

[00:00:00] **Dr Mike T Nelson:** Welcome back to the Flex Diet podcast. I'm your host, Dr. Mike T. Nelson. On this podcast, we talk all about things to increase muscle hypertrophy in size, performance in the gym, and better body composition, all done in a flexible manner without destroying your health. Hopefully you have a good past weekend if you're in the U.

[00:00:24] S. and survived Thanksgiving. Cyber. Monday, whatever crazy Black Friday sales and stuff they've got going on. And normally right about this time of the year, people really start talking about body composition, the holidays, and I wanted to give you some great information. You can use this holiday time period with my guest today, Dr.

[00:00:49] Bill Campbell. I've known Dr. Bill Campbell for many years. I've been down to his lab, lectured his students on several occasions. And he's done some really interesting studies and his lab focuses primarily on learning from high level athletes, but applying it to, just people who want to improve themselves who may not necessarily be competing, which definitely overlaps with the goal of this podcast and what I do also.

[00:01:20] So today, Dr. Campbell is talking all about the idea of diet breaks and refeeds. And he'll explain the difference between those two. We'll talk about what are the physiologic effects, and then also what are the psychological effects. Because my pet peeve is that those two get combined into one all the time, and I think they each deserve their own discussion.

[00:01:47] As I've talked about in the Flex Diet Cert and even in the PhysFlex Cert, The idea of what I call coaching leverage is the physiologic response times the psychological response or the client's ability to change. That gives you an aggregate score of what to do, either you, yourself as a client, or to do with your clients if you are a trainer.

[00:02:13] What I like about that approach, not only because I came up with it, haha. Is that it respects both the physiology and the psychology because when you were trying to do something yourself or get a client to be more compliant, you one, want to have them do things that are actually going to make a physiologic change.

[00:02:34] Nobody wants to be majoring in the minors and putting in all the work and not seeing the change. However, It's easier to rig the system in their favor and get them to do things that are easier for them to do. Again, as long as you are going to have a physiologic response from it.

[00:02:51] So today on this podcast with Dr. Bill Campbell, we apply that idea to the concept of diet breaks. Should you take a period of time and return calories up to maintenance or beyond and then go back on your diet? Or should you just kind of keep plowing ahead?

[00:03:09] The internet is rife with all sorts of things about leptin and metabolism killing effects, and so Dr. Bill Campbell will set us straight on some of the studies that his lab has actually performed on that. We'll also talk about refeeds. Should you kind of zigzag your calories, or should you keep them all about the same? If you do zigzag them, should you be changing protein fats or carbohydrates?

[00:03:36] If you enjoy this podcast make sure to check out Dr. Campbell's work on Instagram and everywhere else. And also go to MikeTNelson.com forward slash podcast. You can see all the podcasts I've been on, the guest appearances. And if you like this information, you can get onto the free daily newsletter, where I have a lot more of this type of information to help you increase muscle, better body composition and performance.

[00:04:02] So go to MikeTNelson.com forward slash podcast, and you'll be able to scroll down, get onto the newsletter absolutely free and see all of the older episodes. We'll put a link to that below here in your favorite podcast player so you can get on it. So here we go. Our discussion with Dr. Bill Campbell.

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[00:04:24] **Dr Mike T Nelson:** WeLcome to the podcast. Dr. Campbell. How are you today? I am

[00:04:29] **Dr Bill Campbell:** great. I'm in sunny Florida, just rubbing it in a little bit. Although actually I'm looking out my window, it's actually not sunny today.

[00:04:38] Every other day this week, it was sunny, hot, all that stuff. So I'm doing great.

[00:04:42] **Dr Mike T Nelson:** Nice. I can't complain either. Cause obviously I live in Minnesota, but I'm down here in sunny South Padre, Texas. So

[00:04:50] **Dr Bill Campbell:** yeah that's probably very similar to here.

[00:04:52] **Dr Mike T Nelson:** Yeah, it is. Yeah, thank you so much for doing this. I appreciate all the research you've done.

[00:04:58] It was awesome to see you again at ISSN and to see you there all the time. It always feels like it's a crazy conference and you just kind of see people in passing sometimes, but that's just the way it works.

[00:05:10] **Dr Bill Campbell:** Yes, yeah, but I'm yeah, luckily, fortunately, we had a little time to catch up. Yeah, we

[00:05:14] **Dr Mike T Nelson:** did. Yeah.

[00:05:16] And so one of the things we want to talk to you about is you've done some research on just macros in general for physique, athletes and body composition, especially some stuff with diet breaks and refeeding. And I think the two things that I hear all the time from the general population is, um, we probably shouldn't go like too Low on our macro nutrients and we should have a diet break for a period of time to increase metabolic rate or whatever benefits are associated with it.

[00:05:48] So I guess I just start off with what are your general thoughts about that? And obviously you've done a lot of research in this area too.

[00:05:55] **Dr Bill Campbell:** Yeah, so I, let me frame my the research that I've done in terms of who it serves. I like bodybuilders, I study bodybuilders, I look at bodybuilders as the experts in fat loss.

[00:06:10] However, while I learned from bodybuilders, my research is not on bodybuilders. My research primarily serves what I like to call people who are trying to optimize their physiques within a maintainable lifestyle. Nice,

[00:06:23] **Dr Mike T Nelson:** I like that. So it's people. Yeah. Perfectly here.

[00:06:26] **Dr Bill Campbell:** Yes. Yeah. So yeah, I just, I look in the mirror, that's me, that's my wife.

[00:06:31] So it's people who kind of live a bodybuilding lifestyle, but really have no intention of stepping on the stage. So that's who I envision. And those are the subjects that are in my studies. So as you're saying, there's a lot of opinions around this. And I'll say when the first.

[00:06:48] Popular study came out. The matador study that was a diet breaks in obese males that. Really turned the world upside down and everybody was rushing to diet breaks because that study reported they lost significantly more body weight, more body fat. They maintain their metabolism more. And since that study has been published, my lab and another lab.

[00:07:13] And I think there's been only been three. We really haven't replicated those findings. Now that doesn't mean that there's not a benefit for diet breaks or diet refeeds, but the excitement has not been what it was in 2018, 2019, when that study was the first to come out. And I'll also say that once I go through my studies, the...

[00:07:39] It doesn't mean that just because we didn't find differences or the other labs doing this don't find differences. It doesn't mean there's not value, particularly for bodybuilders. Would you like me to discuss the diet break or the diet refeed study first? And I'll go ahead and define the terms, but...

[00:07:55] **Dr Mike T Nelson:** Yeah, I think the, kind of the diet break, and if you just want to give a short recap of the Matador study, because... It was a super interesting study, and it's one that I still see quoted, but then they don't talk about any of the research that's happened since then. It was this is the be all end all, and then stuck in, 2019.

[00:08:14] **Dr Bill Campbell:** Yes. Yeah, so the Matador study was conducted in obese males, and they had two groups. They had a group that dieted for 16 weeks straight with never taking a break from their diet. And then the other group, we'll call it the diet break group, they also dieted for 16 weeks, but they took a diet break every two weeks.

[00:08:38] So they dieted for two weeks, then they took a break for two weeks. And when I say took a break, they increased their calories back to their maintenance. or pre diet calories. So they weren't eating as much or ad libitum and what we would call like a cheat day, but they were able to go back to weight maintenance calories for two weeks at a time.

[00:09:01] So essentially one group was in the intervention for 16 weeks. The other group was in it for about double that because they kept interrupting it with diet breaks. And what they found at the end of the intervention was that the group taking the diet breaks lost a significantly greater amount of body weight and a significantly greater amount of body fat.

[00:09:24] Lean body mass wasn't different, but we wouldn't expect it to be because it was not a resistance training study. And the other thing that they... Recognized was that when they controlled for lean mass and body fat, resting metabolic rate was also significantly different between the two groups, such that the group that dieted for 16 weeks straight.

[00:09:47] They had a significant reduction in resting metabolic rate and the diet break group did not. And the authors attributed this to, or the rationale for their study was to prevent metabolic adaptation or to prevent the slowing of one's metabolism as we lose weight. So that was the theory and the hypothesis for why they not only designed the study, but for why they ex, why they How they interpreted the results of their study.

[00:10:16] So now since that

[00:10:17] **Dr Mike T Nelson:** study and I think you said that there was no Change in lean body mass between the groups. Oh, correct. Is that

[00:10:23] **Dr Bill Campbell:** correct? I that is my recollection That was

[00:10:26] **Dr Mike T Nelson:** my recollection, too Yeah, and so what was there and do you remember like how much of a difference it was in RMR? And what would they attribute it to then if lean body mass wasn't?

[00:10:37] Yeah, different. I don't know. That's what always bugged me about this.

[00:10:41] **Dr Bill Campbell:** Yeah, it doesn't. Now, again, there might have been small differences in fat free mass, it just didn't reach the level of statistical significance. And I will say this, that does go against my observations from my own data. When there's a difference in metabolic rate, You could almost always attach that to lean tissue.

[00:11:00] Changes. E especially in dieting studies. The one thing that they did do, which my lab doesn't do, we, we just report our resting energy expenditure values as absolute values. We don't con, we don't make them relative to fat free mass. Ah, okay. And body now that's what they did. They made their direct to fat-free mass and body fat percentage.

[00:11:20] So that's one different. That was one different way of how they're reporting their value. So I'm going to suggest that had something to do with it. So since that study, a few other labs have conducted their research on the same

topic with a little bit different methodology. And the two studies I'm going to talk about one was from Australia.

[00:11:44] And the other one was in my lab and both of these more recent studies. Mine was just published this year. The Australian study was published last year. We both look, we took this and were the first labs to do this in resistance trained individuals. So the Australian study had a very good design. I think they had 12 weeks of dieting on a three one.

[00:12:07] So three weeks of dieting, either 12 weeks of straight dieting for the one group or three weeks of dieting, then a one week diet break, three weeks of dieting. And they kept doing that until both groups had 12 total weeks of dieting. And what they reported was at the end of the study, no differences in fat loss.

[00:12:27] No differences in lean body mass differences, no differences in resting metabolic rate at the end of the study. The one thing that they did find was in their psychological hunger parameters. So I'm pretty sure the two values that they reported was hunger and drive to eat. And in both of those subjective psychological perceptions of hunger, the diet break group had significant improvements at the, by the end of the study.

[00:13:00] And the reason I highlight that is when I start talking about my lab study, we're going to see some similarities between the two.

[00:13:08] **Dr Mike T Nelson:** Yeah, so I think Jackson Pesos was one of the authors on that if I remember correctly, right? Yes.

[00:13:12] **Dr Bill Campbell:** Yeah, he was first off and I think that was his dissertation.

[00:13:15] Yeah. Yeah. Yeah and it was a really very well designed study.

[00:13:20] **Dr Mike T Nelson:** What's that? That was a great

[00:13:21] **Dr Bill Campbell:** study. Yeah. Yes Yeah, they did a lot of other things that I'm not even mentioning they they took a lot. They looked at blood work, which my study didn't do. The only major limitation I would say with theirs is they didn't supervise the workouts.

[00:13:35] And I'm a big proponent of if you're going to do resistance training studies. If you can, you want to supervise the workouts. So my lab as a follow

up to the matador study, essentially, we took resistance train females. So this was the first study in, in, in females. And they happened to be resistance trained.

[00:13:57] And we had one group on a. Six week diet, a 25 percent caloric reduction with no breaks. So just six straight weeks of dieting. The other group, the diet break group, also did six weeks of dieting, but we did two weeks of diets with a one week of diet break. Two weeks of diet, one week diet break. And then we did that a third time.

[00:14:20] So both groups dieted for six weeks. It's just that the intervention was nine weeks with the breaks in the, actually it was eight weeks in the in the diet break group. And as I said, You're trying

[00:14:32] **Dr Mike T Nelson:** to get the same amount of low calorie equivalents then, is that correct? Is that the reason for the difference in time between

[00:14:38] **Dr Bill Campbell:** the two?

[00:14:39] Yeah, so think of the one group, six straight weeks of diets of dieting. And then at the end of that sixth week, they went in for all of their assessments. The other group did two, two weeks of dieting, one diet break, two weeks of dieting, one diet break, and then two final weeks of dieting. And we didn't do another diet break because we didn't wanna do the post assessments right after a diet break, when the comparison was after dieting.

[00:15:05] And as I said, they were resistance trained and again, that was in my lab. So we also required that they consume at least 1.8 grams of protein per kilogram of body weight. And let me also say if anybody's interested in the study, it's open access. It was published in the Journal of Human Kinetics.

[00:15:22] If somebody reaches out, I can point them there, but we'll put a

[00:15:25] **Dr Mike T Nelson:** link to it below for sure. Okay. Yeah. Yeah.

[00:15:28] **Dr Bill Campbell:** Campbell diet break also gets you there.

[00:15:32] **Dr Mike T Nelson:** Pretty easy. I know my brain is tuned to Google searches now, which is kind of scary.

[00:15:36] **Dr Bill Campbell:** Mine too, for a lot, at least when I communicate to the general population, it's okay.

[00:15:43] Search this. Yeah. So we, what we found was very similar to the Australian study. We found no differences in body fat loss and everybody lost body fat. No, actually, nobody lost any lean mass in our studies to the both groups retain lean mass and no differences in meth resting metabolic rate that actually didn't change at all, which again, as you can appreciate, if you don't lose lean mass, you typically aren't going to have a suppression and resting.

[00:16:17] Metabolic rate. And it's funny that I can tell this it's almost like a it's I would say almost like a hacker. If you just look, if I look at a weight loss study, and if the only thing I look at is the resting metabolic rate, I can tell you with almost near certainty, what happened to lean mass.

[00:16:35] If it didn't go down, they didn't lose it. If it went down, they lost it. And rarely do people gain weight, gain lean mass, but it's, it can actually be used as a proxy, either one. Again, especially in my lab's data, but almost every study. Where was where were we different or similar from the Australian study?

[00:16:55] Our body composition changes were similar. They actually lost more lean mass in their study, but they dieted their subjects a little bit more. We did an assessment a psychological nutritional profile called the eating inventory. Some people refer to that as the three factor. Three factor eating inventory, or eating questionnaire, and that looks at three parameters.

[00:17:19] Hunger, disinhibition, and restraint. We found a significant difference in a category called disinhibition. So what is that? First of all, I hate the term because it's a double negative. You inhibit, and you disinhibit. Disinhibit, yeah. Yeah, it's I always have to stop and think what is it. So essentially, this inhibition is a measure of how likely you are to overeat or binge eat, particularly in a stressful situation or when around a highly appetizing food or food that's just looks good.

[00:17:56] So that's the best definition of disinhibition. So you want disinhibition to be low, not high, because if it's high, you're more likely to binge eat or overeat. And what we found was the subjects that did not take any diet breaks, their disinhibition scores increased over the six weeks of dieting.

[00:18:17] And the subjects in the diet break group, their disinhibition scores lowered during the six weeks, during the eight weeks of the intervention. And that very much mimicked what we saw in the Australian study with their measures of hunger and drive to eat. So it would seem as though. In, at least in fit people, that diet breaks aren't going to give you an advantage in terms of fat loss or muscle retention.

[00:18:45] They're also not going to cause any harm. But there does appear to be a significant improvement in your psychological or your perceptions of hunger. To which, to that, I would say, if these studies were extended for 4, 5, 8 months, We're probably going to see a much better adherence with using diet breaks than that.

[00:19:11] And I want to make two more comments. One, why did we find what we find? And then also, a lot of people, since the Matador study came out, and since a lot of these other studies haven't replicated that, They have essentially said, yeah the diet break group, the reason they lost more body fat was because they just adhere to the diet and that was

[00:19:33] **Dr Mike T Nelson:** one of my questions.

[00:19:33] Yeah. Yeah.

[00:19:37] **Dr Bill Campbell:** So diet breaks. And again, that study was longer. And if you're able to eat foods that are typically off limits, now you're not craving them so that when you go back on your diet, it's much easier for you. So this is where I think a lot of people will just, they'll look at my study or they'll look at the Australian study.

[00:19:58] or Even some of the other ones in overweight people that didn't report differences and they're like, yep, garbage, no good. And I think that's. I think that's short sighted. One, no difference doesn't mean not valuable. If you're going on vacation, I, let me just say, I'll stay from, if I'm traveling, not like you, because you travel all the time.

[00:20:20] I don't travel that much. But when I'm traveling, I don't diet. I almost refute, I, it's, I, it would be miserable for me to diet. It's so hard. Yes. So if I'm traveling, if there's vacations, I, my interpretation of this from a practical standpoint is take a diet break, but again, that doesn't mean just cheat.

[00:20:44] That means, taking your calories up to maintenance level and know that you're doing no harm. And in all of these studies. It, again there's never harm. It's, there's no advantage, but there's no harm. And there is the advantage from probably, likely being able to adhere to the diet when you go back on it, which initially people thought it was the opposite.

[00:21:04] You go on a diet break, you're just, you're not going to be able to flip that switch. And then, but the research does not support that, that, that interpretation or that hypothesis at all. In fact, it's the, I would say it's the

opposite. You're more likely to adhere to your diet. The other thing is for bodybuilders, because we didn't study bodybuilders the PAO study did not study bodybuilders.

[00:21:28] What we've, what I think is in order for a diet break to have utility, in order for it to be helpful, it almost has to be for lack of a better word, fixing something. So in their study and in our study, Six weeks or eight weeks of dieting wasn't long enough to cause any real harm. There was no metabolic adaptation.

[00:21:49] So what's a diet break supposed to do? I would say not much. So if, like a bodybuilder who's dieting very aggressively for long periods of time, Now a diet break, because obviously they likely are losing lean mass, at least in males, females tend to not lose lean tissue when, even during contest prep.

[00:22:09] But when you're gonna have more loss of lean mass or more negative consequences to a diet, I think the utility for a diet break becomes much more likely. And that's on

[00:22:22] **Dr Mike T Nelson:** the physiologic side, correct?

[00:22:24] **Dr Bill Campbell:** Yes, exactly.

[00:22:27] **Dr Mike T Nelson:** Yeah. My little catchphrase is that you can only white knuckle it so long on like dry chicken breast and broccoli.

[00:22:36] It's cause it, I get so annoyed by all these like calories in, calories out and yes, of course, thermodynamics still works. Like you're not breaking the laws of physics. The hardcore people would say just make sure your protein is significant. Go lift weights, cut your carbs to 50 grams.

[00:22:52] Yeah, that will work. But like you said, also, I agree for the average person to expect them to adhere to that for week after week ad nauseum in a real world is, in my opinion, just kind of setting them up for failure. And then the classic thing is, Oh you're just, you didn't try hard enough.

[00:23:13] You just have to adhere better. And does that works? Yes. But it's also, I think, an unrealistic expectation for most people to do in a real world also. Yeah.

[00:23:25] **Dr Bill Campbell:** And it's, it is fascinating because obviously I'm a evidence based person, but I see a lot of people in our space. iT's all adherence,

like if you're not losing weight, you're not adhering to the diet is a common phrase with, I mean, I would say no, not that there's room for empathy in science there, there's, but from a coaching perspective, right?

[00:23:50] There is empathy. And here's what I here's what I my impression of what's going on. When you look to the scientific literature, the what kind of screams is lack of adherence. The reason people aren't losing weight is because they aren't adhering to the diet. But In these, in this world of, and again, I live in this bodybuilding world, so to speak, where I communicate with a lot of coaches and communicate with a lot of competitors, there's no research on those individuals.

[00:24:20] And those are the people that I trust the most with their adherence and some of them they hit a wall and it's not big. And in my opinion, it's not because of a lack of adherence it's. Something else. Now, I don't know what that something else is, but I'm not just going to say try harder or it's lack of adherence.

[00:24:41] Is it hormones? I mean, potentially, is it severe metabolic adaptation? Potentially, but I'm not one to just say, Just paint with a broad brush. You're not following this because I, I don't, and again, for most people, that is the case, not for everyone. I don't know what your thoughts are

[00:25:02] **Dr Mike T Nelson:** on. Yeah, no I agree a hundred percent because the thing that gets lost all the time is the context.

[00:25:08] And I've worked with some busy competitors and pretty much without fail at some point, and I'm sure you've seen this too. Everything just gets really weird, like towards the end and it seems to be tied to a certain level of leanness, which is not the same for everyone. Again, anecdotally that at some point I literally think their body is you are trying to kill me.

[00:25:32] Like our buddy Eric Helms has said, he's Oh, competitive bodybuilding, like you mean competitive starvation, because that's a great way to phrase it. That's what you're doing. And I've seen, blood work from all natural competitors. I've seen it from those using drugs and I don't know, man.

[00:25:49] There's just something as you get towards the end, everything just gets really weird. And like you said, we have so little data on that population, and I would agree that population tends to be adhering almost to the extreme, where my conversations with them are normally like arguing about having 50 grams of white rice more for dinner, where general population, it's okay, if I put

them on an extremely low caloric diet and expect the same level of compliance, the wheels are probably going to fall off at some point.

[00:26:24] And it's, they're almost like they're bipolar populations. Like the one I'm trying to get them to eat more white rice. And the other one I'm trying to get them not to go through the drive through a Taco Bell,

[00:26:32] **Dr Bill Campbell:** all context. Yeah. Context. Yeah. And it's funny for the bodybuilder who's. Let's just say you're a male bodybuilder who's 8 percent body fat and they start complaining, I'm not, I'm just, my body's not responding.

[00:26:47] What's it supposed to respond to? You have virtually no fat. Like it's going to be hard to get off that. You're going to have to put in 20 units to get half of a unit of outcome at that point. So it's just from a logic standpoint, there's not much to lose at these elite competitive levels. Yeah, and

[00:27:10] **Dr Mike T Nelson:** then you just start getting into, how much essential fat do you have, and there's a reason it's called essential fat, because if you start losing that you literally are losing functions I don't know if this story is true or not, but one of my old anatomy and physiology professors told me the story of a guy who went into His doctor, he was a highly competitive ultra marathon runner back before ultra marathons were a big deal.

[00:27:33] Just ridiculously super lean. His calories were super low all the time because he's afraid about carrying around too much body weight and goes into the dock and he's complaining that his, he started having weird back pain. Long story short, nobody could figure it out. Supposedly, the story goes that they did ultrasound or something of his back, and he, the theory is that he burned a part of his perirenal fat around his kidneys and started having weird structural abnormalities in his back.

[00:28:02] I don't know if that's true or not, but you hear like just more anecdotally weird stories. Another good buddy of mine, a natural competitor. I was having him three times before he gets on stage. Like his liver enzymes and his blood work will normally be pretty good. And two to three weeks out, like liver enzymes are literally like off the chart, like scary, sent him back to his doc, multiple times, just like you said, weird stuff starts happening when you're really trying to push physiology into that last extreme single digit percentages.

[00:28:38] Yes.

[00:28:39] **Dr Bill Campbell:** Yeah. Let me just say I'm in no danger of having these issues right now. Me neither. Hey, after I'm done with our diet refeed study, if you want, I can talk I've, I did a case study on myself that I think you'd be. Oh yeah. So let me go back to the refeed study. And I love this study because It's kind of like diet break.

[00:29:01] So diet breaks are typically, you take at least seven days, but typically two weeks off of the diet. So it's measured in weeks. When you hear the concept refeeds, that typically means days. So one day out of the week or two days out of the week, you're, you're off from the diet. You're taking a break from the diet.

[00:29:21] So we had, we did a study on diet refeeds where we had one group diet for seven weeks straight. And then we had another group also diet for seven weeks straight. But every single week, they had two days, mostly the weekends where they didn't die. They took their calories all the way back to their maintenance or pre diet levels.

[00:29:42] In that study, the linear group, the group who didn't take any diet refeeds, they reduced their calories by 25%. So again, they did 25% lower than maintenance for 49 straight days. The other group, we dieted harder Monday through Friday, a 35% caloric deficit because on Saturday and Sunday, they increase their calories all in the form of carbs back to a hundred percent.

[00:30:09] So that on average. It was a 25 percent caloric deficit, just like the other group. At the end of our 7 week study, the group taking these 2 day carbohydrate refeeds, they actually did lose the body fat losses were similar between the two groups, but they maintained their lean mass significantly better.

[00:30:34] And guess what else they... It maintains significantly better their resting metabolic rate, as I said, it's a proxy for everything. And we also accounted for body water. So we took We took a, what I call and what other labs have called the dry, a dry, fat free mass measure, because when you're tinkering with carbs and you're measuring body composition, that can get, yeah, it can get a little noisy with carbs and glycogen, the water that it attracts.

[00:31:02] When you when we looked at dry fat free mass a significant difference between the groups and again that was kind of validated by the RMR measures as well. RMR went down on average 80 calories per day in the diet in the group that didn't have any refeeds and it went down about 40 calories per day.

[00:31:24] So it was, twice as much of a decrease in metabolic rate when you didn't take any breaks. And the way that we interpreted this was globally, we suggested that dieting is catabolic to your body as you want it to be but in a catabolic environment for 49 days, your body's losing fat and likely as in this case, you're losing some lean tissue, but The other group was not catabolic for 49 days.

[00:31:52] There were two days where they were not catabolic. One could even say that they may have been anabolic if during the end of the study. So not being in a catabolic state for 49 days, but only middle. 70 percent of the time, maybe that was what caused them to maintain their lean mass. The other thing was, and we didn't measure this, so we're hypothesizing, we know that insulin is anti catabolic and the fact that two days out of the week they're spiking.

[00:32:23] Calories from carbs likely we didn't measure it, but presumably insulin is being elevated and that's causing an anti catabolic effect or suppressing muscle protein breakdown that at least theoretically explains why they were able to maintain lean mass better. We did look at training volume. This was a supervised study.

[00:32:44] We've supervised every workout. There were no differences in training volume so it wasn't like they were doing an extra five reps on every set so but the that was our X our you know our discussion of why did this

[00:33:00] **Dr Mike T Nelson:** happen? Yeah, that'd be my first thought too because what i've noticed and i've used this template I mean you can go all the way back to the zigzag method in the 80s and like these different high low templates have been around for, I mean, you can go back into the, I think the fifties even before drugs were even invented that, some people would use high caloric weekend days.

[00:33:21] Some people would have high lows like these methods have been around for a while. And I've used like 1 or 2 higher days and then I'll bracket their training because, in the real world, I have the luxury of. Changing their training volume, changing their calories. I did multiple different variables because it's obviously not a controlled study.

[00:33:39] There's only so many things you can change and study. And so I will load their heavier, high volume, more intense sessions on the days that they have higher calories, being that maybe they can get a higher quality training stimulus, burn a few more calories, maybe stimulate a little bit more muscle, not have them be as quote unquote catabolic.

[00:34:00] Again, and one, and of a few, it seems to help. And I also find compliance tends to be a little bit better too, because I think having those one or two days in the gym that everything just feels better is from a compliance standpoint. Easier than just kind of feeling like you're always just barely hanging on to performance like every week, weekend and week out.

[00:34:25] Yes.

[00:34:26] **Dr Bill Campbell:** Yeah. And we naturally eat more calories on the weekend. So to me, it makes sense. Let's design a diet that matches what you would naturally do. Yeah I just like that study from a practical aspect. All right, let me tell you about my case study. Yeah, totally yeah. I got, this was last year Mar actually no, this year.

[00:34:48] I started my diet, I think it was March 1st, and I ended towards the end of September. But I got tired of hearing, you can't, you have to eliminate carbs if you're gonna lose fat. I get asked that a lot. And let me just say, I actually, I like the ketogenic diet. I'm not anti, I'm not pro, but I like it for some people.

[00:35:11] I just think there's not many people that are actually able to adhere to it and live it as a lifestyle. So I'm not anti ketogenic diet at all. So what I did, I said, all right, I'm going to go on a diet. And I was clinically obese, the heaviest I've ever been in my life. And I had actually maintained that state for six months before I even started this.

[00:35:31] So back to 2022, gained a lot of weight, maintained it, changed my diet to where it was very high carb, very low protein, lowest protein I've eaten in my life. Because I knew I was going to do this case study. And the case study was. I'm going to eat very high carbohydrate, high insulinogenic, high glycemic load carbs, just to essentially provide and under case study or research conditions with the intention that we would publish this so that people in the fitness profession can at least point to this and say, you don't have to eliminate carbs.

[00:36:08] Here's an example of somebody that lost 10% of their body weight, which is what the, which is what, how we set this up. I was gonna keep diving until I. I lost 10%. And I use diet breaks and diet refeeds throughout this whole thing as well. So traveling, when I was, saw you at ISSN, I was on a diet break.

[00:36:27] But I wasn't, I was on the diet then when I saw you. So what we did my maintenance calories were around 3,000. I dieted every day that I dieted

was like 2100 calories about a 25 percent 20 whatever 25 to 30 percent caloric deficit, but really high carbohydrate 6065 percent and highly processed, high glycemic load.

[00:36:55] throughout the entire duration of this. So even when I took breaks, I still kept my protein very low. So I've, I got blood work pre post. We do, you, we used a four compartment model for body composition. So DEXA, BOD, POD, water and nest analysis. We did a nine site, a mode B mode ultrasound to look at, did I lose muscle mass?

[00:37:19] Oh, and I'm going to burst my, I don't have the data yet. I'm done with the diet. I have not analyzed it yet. Other things that I did was four, I had, I bought four home based scales based on Grant Tinsley's lab. One of my former students, Madeline Seidler, they looked at the reliability of four.

[00:37:41] Scale. So I took the four best scales so that I could compare that to the four compartment model to see, Hey, can I recommend one of these scales? Probably not, but that's something else I'm excited to, to analyze. Now we're working on it right now. On analyzing all them. I can talk about what I think happened.

[00:37:59] I just, I lost 10 percent of my body weight. From two 31 to two Oh seven is what my body weight was. My resistance training was the same again. Everything was put in place for six months before I started. So resistance training was typically three times per week, nine sets per body part going to near failure.

[00:38:24] And then on non lifting days, I either ran a mile, walked 30 minutes. Or ran 30 ran for 30 minutes. So very consistent on the cardio, typically one day per week off from all exercise. Strength was pretty stable throughout the whole thing. I didn't really lose performance. I didn't, I I remember this.

[00:38:48] Which I'll never forget this. I never had, when I was at 231, my heaviest I've ever been in my life. I would lay down at night and I'd feel this burning in my my chest. I'm like, what is, I don't know what it is. I'd go get water and that didn't help. I remember talking to my parents my, And I was like, yeah, it burns oh yeah, that's that's in that, what do they call it?

[00:39:08] GERD acid reflux. That's it. I'm like, oh! So that was one of the, I had never had acid reflux. So being that big gave me that and something else that I do know the results of because I looked at my blood work. My

testosterone right before I started this was low. Like very close to being clinically low and typically it's average like usually it's six seven

[00:39:33] **Dr Mike T Nelson:** hundred Yeah, was it like 250 200?

[00:39:36] It

[00:39:36] **Dr Bill Campbell:** was I think it was 267 and the threshold for being like clinically low was 264. I mean, it was low. And then at the end of the study, I got my blood work again and I wanted, I was very curious and it went back up. It went to, 680

[00:39:52] **Dr Mike T Nelson:** and

[00:39:53] **Dr Bill Campbell:** something. Yeah. So they're just losing all this body fat that alone, cause nothing else was different.

[00:40:00] So essentially I set out to demonstrate, you don't have to. You don't have to eliminate carbs. In fact, you can increase them. Now I will say I would never advise somebody to diet like this. It's the worst way to diet because it's the foods that, I mean, I had so much cinnamon toast crunch during this cinnamon toast crunch, no protein bars, no chicken, I mean,

[00:40:22] **Dr Mike T Nelson:** when you say low protein, like how low were you going?

[00:40:25] **Dr Bill Campbell:** It was on average, probably 90 grams per day.

[00:40:28] **Dr Mike T Nelson:** Oh, okay. So that's low. Yeah. Yeah. I mean by fitness standards. Yeah. Yeah. And what we see in the research

[00:40:35] **Dr Bill Campbell:** Yeah, it was probably close to average. I mean it was yeah American yeah, it was like around a gram per kg. I think even americans get like what 1. 2.

[00:40:45] Yeah, just a hair over yeah but for me it was like I had to go out of my way to not get to get protein. Because again, I, we wanted, I wanted it to be around 60%, 60, 65 percent of my calories coming from carbs and we tried to make them, um, again, high glycemic load. Yeah.

[00:41:07] So we're analyzing all of my diet records. Now we're calculating an average daily glycemic load. I'm what I'm doing. I'm going through all of my I use, I tracked every gram. So I'm just seeing how that changed over time. So we're doing that. I, we have the ultrasound data. But I said, I don't want to, I don't my team probably knows.

[00:41:27] I said, let's get everything done. And that'll make, that'll give me more motivation to get some of the more monotonous parts of this done. But hopefully we'll publish it as a case study. Hopefully some journal will find it valuable, even though it's a little quirk, it's like what these other people have done that have used that get the media, um, to report on it.

[00:41:44] So I don't have any media, but I'm doing it from a scientific realm scientific value.

[00:41:51] **Dr Mike T Nelson:** Yeah, because we had, the Morgan Spurlock with the super sized me and then you had the Kansas City guy, I think, who did the Twinkie diet. Yes, Mark Hobb,

[00:41:59] **Dr Bill Campbell:** I think was his name. Yeah. Exactly. Very similar to what they did, just not just from a boring academic journal perspective.

[00:42:08] **Dr Mike T Nelson:** And do you know about how many grams of carbohydrates you were averaging per day, for reference?

[00:42:14] **Dr Bill Campbell:** Give me about 20 seconds and I'll just pick out a day here. Pick out a day this summer and I'll see what it was.

[00:42:24] **Dr Mike T Nelson:** Pick a Wednesday a couple weeks ago.

[00:42:26] **Dr Bill Campbell:** Alright, let's go Wednesday, May 24th. There you go. Let's see what we got that day.

[00:42:32] Yeah, so 2100 calories, so that was a very typical day. 300 grams of carbs, 67 grams of protein, 70 grams of fat. Oh, okay. Yeah. That was probably a fairly typical day. Let's just see the next day. What was it? 284 carbs, 89 protein, 65 fat. And I think those are very typical.

[00:42:58] **Dr Mike T Nelson:** Yeah. That's not, I mean, for people I have who exercise a lot, that's not really that far off for, in general, what I would have them do.

[00:43:06] If someone came to me and said, I'll do whatever, preferences aside. I'd be like, yeah, 80 grams of, fat per day. I'd go a little bit higher on protein 0.7 to one gram per pound of body weight. All the research I know is in metric and then just titrate carbs to see where you're at 200, 250.

[00:43:25] I've had some people dieting on 300. Because I find that their performance in the gym, especially doing anaerobic type exercise, shocker. Goes better when you have carbohydrates.

[00:43:38] **Dr Bill Campbell:** Oh yeah, I remember when I was younger, I was on a ketogenic diet and I was playing flag football. I never forget this.

[00:43:47] And I caught a ball and I ran, actually intercepted it and ran. And I remember being so gassed. I'm like, where did this come from? I, I was, I mean, I was young. I was in my early twenties. But I realized, okay, so that's ketogenic. And I know people would say you're not adapted.

[00:44:04] That's a different conversation. But I remember thinking, Ooh, this does not feel good.

[00:44:10] **Dr Mike T Nelson:** Yeah. Yeah. And again, we, like people like Dom D'Agostino do well on a. Ketogenic diet and it's pretty easy for him like I've gone out to dinner with him several times and people like will literally because it's the internet people email you and be like, Oh, does he really do a ketogenic diet?

[00:44:26] I'm like, yeah, that's just what he does. And I eat all of his bread and it's great. Like we don't get mad at each other. We don't even have, there's no heated discussions at dinner or anything. It's just, I just find it so odd. How everyone wants to demonize one thing or the other. And it all just depends on what are you doing.

[00:44:43] If someone came to me who is a speed and power athlete and said, I want to do a ketogenic diet. I'm like, you're a highly competitive speed and power athlete. I think that's kind of a dumb idea, but if you're, taking longer rest periods in the gym, you're not a highly competitive speed and power athlete, and you love putting butter in your coffee and bacon and rib eyes are your favorite food.

[00:45:04] Ketogenic diet might work great for you. Yep.

[00:45:08] **Dr Bill Campbell:** Agreed. And I don't know if you've noticed this, I've found that females struggle more than males. Have you? Is that an observation you've

[00:45:15] **Dr Mike T Nelson:** ever... Like ketogenic diet? Yeah. Yeah, I would say the people I've had who were successful with it... 70 percent of them are males and I don't know why that is.

[00:45:27] I don't know if it's a food IQ thing or lifestyle or I don't know, but I, yeah, I've also found that. And I've also found in general, like looking at heart rate variability that on average, I find that females tend to be way more stressed than males overall. So I don't know if that plays into it or not. I don't know.

[00:45:48] I don't know what you've seen.

[00:45:50] **Dr Bill Campbell:** I just, again, I haven't worked with nearly as many people as you and I just get information and it's, I just feel like that when females tell me, Hey, I'm going to try this. Versus the number of males. It, they just struggle more. They don't stick with it as much.

[00:46:06] And again, that could have just been the self selection of people that came to me. I just, I was just curious if that was like a known, if that was a known or not. But it is, it's been my observation.

[00:46:19] **Dr Mike T Nelson:** Yeah, I would agree with that observation. I don't know any... Research that would say otherwise. I mean, there's some older studies, as that, females on average may use more fat than males, although I have some doubts about some of that research, but yeah I don't know, but I would agree that's in general what I see too.

[00:46:36] Yes. Yep. What are your thoughts about, and from a theoretical standpoint that we know that if you, from acute feeding studies, if you overfeed someone fat, like they don't burn more fat, it tends to kind of get diverted towards storage. And if you overfeed people with carbohydrates, like some of the Atkinson studies that have been done in the past, they do tend to ramp up oxidation of carbohydrates, right?

[00:47:02] Their metabolism does tend to switch to burn more carbohydrates. Do you think there would actually be more of an advantage if you are going to be in a caloric surplus to air more on the carbohydrate versus the fat side?

[00:47:17] **Dr Bill Campbell:** One, you would be the person that I would always ask these questions to. So just me, just brains, just spitballing brainstorming.

[00:47:26] Yeah I, especially if you're active, if

[00:47:28] **Dr Mike T Nelson:** you're an active, like healthy athletic population.

[00:47:32] **Dr Bill Campbell:** Yes. Yeah. I think so. Yeah. I think there's a greater utility for overfeeding on carbs, but yeah, like I'm, my mind always goes to protein with these questions. Oh, definitely.

[00:47:42] **Dr Mike T Nelson:** Yeah. Yeah.

[00:47:44] **Dr Bill Campbell:** What do you, what, what are your thoughts on the question you asked me?

[00:47:48] Because that's what I'll say in the future, whatever you Yeah. .

[00:47:52] **Dr Mike T Nelson:** From a theoretical and a practical standpoint, it just seems to make more sense to me, right? Because you may have a theoretical advantage of burning off some more of those carbohydrates if it is in excess. Because, people still want some body composition even if they're in a caloric surplus.

[00:48:10] Compliance wise, we live in a world that's generally higher carbohydrates. Performance wise, these are healthy people who are exercising a lot. So performance is going to be important to them, whether it's pure performance or just body composition, adding muscle, that type of thing. The thing I think is ironic though, I would, I wonder about that for people who are not metabolically healthy.

[00:48:30] It just seems like they can't be as metabolically flexible, and I've noticed that approach tends to kind of backfire. Because again, we go back to context, they generally are eating more carbohydrates than what they're probably actively using. They generally don't have as much muscle mass, they're not as metabolically healthy, they can't really oscillate between fat and carbohydrate use.

[00:48:54] And then you get into some of the questions about, satiety and appetite regulation. It seems to be the opposite for, I'd say, general population

who are not as metabolically healthy. I tend to go lower carbohydrates and those people may even increase fat.

[00:49:10] **Dr Bill Campbell:** Another question for you you're like the mad scientist.

[00:49:13] Like your garage is like a university lab. It was probably, I don't know, five years ago, maybe you bought. One of those what I'll call a desktop Metabolic cards. Yeah, did you like did you I haven't talked to you about that. I meant to ask you this. Yeah Was that a pretty good quality valid device?

[00:49:35] **Dr Mike T Nelson:** It's pretty good, right? So I have a Pinoy device I think at some point of people buy a Pinoy device through me. I get some money or something like affiliate thing I got it because It does do breath by breath analysis. You can actually gas cal it. So you can cal it against known quantities. Yep. I have noticed that the ambient calibration, there was a new study that somebody just sent me, that was published on this too.

[00:49:58] If you calibrate it to ambient air and you're looking at RER, right? So you're trying to be very specific of what fuels they're using. I don't know how far I trust that portion of it, but when I have gas calved it, it does appear to be relatively accurate. But as it's always so hard to tell because I mean, when I was at the University of Minnesota, we had, the high end graphics, 50, 000 metabolic hearts, and they rolled out their new version of it.

[00:50:25] And I didn't trust those things farther than I could toss them across the lab. They'd They, the results were just all over the board and I don't know if it was a Cal issue. I don't know what was going on. So when I did my research, I wanted to make sure I was using the older ones because they seemed more trustworthy.

[00:50:40] I don't know if it was just the ones we had, or if it was a cork or what, when you're looking at them, there's no real gold standard. You can compare it to, right? So you look in the research, you can compare like seven different metabolic hearts, but you're. You're not really comparing them to an exact known value.

[00:50:57] You're all just kind of all comparing them to each other. So on some hand I still feel like it's. A little bit like tossing darts and it's hard to say if it is accurate or not overall. I've been pretty happy with it. It does give you some weird stuff once in a while, which I have noticed appears to be the breath rate.

[00:51:17] So if you get a really high breath rate, I think it taps out like 60 breaths per minute. But if you've got some really crazy athletes, there might be a cap on that part. And then the times I have noticed errors on it, I'll look at the respiratory rate and it just looks goofy at times. But I mean, even the old ones I used before every once in a while, you'd watch the RER and you'd see it do weird stuff and you look at the respiratory rate and that wasn't it.

[00:51:42] So I think all of them are from the outside looking in, everyone's Oh, they used a metabolic cart. It's got to be a hundred percent perfect all the time. And anyone who's ever used them always laughs at that because they always just do quirky stuff once in a while. I think that's just the nature of the technology, which again, doesn't mean it's bad.

[00:51:58] One thing that did surprise me the most though, was. And I don't know what your thoughts are on this. If someone is a healthy athlete and they're in a caloric surplus, even if we do an overnight RMR test on them, I don't necessarily trust the RER I get from that anymore. So my thought in the past was if you're doing resting metabolic rate, it's breath by breath, you've gas calved it, it should show what their RER is.

[00:52:24] So for the listeners. Are they using mostly carbohydrates, or are they using, mostly fat? And what I've noticed is, in a handful of people now, again, very small number, we've done this repeatedly, that if they're in a caloric surplus, even if we fast them for 12 hours overnight, their RER tends to be quite high.

[00:52:44] Because we had one guy, he was like, 0.95. And I'm like, at first I thought, ah, the machine's, messed up, it broke. Had him do it again. Same thing. So he bought the same unit, send him home four weeks later, had him do it at home on his device. Again, same unit, same thing again. I'm like, what the hell?

[00:53:05] So I said, okay, let's just, let's have you do a max VO two test. We'll watch your RER the whole time. So when he gets on there, RER is super high and then it drops down to 0.7 and then everything was fine. So I'm like, what the, and so I said, okay, take your device and just get on a bike and just do 50 Watts fasted.

[00:53:25] The second you would do that is RER would drop to 0.73. So I wonder if there's something interesting where when they're healthy but they're in a caloric surplus, just measuring it only at rest, that RER is kind of an artificially

high number. But if you put just a low load of exercise on them, it seems to normalize to where it should be.

[00:53:51] **Dr Bill Campbell:** I can speak to, and I think you'll laugh at this, but I put somebody on a Parvos, what I've used for probably 10 years, and I love that. Yeah,

[00:54:01] **Dr Mike T Nelson:** they're great. I used one at St. Thomas.

[00:54:03] **Dr Bill Campbell:** I, I look at people who are fit. I've tested obese people. I basically I don't make the only thing I can predict RER.

[00:54:12] The only thing is in my dieting studies from the, when you lose weight, your RER goes down. That's anything other than that. I'm like, I don't, cause my students are always into this. Oh, look at the fat. I'm like, Hey, I have no clue. Dr. Nelson can answer any of that. But that's again, and my part of it, like you're making some good points.

[00:54:35] I think you have to know your machine to know 100 percent wonky or a hundred percent, but yeah, I mean, I look at these lean females and the RAR of 0.95. And I have, this large. Person with obesity and RER 7, 8, and I'm like, what? But anyway, again, the only thing I feel like I could accurately predict is it will go down after eight weeks of dieting at rest.

[00:55:03] That's the one thing I feel comfortable

[00:55:04] **Dr Mike T Nelson:** with. Yeah, and so I'd be curious in the follow up studies if you took those people and put them on just like 50 watts on a bike, would that be enough under just a low level of exercise stimulus? To see how the system responds, right? So you're just kind of lightly poking the system to see if you get a different response.

[00:55:23] Cause I mean, when I was at U of M, I don't know, I probably did hundreds of, metabolic heart studies and you get bored in the lab, right? So you're like, you're in your head, you're trying to, okay, where is this person like for body comp day? Like you do hundreds of body comp over a week. You try to guess where they're going to be.

[00:55:40] Cause you're bored. You have nothing else to do. And sometimes you're not close at all. And RER was always like that. You're like, Oh man, look at this lean fit athlete. Their history it's like your RER is trash. And then you have someone come in who's kind of a metabolic train wreck.

[00:55:55] You don't know how long they've been in that state. They're like, Oh, this one's going to be bad. It was like 0.7 points. Everything was like perfect on it.

[00:56:03] **Dr Bill Campbell:** Yeah, so you saw the same thing. It's you can't predict anything now

[00:56:07] **Dr Mike T Nelson:** and the literature does support that, right? So there's a study from good decade 2015 where they took just recreationally people off the street, quote healthy, but they didn't, didn't ask him anything else.

[00:56:18] They didn't do any other assessments held just the same study. 1999. I replicated part of that study from just university students. And what you find is if you baseline them to, so you haven't come in, you do a VO two max, and then you baseline them to a very low percentage of exercise intensity, like 30 to 50%.

[00:56:37] And you look at their RER, right? So for listeners, low percentage of VO two max, you in theory should be using mostly fat. And what they found was the RER under the same level of exercise intensity, baseline to per individual, right? Because they're gonna have different fitness levels. So even when you do that per individual per max, RER varies from like 33 to 93 percent.

[00:57:01] And these are in healthy, recreationally active people, not even obese individuals. So there's a, just a massive range of it. And my thought is that if those numbers are accurate, what we might be seeing is maybe a prediction of, who's on track to be more metabolically unhealthy. So I'd argue if your crossover period is going away you get on the treadmill and like your lowest RER is 0.87, which I've seen you, you probably have some metabolic issues you need to work on. Now, again, it's, it gets confounded because some of those people may be good body comp, some may not.

[00:57:38] So I think it's just one of those things. And that's what we were trying to do with metabolic flexibility was we just said, okay, if we baseline everyone to the same percentage of intensity and we just leave them in steady state, the RER that moves around a little bit more, cause you'll see it kind of bop around a little bit and other people you'll see it never moved.

[00:57:57] They'll be at 30 percent of their max. And it's 0.77 literally the entire time, like other people will be 0. So our theory was that the people with that little bit of variability, those are your more metabolically flexible people. The

people who've lost that variability, just like heart rate variability, those are the people that may be more on track to lose metabolic flexibility or at higher metabolic risk.

[00:58:26] The unfortunate part is the research works, I can't get anyone to replicate that study to see if it means dog crap. I can show that it's repeatable. I can show the study we did was a gauge R& R. I can show that the procedure is repeatable, but Does it really mean that or not? I still don't know.

[00:58:45] I can't convince anyone to look at it.

[00:58:49] **Dr Bill Campbell:** That's cause nobody will fund it.

[00:58:50] **Dr Mike T Nelson:** thAt was the thing you, one, you mentioned variability on an RER and like people's eyes just, glazed over and they're checked out before you get any further. Yeah, cool. Yeah. So thank you for all that data.

[00:59:04] That's super interesting. So would you agree in. I know it's kind of hard to summarize everything because context matters, but that in general there isn't a huge impact of diet breaks from a physiologic standpoint, but from a psychological standpoint is where they may be more beneficial.

[00:59:24] **Dr Bill Campbell:** Yes, I would say that, exactly that.

[00:59:28] So agree. And then I would say just from a lifestyle adherence perspective. They make a lot of sense. So no, no physiological benefit doesn't mean no lifestyle or no practical benefit for most people.

[00:59:45] **Dr Mike T Nelson:** Yeah. And last part too, you said that RMR changed, which I do agree with. I think you mentioned it was like.

[00:59:52] 80 cal per day versus 40 in the other group. Correct? It was, that

[00:59:55] **Dr Bill Campbell:** is, that was in our refeed study. Yeah. In your refeed study. Yeah. I think they, but that lost, they lost that amount.

[01:00:01] **Dr Mike T Nelson:** Yeah. And I think that's another thing that kind of annoys me is that yes, there's plenty of research showing that statistically speaking, RMR will change, but it's such a minor component that my argument is that, yeah, it does change, but it's a very small component.

[01:00:15] Again, in some populations it may be very significant. But when I ask people, Hey, how much do you think your resting metabolic will, will change with aggressive dieting? The numbers that people give back to me or students are like, Oh man, it's gotta be like 500 to 800 calories a day. Like they give you these astronomical numbers and the reality is it's does change, but it's very small.

[01:00:38] **Dr Bill Campbell:** Yeah. I've done many weight loss studies. I've never seen a 500 calorie drop.

[01:00:44] **Dr Mike T Nelson:** Yeah, cool. So where can people find more about all the stuff you have going on? I don't know if you're even accepting grad students for people that are interested in that path And I know you've got stuff for other consumers and different programs

[01:00:56] **Dr Bill Campbell:** out there so yeah, if anybody wants to follow my work Instagram is the one and only place.

[01:01:02] Yeah PhD and I do a lot of education on there mainly around fat loss Dieting, things like that. I offer one product actually two products. I have a research review. It's called Body by Science. Where I just summarize research solely focusing on fat loss or building muscle. That's at my website.

[01:01:26] That's BillCampbellPhD.com And I have a course called Physique Coaching. So if anybody wants to look into that is physiquecoachingacademy.com. And thank you for letting me promote these

[01:01:39] **Dr Mike T Nelson:** things. Yeah. Yeah. And are you looking for any graduate students or any students in your program? Or are you pretty much full right now?

[01:01:47] **Dr Bill Campbell:** My, yeah, my research team is full for now for this year, but as of next fall looking forward to next August, September, if anybody's interested in getting a master's degree, and if you are into fat loss. Physique enhancement research, please get in touch with me. I will actively recruit you to study with me and my team.

[01:02:10] I've got the talent that I have around me here is insane. I think you were here probably four or five years ago. Yeah. Even spoke to my team. Yeah. That was a great team. But every year it's it's incredible. Like I would not want to compete against these people coming out of our programs today.

[01:02:29] **Dr Mike T Nelson:** Yeah, and it's, I mean, a testament to all the programs and stuff you got going on there, and all the people I've ever met through your programs are also very intelligent, but also very self motivated. They, it's something they definitely want to do and want to learn more about, and I can't always say that about some graduate programs.

[01:02:49] **Dr Bill Campbell:** aNd I'll say something else. They're not I just don't like arrogance. No,

[01:02:54] **Dr Mike T Nelson:** they're not arrogant at all, at least that I've ever

[01:02:56] **Dr Bill Campbell:** noticed. No, that's what I'm saying I, I love who I, who comes here. Like it's, we're just looking to learn. We're not better than anybody else. We're so that's, I should have said that.

[01:03:07] If you're wanting to study this stuff and you're not an arrogant, you're generally a humble person who can, who can work well. With others that's the main thing because then it's actually fun when you're not worrying about somebody stabbing you in the back Which I think we all know from

[01:03:26] **Dr Mike T Nelson:** Not all programs are that way.

[01:03:28] I'll leave it at that Yeah Cool. Awesome I'd highly recommend people check out all your stuff and Thank you so much for being on the program and sharing all your knowledge and especially for Doing all those studies that I think it's one thing to do academic research and then it's another thing to have it be impactful to the real world also and your stuff is Passes obviously the academic mustard but is also very practical to people reading studies too Which is something I think we need more of it's mechanistic and all that stuff has its place But I think it's there's so many I don't want to say simple questions that are Unanswered that we just need better data for so thank you for doing all that stuff

[01:04:08] **Dr Bill Campbell:** Yeah.

[01:04:08] I could not, I couldn't do the, it has to be fun. Research is not fun. So at least we're going to answer the fun questions.

[01:04:17] **Dr Mike T Nelson:** Cool. Awesome. Thank you so much. Yeah. Thank you.

[01:04:23]

[01:04:23] **Dr Mike T Nelson:** Thank you very much for listening to the podcast today. Huge thanks to my buddy, Dr. Bill Campbell, again, for coming on the podcast and discussing these great concepts. Hopefully you enjoyed this podcast and found it to be both accurate and useful. If you can do us a favor and pass it on to someone else you think may benefit from it, hit the little subscribe button on whatever player you're using.

[01:04:48] It helps us out with the distribution of the podcast. And as always, we would love any comments that you can place, even if it's a couple sentences. That does a world of good to help us out with the old algorithms there. Thank you so much for listening. If you enjoy this content and you want more of it, go to MikeTNelson.

[01:05:07] com forward slash podcast. You'll be able to see all of the older episodes below, some guest podcasts I've done, and be able to get on to the daily free newsletter for much more content. Very similar to this delivered right to your inbill, in mail. Even makes sense right into your email inbox. I guess I just made up a new word.

[01:05:30] So go to MikeTNelson. com forward slash podcast. Thank you so much as always for listening. Really appreciate it. We'll talk to all of you very soon.

[01:05:41] Personally, I don't care for puppets much. I don't find them believable. I don't believe you!

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