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SPEAKERS

Michael Nelson

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-  **Michael Nelson** 00:00
I'm doing good. Let me turn on my video there. Yeah, my headphones I think too. Okay, sounds good. All righty there. Yeah. Can you hear me all right? Yeah, can I can are you doing perfect? Yeah, we'll just we'll do the video as long as it still seems to be pretty good. looks to be pretty good on this. Then I'm gonna close one other window just to make sure Skype doesn't yell at me part of the way through because it hates me sometimes. And I'm gonna close that one too, just in case. I'm doing good yourself.
-  00:51
Doing well doing well. I should just finish that teaching my summer course. So I got got a couple of weeks of a breather, so that'll be nice.
-  00:58
Oh, nice. What were you teaching the summer?
-  01:01
Oh, I was just an intro like an intro to fitness and health and wellness class. So nothing, nothing too exciting. It was mainly freshmen and sophomores. Just trying to get into basic

health and wellness. Just big overview on nutrition and fitness.

M

Michael Nelson 01:15

Okay, cool. Yeah. Awesome. Yeah, thank you so much for doing this. And then obviously, we have you on iron radio coming up this Saturday, too. So that's super cool. Unfortunately, Lonny won't be on on Saturday. I think Phil might be he might have something else going on at that time. But my thought was to do them as even though they're on two separate shows. I'm on both of them. Do you have talked to me the whole time. Doom is like a two part thing. The are still standalone episodes. So on iron radio on Saturday, we'll go into a little bit more of your origin story. And then I was thinking of talking more about maybe just like drug use in bodybuilding, primarily, like testosterone. When should you? If you want to go that route, once you decide what does the research say? What are the pros, what are the cons? And then on this show, which will actually come out after that one, I thought it'd be interesting to talk a little bit more about some of the other aspects in the paper for peak week, especially like, like, the biggest questions I'm sure you get all the time, too, is especially around like water retention, like what do I do for sodium loading and maybe some carbohydrate loading something like that. So that if they want to listen to on radio first, and then this one, they'll be kind of a series, but if they listen each one independently, they'll have kind of still a self contained item with it, too.

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02:42

Yeah, no, that that works for me. That's absolutely fine. And I was gonna ask you for Saturday. Will we do the same method here like we're doing today?

M

Michael Nelson 02:49

Yep. Exact same method. Same thing. So yeah. And then Saturday, we probably won't. I don't know if I'll use video or not. But yeah, exact same idea. Same setup, same everything. Okay. So you guys, it'll be through Skype as well. Yep. It'll be through Skype. Yeah. All right. And then you'll reach out to me the same way you did here. Yep. Okay, sounds good. Yeah. Yeah. Sounds good. And then I'll cut an intro to this one a little bit. Beforehand, then too, so people have a little bit more info. So perfect. Yeah. That sounds good. Then we'll just do a short break and we're off and running. All right. Cool. Hey, what's going on? Welcome to the flex diet podcast. I'm here today with Dr. Guillermo Escalante, who is a PhD instructor researcher and also national level pro bodybuilder. So say hi.



03:45

Hello. Hello. I'm Guillermo Escalante. Nice to meet you. Thanks for having me.



03:49

Yeah, thank you so much for being on here.



03:52

Yeah, absolutely. And Mike actually wanted to say Actually, I'm not a pro bodybuilder I'm a national level body national I okay. Yeah. And the NPC and that and my my doctor is actually a doctor science. It's a DSC but I always see a PhD. They're always interchangeable. They're people often kind of throw them both around. But I was like to be clear, just that not not not misrepresent myself.



Michael Nelson 04:13

Oh, no, thank you. I appreciate that. To me, anyone who gets to the national level, I look at some of the physics I I can't tell much of a difference between, you know, like, you look at the elite of the elite. Yeah, you can see a difference. But at some point you're like, to me it just seems like you're seems very nitpicky, but that's me as more of an outsider.



04:33

No, no, you're absolutely right. You know what's funny, my very first bodybuilding show what I when I went to when I got into the sport, I was I went to the to the NPC, California state championships, the friends a big show. Yeah, he was trying to show me kind of get me into the ropes. And when I when I went up there, I said, Man, those pros are incredibly, he said, Guillermo, there's only one pro there and that was Lee priest. That was a guest poser. Oh, yeah. Every single other person there was an amateur. I said, How can you tell the difference? It's Oh, yeah. Yeah. So it's not until, you know, you get into into the circuit a little bit that you can actually really, really appreciate the



Michael Nelson 05:08

differences. Oh, sure. Yeah. And it's like all other athletics once you get to the ultra high end, I mean, you look at the 100 meter run or 200 meter, you're talking about just fine scale, you know, differences between first through even 10th place. So, yeah, that's like

that with all athletics. Yep. Exactly. Exactly. Very cool. So today, I thought it would be cool to talk about some stuff related to, you know, people who are trying to get ready for a show or even people listening who may not be competitive. I think there's a whole bunch of just general myths around especially water fluid, sodium, carbohydrates. Man, you came out with a really cool paper that summarizes a lot of these different techniques. And we'll make sure to have a link to that in the show. But I think the big one that I'll start with is just water manipulation in general, right. And even for competitive people, I've talked to a fair amount of competitive people about this, and we're having a conversation with a guy down in Texas years ago about this. And it, it's probably less now than I think it was maybe 1020 years ago, you can comment on that. But it appears that if you're a judge, it would be easy to say, oh, you're just holding a little bit of water instead of Oh, maybe you weren't quite lean enough. Or maybe you were holding more water. And there's this kind of perpetual notion that if you work with whoever the top Guru is that they have some Uber secret special loading technique that's gonna get you to be on point like for every single show that you ever do. But then you see very, you know, high level people who are professionals, some shows they look good other shows, yeah, maybe not quite, not quite as good, either. So what are your thoughts about even at the high level, and we'll kind of go backwards from their recommendations for let's say, It's the final week before a show, you know, what should you do with water and sodium? And you know, how much do some of these sort of special techniques really buy you? Or she just do kind of, hey,



07:27

you look pretty good. Wednesday, the show Saturday, maybe we don't change a whole lot type of approach, which isn't very sexy.



07:33

Yeah, no, it's very true. I think, I think often what we see in in bodybuilding is we see this kind of myth that that peak week is kind of where, you know, you put you put all your eggs in that basket, but right, I say put put your eggs in the basket of, let's see what we did the prior 16 1820 weeks of prep, and you had something you highlighted something that's very important, which I think sometimes judges provide feedback, and they'll say, Oh, you know, you're holding a little water. But that's really, it's really usually not water, right? You're holding just excess body fat. And you know, and really, if you try to be try to dehydrate that now you just have dehydrated excess body fat. At the end of the day, you still have too much body fat. And I think that's often misconstrued. And I would say that's probably the situation in most competitors, when they're when they they're told they're holding water, they're really just holding, you know, an extra 357 pounds of body fat. Of

course, from the judge perspective, I can kind of understand that, you know, it's kind of can be kind of heartbreaking. And someone you've been busting your butt for, you know, three, four or five months, and you're gonna tell him like, yeah, you're still a little bit fat, right? So it's a little gentler, to say, it's like, Hey, you just have to deplete your water a little bit more, and maybe they make a recommendation to a coach who hopefully knows what they're doing. Right, and they can maybe help prepare them a little bit better. But that being said, I think peak week does offer some potential benefits, particularly for the higher level caliber you mentioned earlier, you know, as you get into higher level competition, say, you know, at the Olympics and the 100 meter dash, you know, a point 01 difference is the difference between first and second or a point, five second difference is between first and fifth sometimes. And in bodybuilding that's very similar as well, where as we go up into like at the Olympia level, you know, the difference between first and 10th is often you know, minor differences which could incorporate this So, these have relevance in the lower level, I would say yes, but probably not as much I think. If you go to a most regional shows, you know, your your, you could probably still benefit from, you know, some of these picric protocols, but they're probably going to be less important just because the level of competition of who's who you're standing next to is a little bit different, compared to say a national level pro qualifier or a pro show where the level of competition is really steep. So, my rule of thumb typically is is, you know, peak week can offer some potential benefits. But it is it is not a miracle as some, you're right, a lot of people say it's like, oh, you have to follow this protocol to hit it right on point, really peak, we should be used to make minor fine tuning adjustments to your physique. And sometimes, if done incorrectly, they may actually backfire. So you have to weigh the pros and the cons of that, because sometimes by trying to manipulate these little variables, particularly water and electrolytes, those are those are typically the ones that can backfire the most, you can actually come come out looking worse than you did say, on Tuesday or Wednesday before the show. That being said, if you actually practice it, and you've done everything else, right, and you fine tune things correctly, you can potentially put yourself in an advantage, assuming that you had all of the all of the markers at the right time and your time things appropriately, you practice things appropriately.

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Michael Nelson 10:59

Do you think it's useful to do let's let's start at the high level, do you think at a high level, it is useful to do some type of, you know, water, addition, depletion, electrolytes, playing around with that kind of stuff? Or because you had mentioned kind of the risk versus reward? Is it better to just kind of go, man, let's just go more middle of the road and try to not make a bunch of changes at the end?



11:28

Yeah, I think there's a lot of inter individual variability with how the bodies are going to respond. So one of the things that we actually highlight in the paper is, sometimes it may be better for an individual to just leave things alone. And, and, you know, it's just as somebody said, before, it's just another day in the office. So whatever you've been doing for the last, you know, three, four months, you know, just show up another day in the office and show up that way. And, and, of course, that's gonna, it's like you said, it's not as sexy. But it can potentially work well, for a lot of individuals, particularly if they've done their homework, and they're very well prepared. Because if you're, if you're lean enough, you know, you're going to have striated, glutes, whether you deplete water or not, you know, and that you're going to, you're going to have those at 6am. And you're going to have those at 8pm. If you're lean enough, if you're not, maybe not. That being said, though, if you have the ability to maybe practice some of those. So one of the recommendations that we make in our paper is, you know, try to be ready about two to four weeks out, so that you could, you're pretty much ready stage ready, just need to do some fine tuning. And then at that point in time, maybe try to do some trial runs before you go in. So you can figure out how your body is going to respond. So ideally, three to four weeks buys you enough time before the show. And you can do a sample peak week protocol, you know, say four weeks out, play a little bit with car bloating, with the with the with the water manipulation, electrolyte manipulation, see how those variables work. And you can you can fine tune that and of course, jot everything down just like it's like your your your own science project at that point in time. You know, pay attention to how you look, get somebody who knows what your physique look like, knows what judging is about to give you some of those tips on to whether you're looking you know, full or dry or or looking flat, whatever the case may be. Also make sure that you you're you're again, just being meticulous into how you're doing all of these things writing down how much water did you take? What are you eating prior? What's your stress level, like because often stress and that can often impact how you respond. So if you're relaxed for weeks out, but you're then you're super stressed that they are the show that may actually impact how you respond. So all of those variables are going to be very important. So of course, the more you can control, and the more you can, you can recreate that same pattern, the more successful you're going to be.

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Michael Nelson 13:57

So do you think that it's possible to sort of, I don't like the word trick, but you're, in essence, you're trying to trick the body a little bit into expelling more fluid than what it normally would. And so I'm assuming you would agree that that is possible. And then any sort of rules of thumb of kind of where people would start with just if we start simply with just in

terms of electrolytes, and let's just water for now.



14:29

Yeah, and, and I will say sometimes, because of the way that the body fluids work, they often kind of go hand in hand with the carbohydrate, right? If we look at if we look at the car bloating, there's a factor in there. And actually, there was a study that we cited in there. It was done in the 1970s, actually, but they actually looked at dehydration in humans, and they actually put these people on is a pretty high intense protocol and they actually dehydrated the snot out of them over five and a half hours. They actually looked at intracellular extracellular water loss, and they looked at glycogen depletion. And what you typically see is, initially, the body's going to try to maintain homeostasis. So we're going to typically make try to maintain that ratio of intracellular to extracellular water ratio. But what happens is, in the initial stages of dehydration, when you actually card the pleat, or when you when you're losing the glycogen, primarily of the muscle, the ratio is actually not very favorable toward the the extracellular water. So in other words, you lose a lot of intracellular water, because it comes with with the glycogen. And then as you get as you get more dehydrated, the ratio becomes closer to one to one. So you can see that as you start the hydrating yourself with the carbs in there, if you if you actually are getting rid of the glycogen at the same time, you're kind of losing a lot of that water that you want in the muscle and and as you get start getting more and more dehydrated, that ratio of extracellular to intracellular water loss becomes closer to one to one, which means as a bodybuilder, of course, we want to maximize extracellular water and we want to minimize I'm sorry, maximize intracellular. Yeah, and and minimize extracellular water, that's kind of the goal to get that that full and dry look that we're that we're after. But looking at physiology, if you start depleting the carbohydrates in there early on, you're going to be losing a lot of that intracellular water very early on. So really, it's important to make sure that you have enough, you keep your glycogen levels full. So that way you can get put yourself in a better position to potentially minimize the loss of intracellular water within the muscle cell itself. But that being said, you mentioned another component there, and that's that that time lag and your body will lose will lose that that body water, again, it trisul it actually loses that preferentially in that one to one ratio unless you have that carbohydrate in there. So to actually say that you can lose more intracellular water or extracellular water than intracellular water, you can do it in a very small time lag. And you have to really kind of time things, right. Because your body is going to always try to kind of create that homeostasis anyway. As you know, with dehydration, that's going to impact your cardiovascular system, blood pressure, etc. So when when your body recognizes as you start getting dehydrated, blood pressure starts to drop, your body's going to try to regulate that blood pressure that plasma has molarity. And it's going to create a mechanism with release of hormones the Ross system, the vasopressin aldosterone

system to try to basically say, Hey, we have to recreate this so that we can actually get our blood pressure back up and get it back up to normal. So but that mechanism is kind of like a like a thermostat in the in the air condition. So if you set your thermostat at 76 degrees, there's going to be periods where it's going to go a little bit over and a little bit under that. And there's a little bit of lag time before it kind of gets to 76. And your body is kind of the same way, there's a little bit of lag period, where your body is the hormones are being released, and your body's trying to kind of create this homeostasis. And it's in that little lag period that you really have to find that window of opportunity to kind of time things correctly. Because if you if you go too long or not long enough, then you miss the window. And then that's when you can potentially backfire on what happens and how you look on stage.

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Michael Nelson 18:44

Yeah, because you're, as you pointed out, you're really trying to create a very, extremely temporary artificial state, right, because it's not like necessarily a powerlifter MMA fighter or something where you You just have to literally make weight. And then we have a period of time to try to get fluid and volume and food and carbohydrates, glycogen everything back. You're literally trying to create as much water inside, but not that much outside. So like you said, You can't just completely dehydrate the piss out of someone and be like, Oh, you're good to go. It's like No, that doesn't look very good. Do you want that internal water but the extra eternal water outside the cell you're actually trying to get low and you're playing this game with like, you said the hormones and I think of like graphs with like a lag period. Right, like you did the stimulus and then you've got Ooh, we got like an hour before this system catches up and kind of overshoots and then everything kind of goes to hell and you kind of look like shit.

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19:46

Yeah, no, absolutely. And that can definitely happen. And even Personally, I mean, I've been competing for over 20 years and and, you know, sometimes I'll, I'll come up with a with a bright idea that seems bright to begin with, and Then, after the fact, I realize I probably wasn't so dried out. And I've always been, I'm not, I don't mind experimenting on myself and try different strategies. But just recently I did the 2020 USA championships and I, I haven't been a lightweight in years and years and probably over 20 years. But I had this idea that if I can be hydrate myself, because I had too much muscle mass to be able to get down to the lightweight class, so the only way I could get there was to severely dehydrate myself, that weight class. And literally, I lost about 14 pounds in the last, I don't know, 24 hours, oh man. And, and I was probably still carrying a little bit of excess body

fat, I needed to kind of be another three to five pounds leaner. So I was still lean, but not lean for my standard for a national level competition at the USS. Anyway, long story short, is it hydrated so much and I pulled so much out of the system, both intracellular and extracellular water, that despite of how much I ate, I mean, and I quantities and quantities of food to really try to fill out and drink fluids. My body just, it couldn't respond in time. And I had I had that 24 hour period. So I waited, and I think on Friday, at about maybe two three in the afternoon, and I had a step on stage on Saturday at about 910 in the morning. And, and I literally ate all the way through and fluids and, and my body, you know, just it was it was flat. And that, you know, I I didn't look my best I play seven. So it wasn't terrible. But I didn't look my best. I've looked a lot better before. So it was one of those where Okay, getting down to that class is is you know, just not feasible to lose that kind of that kind of water weight over time overnight. It was kind of like a boxing strategy that I did where I really, you know, dropped a lot of that weight. And yeah, I made the weight. But the look was like you said, you know, not my not my best look.

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Michael Nelson 22:03

Do you think? How much of that you mentioned stress? And I think that's like a huge thing, right? Because it did potentially explains why, you know, four weeks out, okay, I did the protocol, I got all my nude. So everything is you know, right to the tee and then I go to do the thing before the show when it's a disaster and nothing. Nothing seems to work right. But, you know, a lot of people are very nervous before a show for various different reasons. Like how much do you think stress can kind of change with that whole process too, and especially the stress from dehydration and getting down to such a low weight? that's a that's a massive stressor just in and of itself?

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22:45

Yeah, absolutely. No, I think it plays a huge role in your ability to, to look your best for sure. And actually, we actually reported a couple of instances, in that we have a couple of references where, you know, when you have those high stress hormones in place, you know, you your body can actually, you know, retain significant amounts of body water, you know, in the neighborhood of, you know, two four kilos of extra excess water weight from from just that stressful situation. And of course, you know, we have to consider all the other variables before he even got there. So you know, you've you've been, you've also been dieting for 1620 weeks, you've been training five, six days a week to three hours a day, you know, you're you're stressed about looking good, you're stressed about making weight. So it's more than just one stress variable, like you said, so you have all of this kind of coming together. And yeah, definitely makes an impact into how your body can respond to to any variables that you manipulate. Yeah, I

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Michael Nelson 23:45

think there's one thing people forget about is that stress is very much a cumulative and also acute. Right? So like you said, You've got all this stress, you're in a depleted state, your calories are low, you're trying to keep your training volume up, you know, in your case, you may have to travel somewhere for the show where people may have to get on a plane, and you have all the stress of that and making sure the plane shows up and you get there on time. And where's the frickin hotel? And where's my food? And, you know, like, all those things added on top where your stress is probably ridiculously high to begin with. And now you have to deal with all those other things.



24:20

Yeah, absolutely. So that's why I think, you know, and again, I'm one of those people where I have a lot of protocols that have worked well. But I'm one of those people where I don't mind sometimes I'm a gambler, and I say, Hey, you know what, let's let's just let's just do something completely outside the box. And let's see, let's see what happens and you know, and you win some and you lose some because I've, I've I have I have a protocol that we actually wrote is actually very much what I think is a safer road to get there more consistent. It's a little more predictable, and it still leaves some room for me, you know, it's not a cookie cutter by any means. There's still a lot of Have inter individual variability there. But it kind of gives you some very general guidelines to kind of give you a fairly broad lane to kind of stand in. And sometimes I've gone too far out of this lane and too proud of that lane. And sometimes it's been a disaster. And sometimes it's actually been like, wow, like, I really hit that market. I think probably the two times that I've looked my best on stage. When I was when I when I hit my mark. Right. I would say one of those times was probably one of those a crapshoot where I just kind of tried random things. And then it actually happened to work. But I've had more disasters than success. It's kind of like when you go to Vegas, right? Yeah. And, and, and then I've had more consistent results by doing kind of this. And I've actually shown up very good to that point, I would say arguably, in similar condition to that one in a much more predictable way. It's just sometimes we try it, we want to try to overcompensate and, and beat that. But I now and all my years competing and working with clients as well, you know that that more consistent protocol is definitely much more repeatable. And and I think that's kind of what we're what we're after. With that, as a competitor.

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Michael Nelson 26:15

How much of that do you think comes down to just client personality? Because one thing I do, and I don't, I only worked with a couple higher level competitors, most of them, it's their first show, or they haven't done a show for a while or they're not at the national level. I always asked him like, Hey, you know, we could be risk reward, right? We could try these things, you may look a little bit better. But the downside is, if we kind of miss, you may look quite a bit worse, or do you like this to kind of slow and steady, and we're just not going to make a lot of changes and just kind of go into it. So I kind of, I guess more recently, in last few years have been asking more competitors kind of what they prefer. And some of this is maybe out of my own ego self preservation where I don't want to feel like I'm rolling the dice with all the work that they've put in when their personality is very much kind of No, I just wanted something that's, you know, more slow and steady. They're not as they're more risk averse, versus someone else who's like, I know, I'm okay going for it. And then you explain what here's what may happen, if you don't? How much of that do? Do you think it's gonna even based on their personality of what they may even tried to do?



27:26

No, I think that's actually a really good point. And actually, I appreciate that that's your approach, because you're right, it's ultimately it should be their decision. Right? And, and you know, your coaches to kind of, you know, help them help guide them into what, what they want. And you think of a recommendation, of course, but your recommendation is very true. It's like, hey, look, at the end of the day, I mean, as any scientist will tell you, and, you know, you and I are them, it's like, the more variables you throw up in the air, the more chances you're gonna have not at work. Yeah, cuz you can't control those many things. So you know, so you throw up the card, the pleading carb loading variable, you throw up the the water depleting water loading variable, you throw up the sodium depleting sodium loading variable, you know, now you have three variables already, and then what other variables can you potentially manipulate, you know, some coaches may add a diuretic on top of that, then add another supplement on top of that, they may add another drug on top of that, you know, so before you know it, you've had you have like six or seven balls up in the air, and man, to make sure that you don't drop one of them or that or that they all kind of stay where they should be, is very, very difficult. So yeah, I think your approach is really good, you know, asking them and give give recommendations, give experiences, and, and, you know, help them make an educated approach. And, yeah, I think that there are some people that maybe want to try some of these, you know, crazy variables. And then again, the other thing we have to think about is safety. What's another big definitely we want to consider is, you know, what's going to be safer for you? And don't forget, you know, and I think we, if we explain that proponent to them, that could be another very important variable to consider.



Michael Nelson 29:07

Yeah. You mentioned some of the guidelines in the paper. So it will obviously link to the paper, but what would some of the big sort of guidelines for people who may not pull the paper and read which if I remember, right, it was available open access to so anyone can get access to it, but what would be some of the kind of overall guidelines?



29:26

Yeah, so yeah, so we have the first what we looked at first in the paper was, you know, what do bodybuilders do with any of this? There's no evidence really in bodybuilding, because, yeah, there are not many bodybuilders, and most of what we have is observational studies. Because one thing that I say with with our tribe of bodybuilders is, you know, how many competitors do you know that are going to be 12 weeks, 16 weeks, 16 weeks out from a show and they're going to raise their hand and volunteer to be part of a randomized control trial study where you're doing well One, one intervention with this group and another intervention with another group, at which point you have to let go of all the control. And let the scientists dictate that to that scenario, I think is really a fallacy where you're going to actually have high level bodybuilders that are actually going to go through that protocol. Because by nature, we're going to want to full control and full rein of our training, our sleeping, our eating our drugs, if that's something that you're that you're into. So there's a lot of variables that you're going to want to take hold of, and you're not going to let somebody else drive that car, you might let your coach but you, you're going to trust that coach, and that coach is not going to necessarily be in line with what that scientist is particularly study, right? The other thing I think of is when we're doing as a scientist, we're looking at very specific variables, which means that when we're doing an intervention, we're only going to manipulate one variable at a time because we have to, if we're actually asked, trying to answer a question, we can't possibly study all the variables and see what works best, because then you don't know what work you have to kind of take one at a time to do it. So that makes sense. Another very difficult situation to study bodybuilders. So what we're left with is observational studies on the field, asking what you're doing, how they're doing it, why they're doing it and trying to figure that component out. And then maybe from from those observations on the field, it's like, look at look at what the maybe some of the top tier competitors are doing, you know, what are the winners doing? And what what do they have in common and see if we can kind of put some common threads together to be able to study that, outside of that, I think there are other valuable studies we can do. But it's not going to necessarily be with the high level, competitive bodybuilders that that we may be used to looking at. So that being said,

within that construct of our paper, we looked at what studies have been done, what's the literature say? And what's most popular? What, what are? And what's the reason for potentially doing them? And then based on that, what are our recommendations based on what we know based on physiology, based on even some cases, even animal models, because there's just no data to look at.



32:16

So that being said, we start with carbohydrates first, because that is that probably the most prominent there's probably the most research on that as well. And there's been several studies now that actually shows some, some good promise that carb depletion and carb loading do do work. We've actually we had a, we just I published a case study with Brad Schoenfeld and a couple of other good good scientists just that last year, and we actually looked at his part depletion carb loading protocol and, and we actually looked at muscle thickness, and he was actually able to, through the process alone, of carb depletion and carb loading through that super compensation effect, he was actually able to increase the size of his of his arms and his legs a little bit, which was, you know, pretty, pretty telling. No, there was also another study done with that by demo Ries at all this was actually on bodybuilders who actually went through a they were getting ready to compete. So this was actually kind of cool because it was closer to our tribe. And they actually looked at their one group did carb loading, carb depletion carb loading, the other group didn't do anything. And they actually looked at that judges evaluate their their physiques, that they, they were blinded, so they didn't know who did the carb loading and who didn't and, and those that were able to carb load actually ended up looking a little bit better. Of course, some of the complaints that they had was a lot of gi discomfort. So when we see some of that, we see how that can potentially be a factor of consideration, because that may make you feel bloated, you might have gas, maybe uncomfortable. So that's not always a great feeling. But one hypothesis that that we said is one thing that we often see with bodybuilders is they typically deplete sodium at the same time, right that they are carb loading, but we need those sodium dependent glucose tramp transporters to be able to maximize absorption of those carbohydrates. And, again, none of this was reported. But you know, our hypothesis is, if your car bloating and your sodium depleting at the same time, you're probably not doing yourself a favor in that gi discomfort. Another thing you want to consider is how much fiber were they taking in. If you have too much fiber that may actually impact your ability to it might increase your GI discomfort when you're doing some of the carb loading. protein intake is another variable that goes hand in hand with that. So typically, just to get the extra calories, you don't want to necessarily overeat. So in order to kind of keep your calories in check. You probably want to keep the car the protein on the relatively lower side your fats on the road. To the lower side, so that way, you're not necessarily over eating so many calories, but you can still get the carb in

there during the carb loading phase. And then the other consideration is, how do you want to do the carb loading. So you can throw front loaded, you can back load it, or you can kind of in between load it. So front loading would mean lets us carve up early. So the shows on Saturday, let's carve up maybe on Sunday, Monday, Tuesday, and kind of hold through the end of the week. Or you can backloaded where you maybe the pleats on Sunday, Monday, Tuesday, Wednesday, and then you carve up on Thursday, Friday to compete on Saturday. That's the back loading. And then the one that we actually recommended, as is kind of the middle hybrid, where you actually deplete maybe on Sunday, Monday, Tuesday, and then you actually load on Wednesday, Thursday, and then on Friday, you kind of back off the gas a little bit and you you're not loading anymore, hopefully you've had 48 hours to be able to fill those glycogen stores. And of course, that goes hand in hand with the next area, which is the the water manipulation. Oh, and by the way, we do give some recommendations on how much carbs do we take in the carb depletion in the car bloating? Again, there's some individual variability there. But it really ranges, our recommendations are as low as four grams per kilogram of body weight all the way up to 12 grams per kilogram of body weight. So it just depends on how you respond. You know, personally, I need a lot of carbs to fill out, you know, if I, if I'm eating 300 400 grams of carbs, that doesn't touch me, that doesn't fill me up. But you know, by, for me, I need at least 800, maybe 1000 grams for two solid days, before I actually see full benefit of the super compensation effect. So there's going to be some, and I've had some clients that are the other ways like, you know, for grants for kilogram, it's like, that's plenty, and they might not, they might not be able to handle that much for entire two days, they might only need it for a day or you know, maybe a few meals. So it just kind of depends on what what that individual looks like. And some people may need longer, right, they might need a third day of carb loading at really high level so that that's where kind of the, the variables can kind of change. So we give some very broad recommendations into where they are.



37:20

So the next thing is, is the the water and the again, one of the one of the ways we can do with the water is just don't do anything at all right, we can actually say it's like, hey, that might actually be the best thing, it's one less variable you have to manipulate. Just keep your normal water intake, if anything, maybe Okay, so drink your water on Friday night, maybe on Saturday morning, just drink enough to kind of have a meal and but not enough to make you bloated or make you feel and then go up show up on stage, but you're really not depleting your water, or maybe you just cut it off a little you maybe taper your water down a little bit on Friday night, but you're still drinking plenty of fluid throughout the day, maybe the last, you know, at five, six o'clock the night before 24 hours before you step on stage, you go ahead and start kind of tapering the water a little

bit, but you're still getting some some fluid in you. So those are some potential strategies that are again, not sexy. But the it's one less variable that you have to worry about. One strategy that we've used and and that there's actually a little bit of research on in fighters is this concept of water loading, and then water depleting. So this concept would be to the point where you drink, say 100 milligram milliliters per kilogram of body weight for about a three day period. And then you quickly drop the water intake down to 15 milliliters per kilogram of body weight for 24 hour period. And then there's a little bit of research in there where you kind of see that temporal lag in some of the hormones. And in the in the study that they looked at. They actually had the individuals, they had two groups, and these weren't bodybuilders, these were fighters, but they had one group do that water loading strategy at those dosages. The other group just stay consistent at 40 milliliters per kilogram of body weight all the way through, they both did a water depletion at 15 ml per kg for one day. And what happened was the group that did the loading, they actually lost six, I can't remember the exact number but they lost more body weight, more body water over that that course of time. Of course we can't tell if that was intracellular cellular water. So for a bodybuilder that's really important, but the way that we hypothesize in our group is we're if we if we do, I talked earlier about the importance of glycogen, so for water loading, while you are carb loading, and that would be the case in our protocol. So if you're the pleading on Sunday, Monday, Tuesday, and that's Just regular water intake then on a well, Tuesday, you begin the water loading. But then Wednesday, Thursday, you're also water loading. But now you have all these carbs in there. And theoretically, we actually recommend a slight increase in sodium because you have so much water, you're going to need to increase the sodium. So you don't want that sodium diluted in your system. And then with the with the carbohydrate in there, now, we can hopefully maximize that that intracellular water intake, that intracellular water in the cell. So now we kind of have that best case scenario, then on Friday, you now cut the water down, so you don't cut it out, you just cut it down to 15 ml per kg, at which point you can hopefully continue to lose some of that body water and hopefully, because you stopped training at that point in time, so that's another variable that we kind of looked at, don't, don't train too much don't post too much, those glycogen stores are full now, because you've super compensated them for that 24 hour period, or 48 hour period, you've had all that water in there, you've had a little sodium in there to be able to do that. And then at that point in time, you can now just release the water hopefully, because you're not doing any workouts, you're keeping your glycogen, you can hopefully preferentially lose more of that extracellular water rather than the intracellular water. And that would be on the on that Friday on Friday, you go down now to you drop the carbohydrate intake similar to your carb depletion days.



41:31

So that would be what you did, like on Monday, Tuesday, you increase protein intake, to again, potentially promote diabetes. And you can actually do fat loading is the other component that we do so early in the week when your carb the pleading, we actually start fat loading, and then on Friday, because you're also not carb loading anymore, you're also you can potentially do fat loading as well. And the reasoning for the fat loading is the muscle itself has that we have some intramyocellular triglycerides in the muscle itself. And theoretically, and then we actually cite a couple of papers on this, you can actually somewhat increase the super compensation of those intramyocellular triglycerides to the point where you might be able to actually now have a little bit of that, that that that fullness in the muscle, not only from the glycogen, but now also from those imcs I empties rather. And then you have that that basic full muscle. So hopefully using that strategy and now maximize the intracellular water, you've maximized the glycogen you maximize the intramuscular triglycerides to get that full muscle.

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Michael Nelson 42:44

And when you do much with sodium then leading up to the show, then with those approaches, then overdo taper it down, I would assume or do you do more like a hard cut off and still have some water any preference in that area?



42:58

Yeah, the sodium we basically, we basically have whatever your baseline is. So we so we have you have a baseline intake. So during your your water loading and carbohydrate loading phases, you actually going to increase sodium a little bit for those two days. So you're doing somewhat of a sodium loading on say, Wednesday, Thursday. And I wouldn't necessarily call it as a loading, it's just a slight increase in your in your intake. So maybe like a 30% increase in your in your from your normal sodium intake. And again, none of these are hard numbers, because there's been no research on this stuff. So these are, these are numbers that we set, you know, do we really want to double it. So we give a general guideline, but again, it's just based on that was that's really based for an experience because there's no solid data to actually show that. And then at the end, because we actually cut down to sodium a little bit, not necessarily cut it down, we just go back to baseline on on the other on that Friday. Before so you don't really deplete it, you just you just go to baseline. So you go from baseline to say 30 40% above baseline for a couple of days and then back to baseline.

 M

Michael Nelson 44:12

Got it for the carbohydrate depletion and then reloading How important do you think the depletion part of it is? Right? I mean, this goes all the way back to some of the earliest Swedish studies looking at not bodybuilders, but performance athletes and the classic thing I don't know it's never really made a lot of sense to me because you are literally brutalizing someone like if for people who are listening right to do a real actual carbohydrate depletion a little bit different in bodybuilders because they're pretty much friggin depleted already. But if we take an athlete who has normal glycogen stores, and we tried to deplete them, that's a lot of friggin muscular work to on a biopsy actually. To get them to show up with low levels, and then you then replete them, and then you have your event. I think that to me doesn't make a whole lot of sense, because performance is the outcome, and you've got this super high period of stress beforehand. But do you think the depletion part is needed? And then how would that necessarily apply to physique athletes who are probably walking into it pretty friggin depleted by that point already?



45:27

Yeah, I think a lot of that it does really depend on what that athlete looks like, what, what, what, what their diet looks like, because some, some athletes may be coming into that peak week. And, you know, they're, they're only consuming, you know, 75 grams of carbs, right? 100 grams of carbs a day. So, you know, at that point, it's like, they're probably already kind of depleted, right? So right, we have to kind of go down. So we'd really just say, you know, you kind of minimize it, you don't necessarily need to go to zero grams of carbs. And we kind of start a general guideline of about half a gram, per per per kilogram of body weight for kind of as a general starting point. But obviously, if you are normally taking, say 75 grams a day, you might need to drop that a little bit. So you might need to just cut that in half for for a few days. And again, because performance is not really the issue, we just had to kind of create hope your body's probably adapted to, to to that state. So we want to just kind of try to accentuate the effect of the carbohydrate loading. So that's what we're trying to do in the super compensation component afterwards. So I don't think we necessarily need to drop it to zero, but I think you have a little bit more and because what you said performance is not really the issue with physique athletes, you know, we just we just care about looking good, right? So it doesn't matter, you know, how much we you know, how fast you run, or, or, or how long it takes us to do any event, we just want to look better. So in that respect, I think we have a little bit more, more wiggle room. Oh, and one thing I did forget to mention in the carb loading phase, what are the other important components is your potassium intake, you want to make sure you're also consuming enough potassium at that point in time. So you don't necessarily need to supplement with potassium, but just make sure you're having some foods, potassium rich

foods within your diet, so that you can help because it's, it's that's the intracellular cat ion. So we want to make sure that we we didn't take that we don't we don't want to take that out of the equation to the carb loading phase.

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Michael Nelson 47:31

And I think the the high end amount of carbohydrates is probably shocking to people. Right? Because I remember the first time and I don't remember who the competitor was, I was talking to this coach probably eight years ago. And he was telling me that he was, uh, was he competing around 210 pounds, I think. And he was at 1000 grams of carbohydrates for two days before the show. And I was like, what, what are you talking about? That seems crazy, you know, and then you realize that that was kind of relatively common. And then I've also wondered how many people are scared of carbohydrates and may have not looked as good because maybe they never tested going higher than 400 grams. You know, and again, I think there's a very wide variability there. But I think it's, it's kind of shocking, probably for people listening to go 1000 grams of carbohydrates. Like, if you look at how much that is in actual food, right, you're looking at that's grams of carbohydrates. This is not calories, right? Yes. That's 1000 grams of carbohydrates. Yes, 4000 calories. Exactly.

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48:40

Yeah. And it's very challenging. And actually, I was one of those people. As you stated, when I first started bodybuilding, my first I want to say, three, four years, I coached myself and, you know, even though I had a background in strength, conditioning and nutrition, but I had never really coached bodybuilding, you know, I had been doing it myself. But I remember my first coach, actually, in when he during peak week, he actually carb loaded me and the amount of carbs he gave me, I was so scared that much carbs, I said, you're gonna give me like, how many I mean, it was gigantic quantities. I mean, all day, and unbelievably, like, I looked so much better. I mean, I could not believe, you know, the look that I got, you know, because my before a high carb day might be 250 grams. And then, you know, his high carb day was, you know, three times that Yeah, and it was unbelievable. That being said, to be able to consume that much carbohydrate is extremely challenging. So, you know, I mean, you know, you can only eat so much rice and you can only jams and potato. So I think sometimes, some of these supplements for example, like carboline can be something that's that's potentially effective that you can actually utilize or any any one of those carbs. hydrate powder.



50:01

I've used a targo fair amount.



50:03

Yeah, yep, exactly. So I I, and that that can be an easy way to kind of, they're easily digestible. And you can actually get, you know, an easy 100 grams of carbs in a sitting and it doesn't fill you up, like, let's say having, you know, two and a half cups of white rice.



50:19

Yeah. Yeah. No, that's, that's fascinating. And how do you think that?



Michael Nelson 50:28

I guess you say, drugs sort of enter the picture? Because the reason I hesitate is, some people use them, some people won't sometimes it's tested for sometimes it's not. And we're all probably familiar with. I mean, the first time I ever realized that this was an issue was God, how many years ago was it the day they carried like Paul the lead off the stage, just like, twitching, and I thought he was dead? In and how many times you see professionals just get it really wrong. And there's, you know, really high side effects like death, like associated with that, like, how do you kind of approach that assuming? We're not talking about legal or ethical issues, per se, just based on physiology and what we know of research?



51:13

Yeah, unfortunate. We actually report several case studies that are in the medical literature of bodybuilders where they were, you know, they had to report to the emergency room and, you know, they were they these these particular individuals, you know, didn't have the, the worst side effects or just death because that's what can happen. And, you know, we've seen that happen, I'm sure you've seen it happen. I certainly have. It's, it's so unnecessary. But it's, it is prevalent, I think, you know, it's very common in in high level bodybuilding circles. And sometimes even in the regional show, sometimes. I think in female competitors, it's extremely prevalent, like the bikini competitors, and we're not in for this type of drug. Usually these drugs that are killing the individuals, it's not the the anabolic androgenic steroids. It's not it's not it's not any of those things, that the two main killers are typically going to be a diuretic, a prescription grade diuretic, and maybe

insulin. Those are the two words that are going to be in there. And it's because they're, they're misused, that they're often misunderstood. Often, they don't understand, you know, how they work or you sometimes get an individual who's unfamiliar so I just, I just posted something on this on my on my Instagram the guys on on, on aldactone. Yeah, and there was an individual that actually posted he said, that I actually had a friend of mine almost died because they actually prescribe the the aldactone, which is a potassium sparing diuretic, and they had them they had them in addition to so it depletes sodium, but it actually spares potassium, they had to take more potassium on top of that, creating this hyperkalemia Oh, no. And and of course, they ended up in the hospital. Yeah, and and with with some severe conditions. So this is where they don't understand some of these. And of course, there's a ton of different diuretics that are out there, but I'll doctor was very commonly prescribed lasix is an older one, which is a much stronger loop diuretics, teacher sodium and your potassium. And they have, and sometimes you even hear people using the injectable lasix, which is you know,



53:28

I heard that. I heard that. I was like, why?



53:34

Yeah, IV lasix. Yeah. It's like, it's like, what what are you doing? Yeah. And why? Because it's, it's totally unnecessary. Yeah, but they are practices. You know, for for many years, for about seven years, I actually did athletic training services for, for a lot of the local bodybuilding community. And those were the biggest things that I saw was, you know, all big signs of dehydration. And, and actually, the reason that they hired me initially was because there was an event, sometime in 2011 2012, I think 2011. But there was a master's level competitor who had abused a lot of these drugs, he actually died, physically died beforehand. And then they had no emergency medical responder there. So by the time the ambulance arrived, it was already too late. So that that was actually my like, you need to have somebody there. And then and typically what I treated was, luckily, I had no deaths, but I did hear of a competitor that was getting ready for a show. This happened in the hotel room before they even came to check in. So this case came out in the paper, so not even the promoters knew about it, but there was a female competitor who was going to compete at this event, a big national event. And before she was even able to show up to register, she was having complications in the hotel room and sure enough Within 24 hours, she had actually died. 30 some years old. I mean, it's tragedy, tragedy. So you hear these things. And I have taken competitors off stage, from from pros to amateurs to a ton of bikini girls ton of bikini girls, that

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Michael Nelson 55:19

seems really crazy to me for bikini and I'm not putting them down or the work they do or anything like that. But it just, to me, it seems like such an unneeded risk at that level, even for what you're trying to look like as what is even held up as the thing you're trying to get to. That seems very odd to me, I guess.

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55:39

Yeah. And that's what's frustrating. And, you know, I kind of blame that is, you know, they, a lot of times they have the bodybuilder boyfriend who's 20 pounds, and, you know, I take that tone. So you're gonna take aldactone and oops, I gave you the same

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dose. Oops, at

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55:54

the same though. Yeah. So all of those same things where they, you know, it's like, so you're it's like the blind leading the blind sometimes, or just irresponsible coaches that do that as well in extremely high dosages that are, you know, unnecessary for most for most situations.

M

Michael Nelson 56:11

Yeah. And you'd mentioned insulin to which I think also has, you can argue about the effectiveness of it. I've heard pros and cons from people that have used it, but I think I remember the story of it was that my loss was it's our QA. Is that how you say his name? Milo star said, Yeah, yeah, maybe you were telling me this for someone where he was a costing the stewardess on the plane, because he took the wrong dose of insulin. And so he was like, trying to get all the orange juice he could find so that he wouldn't go into a coma?

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56:45

Yeah, I don't know if that was I don't think that was me. But I've heard that story before. Yeah, I think everyone's heard the story. Yeah. And and no, he, yeah, and, and that, that, that is a real risk with, with the insulin, where people just, again, don't take it don't take the

right dose, you know, instead of taking 10 international units, they take 100 international units. And that and, you know, that's the difference between, you know, potentially absorbing more carbohydrate, and a diabetic coma, and death. And that, so those, you see a lot of these things. And again, insulin is one of those where, you know, in the offseason, you know, there's, I think there's still a debate whether it's right, and those, whether excess excess insulin may actually potentially help or not. But pre contest it peak week, you know, when we often when competitors use it is typically, as a result of, let's try to maybe increase the amount of carbohydrates we can absorb. And again, especially if you're in a rush, so maybe you had to make weight, and then you only have 24 hours to to carb load that the, the hypothesis is by taking this insulin, you can actually super compensate faster. But again, I think it's often negligible, the amount of difference that I may make.

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Michael Nelson 58:08

Yeah, I always think of people who, maybe using drugs, for whatever reason, and I've talked to Rick Collins, a fair amount about this, too, like, most of the drug use in this area is, as numbers is not necessarily for people that are even competing, you know, and so if you look at like the risk versus reward profile, we're not talking about, you know, ethics, or legality or any of that kind of stuff. And insulin, and, you know, some of the diuretics for the average person, I would put, like, near the bottom in terms of even almost pure effectiveness on a day by day thing for what they're trying to achieve for a look, but I think they hear Oh, so and so pro did this, or someone else did this. And that was the magical thing. And they don't know what the risk profile associated with that especially acutely, that to me is just scary that there's not more education around, you know, here's some of the potential things that may help with Oh, and these things also carry this kind of exponential risk associated with them acutely to

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59:17

Yeah, absolutely. And you're right I think sometimes people just are misinformed and you know, and they hear somebody did that but but yeah, that especially if you know even if you use you know androgenic anabolic steroids as your performance enhancement drug you know for if you're the average Joe you're no you're not competing You know, there is zero need for you to ever do a tie Radek ever and and I would even argue, you know, even if you are going to step on stage, I think there's there's really no need to have to use a diuretic. If you're if you're in shape. If you're if you're really if you're really in condition. The need of the diuretic is completely unnecessary.

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Michael Nelson 1:00:00

Do you think this is speculation again, but the stories I've heard which again, who knows how true they are, but it just seemed like most of the stories that I heard that it went really sideways was the will not sure what they're doing. And someone trying to maybe get a bigger effect because something else went wrong during the week, right? So kind of like the use of insulin, or Oh, you don't like lean enough? Let's give you a diuretic. You know, just seems like it's a, I don't wanna say a knee jerk response. But it seems like they're trying to fix something else that didn't come in the way that it should. And a lot of times that can even be more disastrous.

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1:00:42

Yeah, no, you're I think you're, I think it needs your responses, right? That's kind of like the, the automatic go to for a lot of coaches is, if you're, if you're, if you're almost in shape, you're like four weeks out really, right. So instead of telling the person, you really just need four more weeks to diet, then they might say, Okay, well, you know, let's just take some aldactone, let's just take some biocide instead, which, again, usually the result is still going to be, that's when that person is going to show you, then we're gonna go full circle, that that individual is going to go back to the judge after feedback, and the judge is going to tell him, you're you're holding too much water. Which then like tell him things like, well, if coach gave me that aldactone, maybe next time, if I was holding too much water, I need to take double or triple the amendment creates a bigger problem. And it wasn't, it wasn't water to begin with. The problem was they were you know, five to 10 pounds to fat for a bodybuilder competitor. And that's really what they needed. They needed four or five more weeks of dieting, not to drop more water.

M

Michael Nelson 1:01:48

Yeah. Cool. Well, thank you so much for this discussion. I really appreciate it. When people are listening to this, we'll have one on iron radio, also that they'll be able to go back and listen to. So yeah, I really appreciate all your research and just sharing all your personal experience over the years all the things you've tried. And it's also super cool to talk to you that you're all, you know, updated on the research from, you know, the physiology mechanisms, what's been done and what's been tried, because I think there's sometimes it's getting a lot better, I think than it used to be 10 plus years ago, I think there's less of a gap now between, you know, what is kind of going on with physiology versus what are the experience. So it's nice to see that that gap is kind of hopefully closing a little bit more than what it used to be.



1:02:34

Now, thank you so much. I appreciate you having me. It's been a blast. And I look forward to another podcast in the future.



Michael Nelson 1:02:40

Yeah. And where can people find more about you? I know you share a bunch of stuff on your Instagram, but tell everyone where they can find out more about you.



1:02:48

Yeah, so my Instagram handle is at Dr. g fit. That's all one word. So at Dr. g fit. And I post a lot of educational stuff, not just related to bodybuilding, I do some general health stuff too, or nutritional supplements or protein, whatever, or any anything that's health and fitness related. And I do post some stuff, of course related to bodybuilding as well. And you can also find me on i'm a i'm at Cal State San Bernardino. I'm an associate professor there. And you can definitely find me on the website there. And you can email me through there and, and I'll be happy to respond. Awesome.



1:03:27

Thank you so much for all your time. I really appreciate it. All right. Thanks for having me. I appreciate it. Thank you. Cool. Thank you. Let's all right, yeah, yeah, I think it sounded good. Okay. Really good.



1:03:40

Anything that you're right with everything we said to leave it in all good with that?



1:03:45

Yeah, I think so. If you if you want to redo the intro, I'm okay with that. I didn't want to put you on the spot. If you want to redo that part. I don't know what's better for you. You're fine with



Michael Nelson 1:03:53

it. I don't care. I'll just got another intro beforehand. So I usually try to do it relatively as best live as I can. But yeah, oh, God wanted to say hi. How are you? Nice to meet you. Nice to meet you, too. But yeah, thank you so much for the discussion. I think that's, that's good. Because I think one thing that gets glossed over a lot in Monroe on radio, we'll talk probably more about anabolics. and stuff, too, is just just the risk reward profile, because there's so little correct education on it. That it just it just drives me insane when you see like bikini people doing diuretics. Like what the



1:04:29

fuck are you doing? Oh, yeah. Oh, yeah.



1:04:33

Oh, it's



1:04:34

like high dose. I mean, I don't know how many girls I've had, you know, literally like fainting, you know, from low blood pressure. And I mean, it's like, and that's typically the common thing. It's like, you know, I, I see them, you know, I see their eyes or wheezing, you know, so I sit them down. I checked her blood pressure. Sure enough, it's usually like down in the dumps, no heart rate super high, you know, so it's like 110 beats per minute, super faint. I'm like, Okay, so what diuretics is Do you think that's my next question?



1:05:03

How did you know?



1:05:04

Yeah. And then and then of course, it's just a matter of rehydrating them and getting electrolytes in and then of course, they're freaking out. It's like, it's like, well, you know, but I'm gonna look, I'm gonna look water. I'm like, well, looking water is better than dying. Yeah, take the pizza light and drink it shut up.



1:05:20

Right? Yeah. Can do another show? Like, yeah,



1:05:24

exactly. Yeah. But yeah, you see a lot of this stuff. It's, it's just so crazy. And it's frustrating, frustrating that a lot of these coaches are out there. And you know, and often some of these coaches are the ones that are the busiest coaches. They have the most athletes. And so they're, they're literally influencing the most people.



Michael Nelson 1:05:44

Yeah, good friend of mine. She was sponsored by muscle tech at one point. And so she was a figure competitor. And she had done for quite a while, but she had to show up and do guest posing and that kind of stuff. So she had to kind of stay, you know, in pretty good shape most of the time, had accumulated a bunch of injuries, a bunch of other stuff going on. And I asked her when I was working with said, Well, what was your coach? Like you had a coach this whole time? Like what at the end? Like, what



1:06:09

what did he have you do? He's like, he just told me to take more Annavaram I'm like, what that was his solution to you have like all these muscle skeletal injuries, you're calorically depleted. She's like, yeah, I realized at that point, I needed to get out like, oh my god.



1:06:26

Yeah. Isn't that crazy? Yeah. So unsustainable. And yeah, it's it's sad. Sad. Have you heard about Victor black? Victor black? No, yeah, he's not a Thailand. He might, you can find them on Instagram. So just it's Victor Black Mass. But he's an engineer by trade. But he's a he's a, he's in his 50s. You know, meathead guy, but he's actually very well educated in particularly in performance enhancement drugs, and he posts a lot of really good content. The guy read stuff that's like out under the woods, even articles in German, he'll put some stuff on that. And man, he knows his PDS really well. He goes against the grain with a lot of people. He's one of these guys. He's a fuck you guy. He doesn't care what he says that is, and he'll call people out. And so he's really funny. But he's, he can be a little rough around the edges. But I like them, because he's just very honest. And he's got a good science mind and like, like, Hey, guys, like, let's look at what the real evidence says. And,

you know, he keeps an open mind. He doesn't mind being challenged. But he says, show me the evidence. And then we'll debate the evidence. But you know, I could I could care less what your opinion is, yeah, let's, let's see what the science says. But anyway, he puts a lot of good content with female athletes and male athletes. And his model is basically a much safer, lower dosage base. So more sustainable, looking at health, biomarkers, what health biomarkers Do you want to look at? And that's kind of his his motto, it's slow, consistent, rather than these aggressive, super physiological doses for long periods of time. But anyway, if you check him out, you'll probably enjoy some of his stuff. And he's got a lot of good stuff on pts. Oh, that's



1:08:12

cool. Cuz you just think at some point, like, no matter how much should you have on board, like,

M

Michael Nelson 1:08:19

there's only so far your physiologists can go in a certain period of time? You know what I mean, and at some point, you've gotten to the point where you cross that like tipping point where, like we talked about, you're, you're just getting more side effects. And even if that's your deal, and you're a pro and whatever, you you're not getting better, you're actually getting worse at some point. Right? You know,



1:08:39

right. Yeah. No, and that's one thing that I often say is sometimes your gift, a person's gift, genetic gift is that they have the ability to either do two things they have, they have a tolerance for high drugs, and their body's not not negatively affected, which makes them be able to, to make those gains, or you have the other extreme where they little drug goes a very long way. So therefore, they don't need to do so much to get the benefits. And then he got most of us that are kind of in the middle there where, you know, it's like, at some point, like you said, you're going to be, you know, you're going to hit a point of diminishing returns returns really quick. And, and despite of how much more stuff you inject, are you are you intake, you're not going to get better, so it's not going to happen.

M

Michael Nelson 1:09:24

Yeah. And last point, and I'll let you go is that if you look at like photos of most competitors at a national level, when they started, I remember seeing a picture of Lee

priest when he was 18. And I was like, What? And it was an interview. And he's like, No, I



1:09:38

didn't do any drugs until later. And I'm like, you look like that at 18. Like he's like, yeah, I started training early. You trained at like, 13 or something like that. But I'm like, that's only five years of training. That's like, holy shit. That's insane. Yeah, yeah.



1:09:53

When you look at the best guys, that's often what you see is like, I mean, these people were, you know, very gifted early on It's amazing.



1:10:01

Yeah. Yeah. Cool, man. Well, thank you so much. And we'll chat again on Saturday morning. All right, sounds good. Thanks for having me. Thank you. Okay, bye bye.