrum of protein?

Again, there's protein from a rib eye, protein from a chicken breast, from a shrimp, and from whey protein, are those going to - is the protein content going to be the thing that dictates the satiety or the fullness that someone feels?

Ted: Well, first of all, I think satiety is probably the most important factor of all. And I think a lot of times we really, really get down in the weeds with mechanisms and carbs and insulin and things like this, but the reality is, it all comes down to satiety per calorie. Because if I can give you a little cube of food that's only one calorie, but a whole days' worth of satiety, you're going to lose all the weight you want.

You're just going to be the thinnest person on the planet. So it really comes down to Satiety per calorie. And protein is definitely the most satiating macro by far but there are other factors when it comes to satiety. Weight and volume of food is a big deal. So anything that has larger weight and volume for fewer calories is going to have higher satiety per calorie.

That's some of the magic of fiber and water and minerals and green things like leafy green vegetables, which have a ridiculously high satiety per calorie. And so this energy density is a big, big deal. And so, you know, I feel like every other day Kevin Hall comes out with a study where low fat plant-based study basically leads to people eating fewer calories than a high fat animal-based study and the reason for that is caloric density.

The high fat animal-based people are getting like butter and oil, which is like a billion calories for, you know, tiny little bit of food, whereas the plant-based people just get like a bushel of hay or something, which is, you know, like 50 pounds of food for one calorie, and you can't discount that. That's a very real thing.

And I think that's why all your bodybuilders are just eating these giant salads the size of their head every day just like a machine because they know the crazy amount of satiety per calorie. And I think that proteins are huge factor, but the other factors are fiber and water and weight and volume and things like that.

Bret: Yeah, I think that's a great point about the fiber, the weight, the volume that plays a role as well. But again, sort of the counterpoint to that is studies show that a ketogenic diet is sort of uniquely formulated to decrease appetite as well.

Whether it's the ketones themselves or whether it's the fat and there's, just thousands of people with personal experience that comment on at Diet Doctor and/or part of our Facebook group that say, you know, increasing the fat decreases their appetite and improves their satiety. So I mean, there's got to be something there as well.

Or do you think it's still somehow related to the protein and not the fat?

Ted: Well, three things. Number one, they're probably increasing their protein percent. Almost universally, I would guess. But the other things are fat is definitely satiating, it's just not high satiety per calorie. So if I eat an entire stick of butter, I have a ridiculous amount of satiety.

Like I won't be hungry for the rest of my life, but it's also 3000 calories. So I'm literally getting fatter at the same time. So I think sometimes we feel that fat is very satiating, and it can be, for sure, but we didn't count how many calories we just ate. So satiety per calorie might actually be terrible. I know that in the past, my number one snack used to be macadamia nuts.

I used to buy pounds of macadamia nuts. And I would eat these and, I had tons of satiety. And

the problem was I just literally walked around about ten pounds fatter back when I ate these nuts just as a snack because there so high in cal - I mean, fat calories. So they do have satiety, sure, but satiety per calorie is terrible. And so you're really not winning anything there, I don't think.

Bret: So it sounds like your personal transition is sort of what a lot of people maybe are also going through. That it was sort of the lower-fat, higher-carb diet then you went to the lower-carb diet and then transition, maybe even to a keto diet, and started feeling really good and improving everything but then it reached this point, or maybe you were slipping backwards a little bit, probably because of all the increased fat, so then went to the higher protein part and all of a sudden saw improved gains. Is that sort of like your timeline?

Ted: That is exactly correct. And somewhere in there, most recently I've also noted that I can isocalorically dial fat down and carbs up a little, and as long as protein is always super dominant, it doesn't seem to matter. I can get away with that a lot, which, for me, just really underscores the importance of protein.

Bret: Yeah. So this is really interesting so you can get away with that. But, we've seen your pictures. You are a rip dude and you've clearly got some muscle mass and metabolic flexibility. So are there going to be some people who maybe don't have the metabolic flexibility that you think might struggle with that? Or do you think once protein is high enough, that it almost doesn't matter and most people will be able to dial up the carbs in that setting?

Ted: I think that there's always going to be people who have a strong preference for a fuel mixture that's more carb, less fat, or more fat, less carb. But I think that the most important lever to pull is getting protein percent significantly higher and then playing around with this carb-fat fuel mixture just to see which one gives you the very highest satiety per calorie. And I think that will be different for different people.

Bret: Now the other concept of not all protein being the same as plant versus animal protein. So some of those same observational studies seem to suggest plant protein is better than animal protein for health and longevity although, you know, we've talked a lot about observational studies, nutritional epidemiology, healthy user bias, that make that very difficult to interpret.

But how do you see the main differences for plant versus animal protein? Because, like you said, broccoli and spinach have a huge percentage of protein per calorie, but is it different than eating a steak for your protein?

Ted: Right. Yeah, I think that unfortunately plant protein is inferior to animal protein for two main reasons. First of all, it's frequently not a complete protein. So plant protein is great for building plants. Animal protein is great for building animals. If you want to build an animal out of plants, you have to mix and match a little bit.

It's like a Lego kit, and if you have one Lego Kit here and another Lego kit here, you can't build the second one from the parts of the first one. If you combine different plant proteins, you can make a complete protein with all the essential amino acids. But it's definitely not as good as animal protein in terms of completeness for animals.

The other problem is digestibility scores. And unfortunately, all of that fiber in plants, which is great for satiety per calorie, is actually kind of bad for extracting protein and minerals so the proteins are less bioavailable. And pretty much anyone who seriously researches protein will tell you that animal proteins are always superior.

And even in the animal protein world, there are some proteins that are could just considered the gold standard, like whey protein and egg whites are extremely digestible, bioavailable and complete. And so those are usually sort of your gold standard proteins that everything else gets compared to.

Bret: Yeah. So better digest ability or absorbability, I guess you could say, for the proteins and a complete amino acid profile, but by combining different plant proteins, you could get something similar, but you need a higher number of grams of plant protein to equate, you know, a lower - what you would get from a lower number from animal protein.

Ted: Right. The efficiency is lower, so you basically have to eat more. You'd have to eat, you know, 20% more or - well, it depends on what you're combining. It's highly variable. But there is some... basically, you would have to eat a certain percentage more in plant protein to get the same animal effect that you would from animal protein.

Bret: Yeah. So doable, but you rarely hear of plant-based diets being 30% protein, 35% protein. Seems like that might be the challenging point. But getting to 20%, 25% protein, certainly doable with the right mix. And there's actually a recent study that looked at supplementing whey protein or supplementing a soy protein for healthy young people and measured their muscle mass with training. It was 1.6 grams per kilo for both of them.

And they had sort of equivalent muscle growth. So it suggests at least for a soy supplement versus a whey supplement at that level, that there's equal anabolic effect. But I guess then the question is if you do real foods and you do a longer period of time and logistically, so there - I guess the point is there are lots of other things to consider, but certainly doable and plant protein can get the job done, just be maybe a little more difficult.

Ted: Right, right. And soy is definitely your best plant protein option. Soybeans are about 40% protein by calories. They're pretty solid. They're technically a complete protein although the spread of the aminos is such that it's not quite as anabolic as animal protein for building animals, but it's pretty good. And you can't get it done like you said. It's possible, not optimal.

Bret: Okay. So we've talked about the importance of protein, sort of the targets of protein, why it works so well for metabolic health for weight loss, for body composition, but obviously, not everybody - I'd assume not everybody who's tried your P:E diet and read your book and tried to make this transformation, not everybody has succeeded. So give us some feedback on what you know of why people don't succeed. What are the main hurdles and where people stumble?

Ted: I think one of the things that everyone does is try to go way too extreme with it. The whole point of a P:E diet is like, okay, let's say you're here. You're eating your bacon and eggs, right? And you're cooking everything in butter. Okay. Maybe a step up from that would be, turkey, bacon and eggs and a little bit less butter.

Or maybe turkey, bacon and eggs and a couple of egg whites and less butter. you're just trying to do something in a sustainable, incremental way. You're just trying to get a little bit better than you were before. You don't want to go just straight to whey powder and egg whites. Like I have some people just going on these extreme.

Everyone wants to go extreme with everything. Like, okay, low carb's good, let's go to zero carb. Let's be carnivore. Like the raw carnivore. Pretty much I just eat, cubes of raw pork fat's my whole diet. And so everyone tries to go really extreme with it. And definitely people do the same thing

with the P:E diet. It's like, more protein's good, I want to be the best, I am literally going to eat 100% protein.

And you're just - it's a complete fail, obviously. So the whole idea is just take where you're at and try to incrementally go up. It's just like lifting weights. You know, you wouldn't just suddenly put, you know, 600 pounds on the bar and try to bench press, you know. You're going to take where you're at and you're going to micro load that with a, five-pound plate on either side and just lift a little bit more.

And you're going to do that for a couple months and then maybe you're going to go up just a little bit more than that. And the idea is to make it sustainable. Enjoy the process. You have to eat like this for the rest of your life. I'm like, hey, you're at 12.5% protein. Maybe get to 15, you know. Maybe your ultimate goal is 20 and you can just live there forever and you'll just walk around thinner. Instead of 100%.

Bret: Yeah.

Ted: So that's one - definitely one of the big fails.

Bret: I would think that one of the big fails would also be that people just can't get their protein high enough or feel like they can't get their protein high enough. Because you go, say you eat lunch out and you always order a salmon salad or steak salad or something, you know, it comes with that much steak, or, you know, like four ounces or maybe six ounces. And so if that's what you're used to eating to all of a sudden try and double that, or even, you know, triple that in order for you to get adequate protein, I'd imagine that would be a challenge for a lot of people Do you have like tips and tricks that you tell people of other ways to improve their protein tips?

Ted: Oh, absolutely. Like the literally the only way to survive anywhere you eat out is to double the meat or the protein in whatever the heck you're getting. You go to Chipotle and you get your salad bowl and you have to get double meat. Like that's the starting point. And, you know, you always have to get, two burger patties or three or four. You always have to ask for double meat on your Caesar salad with smoked salmon or something. You want like double protein, half the starch.

That's just like the automatic thing every restaurant you go to and you get kind of used to it. It's like, okay, I'll just double that meat. And I know it's going to cost more. Protein is always the most expensive macro. It's expensive to eat protein. In fact, half the reason the whole plants over fat is purely economic because protein is by far way more expensive than carb and fats. So it costs more, but you have to do that. I mean, that's the only way to eat out is to double the protein and hold the starch pretty much.

Bret: It makes it that much more important probably to try and prepare most of your meals at home because of the costs and just buy whatever is on sale. And look, I mean, I'm a proponent of, organic vegetables and grass-fed beef and pasture-raised eggs if you can afford it and if that's important to you. But I think by no means should that be a hurdle. And I think in a situation like this, it probably could be a hurdle if somebody thinks that that's what they need to do to eat healthy. Have you come across that as well?

Ted: Yeah, absolutely. You know, it's so expensive to buy protein. If you graph out the cost of everything in the grocery store versus macronutrient, it just scales linearly with the amount of protein in it. And carbs and fats actually don't increase the price of the food at all. I mean, to get

more carb and fat is almost free.

It's almost cost neutral. It's like when you go to McDonald's and, like, supersizing your fries and your soda is like $0.10 but you put another patty on that burger, and it's, you know, $2. So it's definitely all about - the protein is very expensive. You know, the cheap, the very most cost effective proteins are always eggs and ground beef. Those are always the cheapest ones. And I do have patients who literally have to buy a lot of those.

And thankfully, you can always get these on sale for almost nothing I mean, you can buy a dozen eggs for $0.99. You can get ground beef that cheap per pound at some places. And that's always, you know, reasonably good nutrition for dirt cheap, and these foods are 30% protein, so they're pretty solid.

Bret: Yeah. Now what about the concept of enjoying your meals? Now you see - I think there is a comment in your book, about like if eating was a chore, if eating wasn't enjoyable, we wouldn't have the problem that we're in. But I think we have to be honest that, food intake and eating is so, like, just intertwined with our reward system and our enjoyment that we want to enjoy our meals.

And, there's some people who just think, well, if I'm trying to get to this level of protein, it just takes the fun out of it and the enjoyment out of it and that's part of what the fat is there for to help me enjoy the meal.

Ted: Yeah. And it's a really, really fine balance. I mean, you absolutely have to enjoy what you're eating or you are going to fail long term. Period. You are not just.. this isn't a 12-week cleanse. It's not like a six-week boot camp. You have to eat for the rest of your life and you have to eat in a way that you have good body composition, so you can be healthy. And that means you have to enjoy what you're eating.

You have to enjoy it now, you have to enjoy it then, you have to enjoy it after then. So this has to be sustainable and that's one of the reasons why you can't get like 200% protein. You have to find a way to substitute what you're eating now that's not getting you the goals you want with something that's a little bit higher in protein, but sustainable, and you have to enjoy it. And it's definitely... it's definitely not easy.

And then the other factor is that the high energy density carb and fat food that is so hedonic and so addictive, I mean, it's really hard to avoid all the cookies and the donuts and the pizzas and the candy bars and the potato chips and the French fries and the high energy density carbs and fats together.

And you really have to - I don't like to say that there's good foods and bad foods. I just array them all on this spectrum of higher satiety per calorie and lower satiety per calorie. And French fries are low satiety per calorie. They're okay. They're not going to kill you. You know, it's not like --

Bret: They might.

Ted: Right, right. I mean, one, one, but it's definitely lower satiety per calorie. So there will become a point where it's taking you further from your goals instead of closer to your goals could you find a way to fit in a couple French fries in there and then more fish and salad and then come up with something that's sustainable that works for you.

You probably could. But it's just you have to be constantly mindful of this food is higher satiety per calorie, taking me closer to my goals. This food is lowest satiety per calorie and taking me

further away from my goals. And I have to find a balance that I can maintain for life.

Bret: Yeah, that's a great point about maintaining for life because that's exactly what we're talking about here. But so now let's transition for a second, though. I mean, we talked about how there are millions of diet books, and they're also, you know, thousands of, if not millions, of obesity researchers and obesity papers. So with your concept of nutrition and your framework, what do obesity research get wrong?

Where are they sort of missing the boat? And what do they think-- what do you think they need to change?

Ted: Well, first of all, protein percentage is just staring all of us in the face from the medical literature. Like you won't find any study where humans eat ad lib calories and a lower protein percent diet outperforms a higher one. It just doesn't exist. So virtually everything in the medical literature supports this but then I don't really see obesity researchers highlighting this enough in my opinion.

I mean, I think this is probably the biggest factor of all and it just doesn't get much airplay. I mean, you go to, you know, ObesityWeek and it's all about all the drugs and all the surgeries and all the bulimia procedures and all these things that, you know, nobody talks about protein percentage of the diet and how it's fallen over the past 50 years of the obesity epidemic and how we could possibly drag it higher.

Or, like, this just isn't on anybody's radar. I also feel like the addictive nature of high energy density carb and fats together just doesn't get enough airtime. It doesn't get enough play and, like, nobody is really talking about this the way they should. It's like these foods are super addictive and probably driving a full half of the entire global obesity epidemic but we don't really highlight that as much. And, you know, I think these are things that are really there in the medical literature staring us all in the face, but nobody is shining a light on them. Or I am but I feel like some other people aren't.

Bret: Yeah, yeah. That's a good point. And, you know, the drugs and the procedures are, like, the big shiny objects and seems like protein is a sort of not that exciting. Probably has a lot to do with it. Now another concept that you bring up in your book is the SAID, S-A-I-D. The Specific Adaptation To Imposed Demand.

And so I want you to explain that because I think that's an important concept, too, to help people sort of figure out, okay, we know proteins are important. We want to increase our protein. But then there's the road map of how do we get to here to there? What is our framework on how we progress? So what do you mean in your book when you say this SAID principle?

Ted: Right. It's specific adaptation to imposed demand. It means if you want your body to get better at doing something, you have to make it do that thing. So in other words, if you want to be able to function better in a low-carb environment and you want to be more fat adapted, all you have to do is eat less carbs and your body will basically has to adapt or die.

If you just stop eating carbohydrate, I mean, your body has a choice. It's, like, either, okay, I have to figure out how to make everything run with what I've got or, you know, what choice do I have? And the specific adaptation to imposed on me and I was specifically using that for exercise. Because when you do different forms of exercise, you're really utilizing this principle, like, resistance exercise, right?

You do a pushing exercise as hard you can all the way to failure and you're communicating to your body that if it doesn't get stronger at a pushing type movement, you're going to die somehow. You just put this incredible amount of stress in your body. And then this is a huge stimulus to build more muscle in your pushing chain of musculature.

And you're basically imposing this demand on your body that it can't currently meet and then you'll literally have to change so that you can meet it. This is how you get better cardiorespiratory fitness.

You do some sort of cardio exercise that really pushes you. You know, it really pushes your VO2 max. It's something you can't do right now, but you're trying to force your body to do it. And then you're going to get a positive adaptation to that over the next few days. So there are all these things that you can force your body to do that it will literally get better. You can force your body to live off of stored body fat. You can force your body to live in a low-carb environment.

You can force your body to do more cardio or to be stronger at pushing and pulling. And all of these things literally make you better, and the book is all about pushing out of your comfort zone and demanding these adaptations out of your body so that you're just literally a better person.

Bret: So what are your main tools for forcing your body to burn more of your stored body fat?
Ted: It's really just carbohydrate restriction. If you're trying to upregulate your fat oxidation, all you have to do is eat less carbs. Another thing you can do to force your body to upregulate fat oxidation is more activity. Exercise, run around, cardio, move more. You basically have to burn more fat, especially if you're not eating carbohydrate.

And if you want your body to burn more stored body fat, not only do you eat less carbs which forces your body o burn fat, but you eat less fat as well, which forces your body to get the fat from your own body. Yeah. So now you're low carb and low fat. Oh, what the heck are you gonna eat so you're not starving with protein?

Bret: Yeah. So there's, you know, a belief out there that low carb, low fat equals starvation and hunger. But I think again it comes to defining what low fat is necessarily, and, you know, how do you react when someone says, "I can't be low carb, low fat, I'm going to starve to death." You know, that's why - people have tried.

Ted: Oh, that's totally true. And so you want to be a little bit low carb and a little bit low fat. Just enough to be sustainable while you slowly lose weight and try to dial down your fat mass and maintain all your lean mass in a sustainable fashion, but you don't want to go so crazy with it that you're trying to eat 100% protein and then you're basically eventually going to die of starvation once you're really fit.

And you're going to be miserable the whole time. So, yeah, it's all about pulling the lever. Not - you don't want to pull so hard it just snaps off and it's gone. You just want to pull the lever hard enough that's something adapts, something moves.

Bret: Yeah. Yeah. And if you look at a diet that's maybe 10% carbohydrates, 30% protein, that still leaves 60% fat, which is maybe lower than, you know, 75% that you were doing before, but certainly by no means a low-fat diet. There's still plenty of energy there. And the more you dial that up or down, the more or less you're going to rely on your own stored body fat. So I think that's a good example.

Now you talked about restricting carbohydrates, reducing carbohydrates. In your book, you talk about decreasing carbohydrate frequency, and I thought that was really interesting the way you mentioned that. Because you weren't talking about absolute grams of carbohydrate at least in this section, you were talking about changing the frequency, decreasing the frequency of carbohydrates. So tell us more about that philosophy. Because that's maybe a little bit different than the way people have heard it before.

Ted: If you go without even carbohydrate for more than, you know, 12, 16, 24 hours depending on how carb loaded you were before, you're basically going to be in ketosis and you're flipping this metabolic switch where you're generating ketones and you're being fueled by ketones, and you're basically running most of your metabolism off of fat. And I think achieving this state is a form of specific adaptation to imposed demand.

You're putting this demand on your body. You're getting really good at fat oxidation and fat mobilization. And then if you eat carbohydrate periodically, I think that might actually be just fine. I think you can get away with that. You know, you have room for 100 grams of carbs in your liver and 300 grams of carbs in your muscle.

And if you have someone who hasn't eaten carbs for 24 hours and did an exhaustive glycogen workout for an hour, they can eat a ton of carbohydrate and it literally just falls down a concentration gradient from your blood into your muscles in your liver and you really actually don't get this giant spike of insulin. You don't see anything really negative happening.

So someone who's glycogen depleted from a period of low-carb environment and exercise can get away with some carbohydrates. So I like to do like a cyclical ketogenic diet where I might just go all day without eating carbs and then eat, you know, 100 grams of carbs or more depending on my activity level and how much muscle glycogen I depleted.

So in the book, we're suggesting like a cyclical type thing. You know, most people would be basically be very low carb the majority of the day and then eating, increasing that are carb in the evening, you know, maybe 100 grams or something like that after eating protein and fiber almost like a dessert type thing and that gets you on the cyclical ketogenic diet, which works pretty well for a lot of people.

Bret: Yeah, I think that's really interesting. The cyclical component to it and that could also kind of help with metabolic flexibility almost like training your body for metabolic flexibility. Now an interesting point you make about eating it late in the day. Eating carbohydrates late in the day and that it helps with sleep.

And I know there are a number of people who say with a with severe, you know, strong carbohydrate restriction that they have... some people have trouble sleeping and adding carbs back help them sleep. But there's also the sort of circadian rhythm of insulin sensitivity, which as far as the way I interpret it is better in the morning and a little bit worse in the evenings.

If you stack your carbs in the evening, it might be good for sleep, but might be a little bit worse for the glucose response to that, because of the insulin sensitivity. Do you make much of that? Ted: Well, honestly, all of this morning insulin sensitivity and you're most insulin sensitive in the morning, that sensitivity is at the level of the fat cell. So your fat cells are the most insulin sensitive in the morning.

Your fat cells are anxious to just suck any calories out of your bloodstream. And that's actually not

that great. Later in the day, when you've moved more and exercised and done your lifting, done your cardio and depleted muscle oxygen, your muscle insulin sensitivity is higher and your fat cell insulin sensitivity is lower.

And I literally specifically eat carbohydrate later in the day because of morning insulin sensitivity so high at the fat cell. That's the part they're not telling you in this research.

Bret: So you rely more on the glycogen depletion and let that suck up the carbs.

Ted: Right.

Bret: Okay.

Ted: And then it's more anabolic because I've already done my resistance exercise and I'm actually hoping that I'm more insulin resistant at the fat cell at that time of day, which I am. So it's actually advantageous. Like you didn't want to eat carbs first thing in the morning when you're the most insulin sensitive. because that's at your fat cell.

Bret: And when you say you're eating carbs in the evening, now you're talking about like a big chocolate shake or something or what kind of carbs you talking about?

Ted: Well, I can... so, carbohydrate. There's this scale of energy density of carbohydrates. So there's what I call low-carb carbs and then there's high-carb carbs. The highest-carb carb of all is sugar. 100 grams of sugar is 100 grams of carbs. It's basically the highest-carb carb of all. And then you've got something that's really a high-carb carb.

You know, flour is 80% carb. 80% of - you know, 100 grams of flour is 80 grams of carbs. I'm sorry. Something like corn flakes. You know, 100 grams of corn flakes is 80 grams of carbohydrate. These are very high-carb carbs. Not really great for satiety per calorie. But then way down on the scale, you have what I call low-carb carbs.

Potatoes are way, way down it. Ten grams of carbs per 100 grams of potato. You get a boiled potato and it's about ten grams of carbs per 100-gram potato. That's why potatoes have such a crazy high satiety per calorie. Apples are, you know, maybe ten grams of carbs per 100 g of apple. This is a fairly low-carb carb.

Berries are extraordinarily low-carb carb. Strawberries are ridiculous. You could eat four pounds of strawberries. It's 12 cups of strawberries and it's only 100 grams of strawberries. So you know, you can't even eat that many strawberries. Raspberries are even slightly better. There's so much fiber.

But you know, you get about five grams of carbs per 100 grams of raspberries. It's ridiculously low. So I really like berries. I like tubers. I like lower sugar fruit. For me, that's citrus. That's melon. That's apples. These are all very low carb per weight and volume of food. So it's like a satiety hack for me to eat these carbs in the evening and then focus on low-carb carbs.

Just berries, melon, citrus, apples. I might skip some of the higher sugar, higher energy density fruit like bananas. I might not eat, you know, a bunch of bread and sugar and stuff like that. You know, I'm trying to stay on the low energy density carbs.

Bret: Well, so in today's day and age, with CGMs being very popular, people are learning so much more about their blood sugars. So what is your reaction to people who try some of those carbs

and notice their blood sugar just go higher than it's ever gone before. You know, they're spiking up to 160, 180 with an apple, with berries, with a potato.

Do you say, you know, that's okay, keep going, it'll be alright? Or is it like, okay, you're not quite ready for that yet, give it more time? Like how do you respond?

Ted: I have a love-hate with CGMs, right? I love CGMs because I try to slap on anyone who's pre-diabetic or diabetic and I'm like, okay, you want your average sugar to be lower, you know. You want your fasting sugar to be lower. You want you want all these readings to be lower.

But, like, the ups and downs are not necessarily always harmful. You know, for example, high-intensity exercise. You do high-intensity exercise and even a non-diabetic is going to have diabetic range glucose. And if we just looked at that, we'd freak out and say, "Oh, no." You shouldn't exercise at all. You should especially not do high-intensity exercise.

So, you know, I'm like, okay, if you haven't eaten carbohydrate, you know, all day long and now you eat a small amount of carbohydrate, sure it spikes your blood sugar a little, but the satiety per calorie you're getting from that, it might be higher at that point from something that was just pure fat. You know what I mean?

And what you're not seeing with fat ingestion is that it's so slowly absorbed into your system that it is raising your fasting blood sugar 12 hours later. If you drink a gallon of heavy cream right now, you'll wake up tomorrow morning and your fasting blood sugar will be ten points higher than it was the day before and people aren't seeing that.

They're seeing these immediate blips. And they're using those to choose more fat and less carb, but they're not seeing this slow increase in their basal insulin glucose that goes up when you eat more fat.

And so basically, if we really were paying attention to, you know, postprandial triglycerides, if you had a triglyceride, continuous triglyceride monitor, and you ate your berries and your triglycerides didn't go up at all, but your blood sugar shot up a little.

And then you ate your heavy cream and your triglycerides went up like 4X and then your blood sugar, you know, barely went up at all, I think we would actually start seeing these patterns if we saw the big picture, like, oh, wow, I eat fat and I'm a little bit more insulin resistant and my basal fasting insulin and glucose goes up, you know, the next day.

But if I eat carbs to go with my sugar, it shoots up, comes right back down and it's kind of a tradeoff, like they're both suboptimal. So you wouldn't want to eat, like, 100% carbs or 100% fat or way too much of either one. But there's kind of - you know, I just feel like when people just purely eat to their glucometer, they're not necessarily getting their very best satiety per calorie, the very best fuel mixture.

Bret: Yeah. I mean, that's interesting because you talk about the short term changes of glucose, but the longer term change... whatever causes you to lose weight and become more insulin sensitive is what's going to help you in the long run. So you got sort of balance your short term changes because, you know, I'm concerned about glycemic variability.

I think there's good literature for people with type 2 diabetes that glycemic variability correlates with bad outcomes. Whether that's true for people without type 2 diabetes, I don't know that we have that data, but it certainly makes sense to me. But as long as the long term trajectory is still

weight loss and insulin sensitivity over time.

And if you're sacrificing the short term benefits for long term detriment, that's not what anybody wants. So, yeah, I think that's a good point about striking the balance there. But that's a nuanced. It's hard to talk about. Because we don't have those measurements and we don't have that data.

And that's where people just start to, you know, kind of go crazy and throw their arms up in the air and say, "Well, if we don't have this information, what am I supposed to do with this?" So that's challenging. So your role as a physician to communicate all that your patients is not easy, and that's where a lot of these diagrams in the book come in so handy, I think.

Look, I mean, this has been a great tour, I think, of the concept of the P:E diet and some of the specifics of it and a lot of the details of when it might work, when it might not work, who it's for. Any other last thoughts about, you know, how you see eating and how people need to see eating and what they can do to improve their health when it comes to food?

Ted: I really think honestly that protein percent of calories is probably the single biggest lever that anyone has. And if you haven't achieved the body composition you want, my number one advice to everyone is try eating a higher percent of your calories from protein. That might not be a huge increase in absolute protein quantity.

It'll be a slight increase in protein and it'll mostly be a simultaneous reduction in carb and fat, but hopefully, you'll get better satiety per calorie and better body composition. And so that's my number one message for everybody.

Bret: Great message. Well, thanks so much for joining us on the Diet Doctor Podcast today, Ted.

Ted: Thank you for having me.