jaymes longstrom

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SPEAKERS

Michael Nelson

M Michael Nelson 00:01

Hey there, welcome back to the Lexa. Diane podcast. Thank you so much for tuning in. And today we've got a great discussion with my buddy James long strum. He is a coach with Dr. Lane Norton over at bio lane. He did his bachelor's in exercise science from Concordia University, here in St. Paul, Minnesota. And he did his master's work for a Master's of Science in exercise science from the University of South Florida, working under my good friend, Dr. Bill Campbell, in the performance and physique enhancement laboratory. So I got to see James again recently at the ISSN conference. He was there helping Dr. Lane Norton present a case study. So it was always great to talk with him. And I thought it would be awesome to get him on the podcast. And we talked everything here from coaching, to body comp, to a little bit of performance, talked about his poster, the presented as a female competitor, I think it was in physique, I believe or fitness, I'd have to double check on that. ISSN. And it was really interesting, because they've collected a ton of data that they will be presenting more about what happens with physique competitors who are trying to get really, really lean. And they've got data from both males and females. And while this may not be your goal to step on stage and your your underwear, maybe it is, but it gives us really good insight on the extremes and the the spectrum for body calm. And I always believe that the extremes and form the means as the saying goes, if we have a good idea of what's happening on the extreme, we can then apply some of those concepts to where people are at kind of more in the mean, unfortunately, the other way doesn't really work. So well. The means don't really seem to inform the extremes. As always, this is brought to you by the flex diet certification, which will open

again, depending upon when you're listening to this coming up on July 19 2021. So be sure to get on the waitlist before then or hop on during the time, go to flex diet calm, FL dx d iY t.com. And this certification walks you through eight different interventions from protein to sleep to micro nutrition, intermittent fasting, and much more. And it's set up in a way that you understand the big picture, the context of how all these concepts and interventions work together. And then there's a deep dive about one hour in each one. So for example, in the protein section, everything you want us to know about how does protein work in your body, from amino acids going into Muscle, Muscle protein, synthetic response breakdown, and all the other components, but it's condensed into I got all of them down except for the carbohydrate one into less than an hour. And all of it is fully referenced. And at the end of each intervention, there's five specific action items. So as a coach, you'll know exactly what you would need to do with clients. So it's made very actionable. And we walk you through the entire system of how to do that. So this way you were starting with the big rocks. For example, sleep is rated number eight, just because it is high physiologic component, but very low in terms of client ability to change. So the coaching leverage for that is actually quite low. And you'll realize this whenever you've had conversations with clients about their sleep, right now i'd rather kind of pound my head through a wall. So it's lined up so that your higher priority items, both for a physiologic and psychological impact are ranked first. So check it out, go to flex diet.com flxdt.com. Thank you so much. And enjoy this kind of wide ranging conversation with James long struggle. Are you What's going on? I'm here with James long strum who was a coach down in Tampa, Florida, working with Wayne's company in bio lane. So welcome, James, how are you? Good.

04:41

Thank you for having me. It's a pleasure. I've listened to a few of your past episodes. And you've had a long list of experts I would say on here. So I'm very honored to be on. Well,

M Michael Nelson 04:53

thank you so much. Yeah, we always get to usually chat at ISSN or sometime when I'm down there. When you're Working in Dr. Bill Campbell's lab, so it's always fun to chat and nerd out. So I figured it would be fun to do it again on the podcast.

05:09

Yeah, yeah, it seems like every. I've been to about three or four of those ISSN conferences now. Mostly started going when I started my graduate program at USF. And every time

I've been there, we've had a chance to talk and just nerd out a little bit over metabolic rate and, and body weight changes and stuff like that. So it's always been a pleasure.

M Michael Nelson 05:29

Yeah, so for people who may not know you, and I'd recommend they check out your Instagram, we've got very good research base, but also very practical stuff on Instagram. We'll put the link in here to that just give us the short rundown on yourself. Yeah, so

05:43

Currently, I am working under Layne Norton with his company bio lane. And Holly Baxter. I guess Holly Norton, now that they're married, so coaching part time, and then also we are working on developing a research review. So I'm kind of coordinating that for his new website. When that is ready to launch hopefully this year, we've had a number of different setbacks with web development and just taking longer than usual.

M Michael Nelson 06:08

Or kidding. Web Development never happens. There's never any issues with stuff.

06:15

Yeah, if that could actually run at the pace you would want to it'd be great. But yeah, there's always little things creeping up and given us issues. So hopefully this year, I think we've been working on it a couple years now. So we do have some reviews kind of stocked up and ready to go and stuff. And then just refining all that stuff and making sure it appears the way we want to on the site. So yeah, so part time kind of doing the research review stuff, part time coaching. And then I'm also keeping my foot in the actual research with what Dr. Bill Campbell is doing over at USF kind of a another, I guess, aspect or area of his research, we are looking at body building case studies, which is what I did my research project on for my graduate program. So we kind of continued that. And we're currently working on publishing a another case study on a pretty high level female physique competitor. So yeah, it's been great kind of just staying in the research at all, everything I'm doing is really kind of supportive of one another with coaching, writing the review, and then keeping my my foot involved in research as much as I can.

M Michael Nelson 07:24

Oh, that's awesome. Bill's just a super nice, very knowledgeable, but yet very humble. Just wonderful dude all around. So yeah, I mean, he's

07:34

like, he's one of the nicest guys you could probably meet in this field. And as humble as he is, it's it's, it's crazy. He's I think he's definitely like one of the more underrated kind of active researchers with exercise science and stuff. And he's just so humble. It's amazing. So yeah, he's been so I've been fortunate to be able to have an opportunity to work under him and continue my involvement his lab a little bit.

M Michael Nelson 07:58

Yeah. And that's been cool. I've been had logged on bill for quite a while now. And just to see his lab grow, and to see him actually being able to do more research on, you know, competitive athletes bodybuilding physique. And to be able to kind of steer everything in that direction has been super cool, because there's not a lot of researchers that are, I would say, able to do it, I think there's a lot that want to do it. But at the end of the day, it has to be practical, and someone's got to pay the bills, and there's a bunch of other things in the background to make it a reality. Yeah,

08:30

I think that's one of the things that people often overlook with like research, they'll see a study published and, you know, somebody's got to pay for that. And, you know, if we're lucky, you know, we can maybe pay subjects for research. But oftentimes, you know, with, especially at USF, it's a little bit different there with how their lab is set up. And Dr. Campbell's lab is set up. So he's really works hard to get the funding needed to conduct these research studies and do it in a practical manner where they can be very transferred to the general public and people looking to optimize their body composition. So yeah, I think the work the behind the scenes work is really underrated. But people don't always get to see that either. So

M Michael Nelson 09:12

yeah, another aspect of that I think people forget to is that the cost and even just the staff, because one of the things that it's a it's a correct criticism that you know, maybe the training wasn't supervised, maybe they didn't work directly with a coach or a dietician as much. But to make those things happen, and to have people do all their sessions that are

supervised, that are in one area that are talking to a coach and everything is being tracked, and they're talking to the people in this study, like the one study he just ran on a daily basis or even more, that's incredibly time and personnel intensive to make it happen. And I think it's good when it does, but I think a lot of times it's easy for people who don't have any research experience to be like, Oh, well, they just didn't do any of this. This Without, and there's usually a reason why they didn't do certain things. So

10:05

yes, exactly. That's it's so common. It's like, Well, why didn't they check this and look at this. And it's like, it's not that easy. Like you're you're stretched. Usually, with any study that is being published, like, researchers are strips stress with time, like you said, a lab team to be able to conduct stuff like that resources. It's just, it's not always feasible. So yeah, it's easy to criticize studies for that. But it's also, you know, people need to understand that there's a lot more that goes into, and there's a rationale for everything. And they probably thought about that before they did. So.

M Michael Nelson 10:38

Yeah. And make it impractical to because everyone's like, Oh, it was only an eight or 12 or 16 week study, it's like, okay, yes, of course, as a armchair research, I would love to see longer studies and more in depth. But, you know, having run studies, you're also weighing how long even if everything goes, Well, you don't want people to drop out, right? So if you have people and you don't know their motivation level when you set everything up, and you're gonna do a 16 week study, and it's pretty intense training. Man, if you have a higher dropout rate, you then may not even have statistics, Stephen friggin published the study without trying to enroll more people. And that ends up having other issues. And so you're always kind of weighing these things, I think in the background, too, because it's like, well, if no one's really looked at this before, maybe I'll go on in 12 weeks, because I don't want to risk having people drop out. And yeah, so things like that, yeah, easy to criticize, but in the reality, you want to get it done and get it published, or else nobody even knows anything about it.

11:44

Exactly. And I think the big thing, too, especially at USF, I guess, with how that program is set up, you know, you we operate on semester basis is, so it's like, okay, we come up with an idea. Now we have, you know, X amount of time to get it even accepted or approved by the IRB, and then that's half of the time within that study anyway. So now it's like, if you

want to do a dieting study, it would be great to do it for 1620 weeks. But the reality is, you have maybe eight to 12, if you're lucky. And so you have to get it done, then and then recruiting enough subjects is a nightmare. And then half of you know, the attrition rate is terrible, some of those dieting studies. So it's always tough, you know, it's like, it's you can't just give them food, we don't have the money to do that. And so you lose, you know, 20% of your subjects. And now you're left with barely enough to do the stats, like you said, it's it's it's a lot of challenges that are often really overlooked. If you haven't been in the research realm and done anything in the lab.

M Michael Nelson 12:43

Yeah, my last comment on that, too, is that everyone wants more advanced athletes or elite athletes. And so the the running joke I had was yours in Minnesota, I'm good friends with Cal Dietz there, you know, if I went over to Cal, and I said, Hey, cow, I want to steal like your top athletes, and I want to take them for 12 weeks, although they're not going to do your training or your coaching, I want to have a control group that's going to do something like this, and I want the experimental group to do this. You'd be like, go screw yourself, right? Because his job like his literally his livelihood, why he's paid by the universities to get results in the safest manner. It's not to help me run a study, you know, as much as it would be great, it'd be super interesting. The reality is how everything is set up even in a collegiate level. It's just not set up for some grad student to go screw around with a bunch of v1 athletes.

13:36

Yeah, and that's the problem with the bodybuilding stuff, you know, getting high level competitors. It's like they don't want any, you know, researchers, somebody else, telling them to follow a specific diet, like implementing experimental protocols is almost impossible, which is why we've kind of focused on some of these case studies and just observing and exploring those aspects of the bodybuilding literature. So yeah, it's, it's, it's tremendously difficult.

M Michael Nelson 14:00

Yeah. And that was kind of my solution, which I think is more practical is to get a little bit away from quantitative studies and actually do more qualitative studies. Right. So I tried this proposal, I went nowhere, but someone will do it, I think, would be like, if you're working with, you know, high level bodybuilders, or you've got a group of athletes that whatever University, just take a research student and just throw them over there for like a

quarter. And your goal is just to do a qualitative study of like, what did you observe? And what did you find? You know, again, it's not a quantitative study. We're not doing an experiment, I get it. But even something on that level, I would argue that we just don't have much data at all right? And then if someone wants to read that and go, Oh, wow, they did this and looks like we may observe this and run another maybe a quantitative study off the back of that. But that way you're observing, you're learning stuff, and you're not screwing with what they're doing either. So it actually makes it practical.

15:01

Yeah, exactly. And that's, you know, it's, it's nice to have those studies because you can get so many more details and measures conducted on that one person. And then, you know, hopefully it can be translated into a larger quantity, quantitative study, like you said, but just seeing, you know, maybe you pick up on certain trends or associations, that maybe there's something that we should look into. And I think that's kind of where the value could lie in some of these more qualitative case studies. It's almost like pilot testing, you know, where you can do a lot of different things and see where that, you know, larger scale study could go if it's possible.

M Michael Nelson 15:37

Yeah, and I think even people should have case studies all the time, but in the land of really not much document and data, like case studies, I think, are still useful, right? Because that, again, it's not a meta analysis, I get it, it's not an experimentally controlled study, you don't have multiple subjects, however, you you're starting somewhere, right. And when you don't have much of any data on, you know, high level athletes, a case study is usually more than what you had before.

16:07

Right, and you're using objective measures, right, you can really say, you know, this person dropped X amount of body fat, and they also lost X amount of fat free mass with that. So, you know, maybe that could, again, get done into a larger scale study, and then you look at interventions and experimental, you know, trials, but at the same time, it's, you need that foundation to figure out where to look first, and really try to set some expectations for other competitors. And then also, hopefully, further research, you know, in the future, but it's, it's, yeah, looking at the case studies is nice, because you can really have an objective insight into what's occurring, and then maybe looking at the experiments later on, but

Michael Nelson 16:50

yeah, nothing case studies. Also, it's the old saying the extremes and form the means. But the other way doesn't work. Right? The means don't necessarily inform the extremes. You know, so looking. So when I was doing my master's, there's a lot of people who went into work for the automotive industry, because I was actually in the mechanical engineering department. And the interesting part that I didn't understand at that point was that I'm like, Okay, if you're these big, large motor companies, why would you spend if you're Ferrari, why would you spend tons of money on f1? racing? Yeah, I get there's a Mystique to it. And there's, there's all the cultural aspects and everything. But you're talking like hundreds of millions of dollars, you know, high end auto companies spend on racing. But then you realize a lot of that technology kind of transfers down into everyday vehicles, too. And so I think they could argue that may not be profitable, per se. But I think if you're really trying to push the edges, you'll learn stuff there that you wouldn't learn if you're only looking at the means all the time. But then you can learn stuff from the extremes and kind of transfer them into the means. And the physique world, like case studies are ways of just showing that, hey, look, this, this thing did happen. That was possible. Oh, wow, someone did get really lean, and their resting metabolic rate didn't drop to 500 calories per day, you know, like some of these weird things that still float around the land of the internet.

18:16

Yeah, and the thing with Dr. Campbell's lab, and what he really tries to do is when we look the way that he puts it, and I'm not going to put it as eloquently as he does, but you know, physique athletes are experts at fat loss like that is their job to reduce fat mass as much as possible. So if we can look and see kind of what are they doing, or what kind of changes are taking place and then transfer that into you know, more, what he likes to call physique minded or physique, centered individuals who just want to look better, have a better body composition, what can we take from them and implement into the research for those people that maybe can turn into actual, you know, strategies or approaches that can help them reduce their fat? fat mass? So

Michael Nelson 19:00

yeah, totally. And I believe you presented an ISSN we chatted about a case study on a physique competitor. Female correct. I think we can say her name. Yeah. But yeah, yeah. So

19:15

yeah, it's uh, so what we're looking at with that one, and that's the one that we're kind of. We are finishing looking at the data now. We've done so many measures with that. So I'm trying to remember what exactly we were presented on I think we just presented on like resting metabolic rate and body composition changes, right. So we should have her over like a year span or more because she also participated in my research project, which was more of a case series because there was like seven subjects in it. So then we continue to follow her through a another competition and another competitive season. She actually did two competitions. And we did a ton of different I mean, the hormones we did are crazy. We did so many different hormones, we did pretty interesting thing with muscle thickness measures and doing like a. So with skinfold, you'll do like usually seven sites and Reese in the research world and get a global measure of body fat percentage. And so what we did is we took a, I think it was nine sites of muscle thickness measurements on her. And so we can kind of get a cumulative total of muscle mass based on muscle thickness. So we're looking at that which really hasn't been done, which will be interesting to kind of see what the results are showing in terms of how much muscle Has she lost over that competitive season. And then also looking at nutrition stuff, what did she do for nutrition? A few psychometrics are in there as well. So we really tried to get every measure we could and you know, oftentimes, that's the best way to go. But then you're left with so much data, it's almost overwhelming. So we're kind of teasing through that now and working on reading up the manuscript.

M Michael Nelson 20:54

And then the local measurements was an ultrasound or was it just kind of old school like skin calipers? or What did you do for that? For the muscle thickness? Yeah,

21:04

yeah, we did B mode ultrasound. So yeah, actual actually measuring the muscle thickness of of her sites. And again, it was nine sites, I forget off the top my head, which ones exactly, but just a good global measure. And it has been done. I think it was ob a man, I forget what year it was, but he looked at a bunch of younger males, and did this, you can actually take those muscle thickness measurements, and put it into a formula kind of like Jackson Pollock Siri type thing. But it's a little bit different. And it's in, I think, younger Japanese male, so when you translate into a female per se, but we are going to use that formula and look at kind of like a global muscle mass quantity and compare that between competition so

Michael Nelson 21:53

and would you be able to get fat mass off of that, then too, are you just looking at muscle? Yeah, we're

21:58

just looking at muscle with that. Particularly, you could I mean, you could do, you know, fat thickness with bimodal or so but we're gonna rely on we also did skinfold, and a mode ultrasound for body fat percentage. So we'll use that for the actual body fat, which, you know, it's kind of tough, like, having all these different measures and then comparing them to one another. And they don't always add up perfectly, you know, because of their level of error rates associated with them. But yeah, so we use either a mode, probably a mode ultrasound for fat, mass, and then we'll also have fat free mass with a two component model for for that, but then use a B mode ultrasound and look at the muscle thickness and kind of a global muscle mass quantity.

Michael Nelson 22:42

I think for competitors, that would be super interesting, especially if you have a series of case studies looking at, okay, hey, we have these, you know, seven female competitors, they all got very lean, they competed. And it'd be super interesting to see locally where they lost fat and how different I think they would be from one to the other. Right? Because I've just seen, you've probably seen something similar where I can females like, I have one competitor, she did her first show, she came to me like she was pretty lean already. Like her ABS were very lean. But it took forever for her legs to get lean, you know, and you'll see other competitors where it's just different. It just seems to be that. Yeah, at some point to get lean enough, it'll come off, right? I mean, physics still works. But it's just interesting to see how different people react even just locally different, which to me is oddly fascinating.

23:42

Yeah, it's kind of like, you know, how we store body fat to rise generally stored more in the stomach, you know, females in the hips and stuff like that. So yeah, I think that's also interesting. And hopefully, we can have, you know, get enough of these case studies done, where now we can start noticing some trends and seeing like, okay, females are more prone to losing body fat here, and, you know, maybe takes the last four weeks or whatever, to really start seeing changes in their their legs. And then also looking, you know, kind of correlating that to their nutrition approach in terms of, are they using

refeeds? Or some periods of nutritional periodization? And does that help? Does it make a difference with hormones or body copper anything? Or does it do nothing? So looking at some of those things, so that maybe we can start to get enough data to really start, you know, applying it into certain strategies and practicalities?

M Michael Nelson 24:36

Yeah, and for me, it would be super interesting to look at even heart rate variability or some marker of stress, because I have this theory and it's not really backed up by much that. I think stress kind of throws in a weird monkey wrench that may change the location possibly. Again, there's not a lot of data on that there's some old stuff on you know, cortisol goes up higher stress, you tend to store more fat around your midsection, but it'd be interesting to see if like you said if there's other factors, certain nutritional programs, exercise modes, there's like some super old school data, I think looking at was a biking versus running and possibly some differences with local fat deposition or not. I don't think that was ever really replicated again. But yeah, be super interesting.

25:22

Yeah. And we did use a questionnaire. So obviously, that's very subjective, I think stress perceived rating scale or something like that. But yeah, I think having a more objective measure to measure stress and determine if they're storing or even, like holding on to more water in their midsection, like, that's a big one for competitors as well, you know, where's the water going? And if we have a good, you know, be is or big a machine to detect? Where is it being stored, and if we see stress is higher, you're going to store more in the abdomen or midsection. I think that could be helpful. I think you can, you know, it's hard sometimes to to, like, find a practical application for like, Okay, if stress is high, how do we reduce it then, right, like, and when you're a competitor, and you're getting that lean, there's a certain amount where it's like, it's just gonna be there, you can try to reduce it, but at some point, you know, it's, it's more of the interpretation of like that. Kind of that inverted U. Right, like, a good amount of stress, but then too much now we're storing too much water. So that sort of thing, I guess.

M Michael Nelson 26:23

Yeah, I mean, I've seen that an HRV scores. And, you know, I've done this with more than those a few female competitors, where, you know, they're getting pretty lean, but then they get all freaked out. They're storing a lot of water, you look at the HRV it's real high, their calories are real low, their carbs are low. And I'm like, okay, so at your dinner, just

have like, 40 more grams of carbs. Like, what? That's crazy. I'm gonna get fat. Like, I've like four weeks out, what are you doing, you idiot? I'm like, Oh, just just trust me. It's, even if you stored 100% of those carbohydrates as fat, you're still gonna be fine, right? It's not gonna make that much of a difference. And they're like, Okay, and so they do it. And they get on the scale the next day, like, holy shit, I lost two pounds. Like, you didn't lose two pounds of fat, but because of the the fluid difference maybe related to stress. Who knows? I'm not even 100% sure. But it seems to be that happens more often than not. And more or less, I'm just doing it not so much for the physiologic but the psychological thing to show them that Yeah, all these things do matter. And we do have something to do. If this is, you know, is the thing that may that may happen to, and also to realize that, okay, your scale that was probably inflated by a couple pounds, you know, so it's like, you look at it a lot of times, you're like, Oh, my God, I'm not making any progress at all. And then they're like, oh, okay, I guess I am okay. It's like, yeah, we're good. You know?

27:49

Yeah. Do you with competitors? Do you frequently use some type of repeat approach, whether it's a diet break, or just a short one or two day increase in carbohydrates?

M Michael Nelson 28:01

Yes, no. So most of the time, I do. But at the same time, if they're consistent, and everything is good, like the first thing I'll do is I'll just go what I call just like a flat macros approach, right? Because I want them to be as consistently as possible, I want to see how their training affects that. I want to see how the HRV effects that and then a lot of it is just based on what they report, are they super hungry? Is it performance tanking? If they're already relatively low, and I'm afraid of really just tanking their performance, then I might do like a zigzag method. Right? So high day, low day, high day, low day, I've done like the bill Campbell with two high days and then low to moderate days, I've done that a fair amount, that seems to work pretty good. And then I'll bracket they're like two heaviest full body sessions on the higher carbohydrate days. And, again, like we could argue, is that psychological is it physiologic? I don't know. But that seems to work pretty good. And then the, the thing I'm just looking at the whole time is like, I just don't want to run out of runway and I don't want to stress the piss out of them. You know, cuz it's like, in the past, I goofed up. I have one competitor was that like, like, 3800 calories or something? And she was a smaller female in the offseason, and I'm like, yeah, this PrEP is gonna be so easy. It's gonna be amazing. And then she starts cutting calories and like, boom, she would adapt, like, immediately. And I'm like, Oh, crap, you know, so we had cut calories relatively aggressively, even though we started at a high point. And I'm like, hitting myself in the face going, I'm an idiot. Like, I was just focused on this high number. I totally forgot about

the rate of adaptation, you know, to it. So, so now I'm looking at Okay, how aggressive Do we have to be you have to hit X date. We know you want to average you know, Whatever this you know, point five to one pound or whatever numbers you're using, and then I just watched the HRV. You know, if we're already lower calories and the HRV is just showing that they're super stressed, then it's like 16 weeks out. Oh, that's just sit down and just be like, Hey, here's what's going on, you know? So yes, I don't know, I'm open to any feedback on it. I don't work with a ton of competitors, just, you know, a few here and there of various, I would say, expertise. The benefit of working with more experienced competitors is that you have historical data to go on. And they're usually much more in tune with their body. Right? So you can say, okay, hey, we're at about this level. Here's your stress. How you feeling? Okay. Yeah, I feel pretty good. You know, I've done eight shows before. So I know I'm probably in a good spot, like, Alright, cool. You know, it's like, the first couple shows that they haven't done a show for a long time. It's just so much harder, because you're always kind of weighing these things out, right? Because I know how old school approach was, Oh, just walk more just, you know, get down to eating like friggin lettuce per day and just shut up and do it. And sleep. Yeah, but they're, they're real humans, too. You know, and at some point, you can't just be hungry forever, either. and expect someone to not have a breakdown, you know?

31:23

Yeah, yeah, no, I agree. And I, I look at the seat. I laugh because like, I've had the same thing. I've had a female bikini competitor, even this year. Now. She is at a really nice offseason calorie number and I'm like, Oh, she should, you know, do fairly well. But I always preface it with like, you may be at a high calorie count right now. But once you start dieting, I don't know how you're gonna respond, you could respond really well or not at all in, I ran into the same situation where it's like, man, we had to get calories pretty low for her to really start getting the the fat loss rolling, especially towards the end, we had to get low. And you just can't keep going. And I'm with you on the refeed thing, like, Is it a physiological or psychological? I don't know. I mean, I think we need some more data to really, you know, be confident in making either assumption, but it's like, at a certain point, what are you going to do just keep starving them and starving young until they just are miserable, and they can't even follow the diet and then they don't compete. And now they're really stressed, like, Something's got to give in. So it's like, if they're really not responding, well, I'll do the same thing. I'll try either one or two back to back days, and whether it's, you know, them distressing or just helping them kind of, I don't know, maybe performance in the gym. Regardless, it does seem to help for some people that may have a difficult time responding to the diet and seeing further weight loss. But that also, like, you know, it also is one of those things where do we have the time to implement some

refeeds I generally like to try to get some, you know, short periods one to two days, like you said, kind of a zigzag approach if we need to. And I have found with the competitors that I've worked with, if they're having a difficult time responding, I don't know what it is a couple reefy days and now they start hitting new low weigh in so yeah, is it is it a reduction in stress and therefore Baby, you know, a way that their body is able to lose fat or is it a physiological thing where Okay, now leptin is going up, which is a big theory behind having these refeed days which really isn't supported too strongly. Or is it some other physiological mechanism we just don't know about?

M Michael Nelson 33:42

Yeah, the dude big x factors. I see the I see a lot more coaches looking at now our lifestyle factors especially stress and then any amount of pain that they have. So to me like in the offseason, like my goal is to get your heart rate variability within reason pretty high in pretty good right and this may even be more Robic work but like interview to max look at a bunch of other stuff. And ideally, like very little to no mechanical pain out all even like any little niggly issues you had to me. I want to have those be resolved as close as possible. Because I know I think we underestimate how much being in a severe caloric restriction is just a massive stressor. You know, and if your life is a shit show, and you've got 800 things, you know, going on and you've got all these weird niggly issues. Oh, you can do it. I'm not saying it's impossible. I've had clients do it and they've been successful. So it's not an all or nothing thing by any stretch of the imagination, but who just makes me nervous? Yeah, I

34:50

know. I'm in the same boat i get i get like nervous for them because I know like that dark place that some people have to go to like, see for their weight loss. And, you know, the thing I always remind myself is like, I'm not coaching Olympia physique, competitors, these are, you know, people that do it for a hobby, they have jobs, they have families, they have kids, I want to make this. Yeah, I mean, do you want to make this person miserable in their daily life as well, because it all trickles over. I mean, I've died in one time in my life for a competitive season. And my wife will say that I was not a happy camper during that time. So it's like, you know, you don't want their life, other lifestyle factors to really change that much, or at least be that impacted as well. So it's like, you know, you can only run somebody into the ground for so long. And it's, you've got to come up with some other strategies, I think, and refeeds, I have found have been helpful for some, and they've also done nothing. For others I have seen if I have a bikini competitor, even a male, you know, bodybuilder who is getting pretty low, and they haven't been responding anymore. We've tried refeeds, and they haven't done much. So it's like you said, it's not an all or nothing

approach. But I think for some it can help. It's like the high, you know, individual differences between people. It's the same thing with how they respond to certain approaches. Some it works for and some of it doesn't. Yeah,

M Michael Nelson 36:14

I remember talking to Eric Helms about this too. And he's like, Oh, you mean competitive starvation? I'm like, Yeah, that's a good way of phrasing it. He's like, Yeah, he's like, he's like, even though I get super low on calories, he's like, my, is like a member. He's like, I remember giving a lecture one, she's like, where I was holding on to the board. And he's like, even like, blink slowly, you know. And even if you've been around people who've competed another good buddy of mine, he was maybe three weeks out, I think, from a show. And I was doing a presentation on RPR, reflexive performance reset. And, you know, he came and he was there the whole time. And he came up at first and he apologized, he's like, Hey, man, I just wanna let you know, I'm just like, three weeks out. And if I look like, I'm not paying attention, that's why I was like, wow, that's impressive. Even showed up, man. That's crazy.

37:08

Yeah, I mean, you can get people even if they're having trouble losing weight, like, like you said, the physics still apply, like, you can start somebody enough and they're gonna lose weight, but how miserable Do you want them to be? And how do you like some people, their jobs require high, you know, functioning capacity, and you just can't take that away from them as well. So it's

M Michael Nelson 37:27

not how much muscle you're gonna lose to, you know, I mean, losing performance. The first thing I think about is, oh, crap, like, your body doesn't have a reason now to hold on to muscle. Right? It doesn't matter, really where their performance was. But if you see that, you know, again, 16 weeks out, and their performance is just dropping like a rock. It's like, Oh, that's not good, right, because you're removing that stimulus, especially in a caloric deficit, the one thing they have to keep and hold on to muscle, you know, if you start losing performance, that's he that makes me nervous, too.

38:04

Yeah, and that's, you know, one thing I've done, and I don't know, I'd love to hear your

approach as well, with you know, getting deep into prep, and maybe under five weeks, maybe under four weeks, when, you know, they're struggling mentally, physically, they're getting lean, but they're also seeing, you know, some decreases in performance, something I often do is I will bring rep ranges a little bit lower. And I've seen this help with some people, others, it may make a difference, maybe not. But bringing rep ranges, like if they were doing let's say 12 to 15 reps on an exercise bringing that maybe down to eight to 10. And my theory behind it is, if they're storing less muscle glycogen, at least they can sustain it for a relatively shorter amount of time, rather than doing 12 to 15 reps and just been running to the ground, maybe six to eight or eight to 10. And they can still have that mechanical tension with an increase in weight maybe. But yeah, I'd love to hear if you do anything like that. I have noticed that people seem to be less run into the ground, maybe stress is a little bit less because of you're not just training until they're burnt out to

M Michael Nelson 39:13

you. I'm probably one of those weirdos where I probably last three ish years now. I tend to go towards that more. It's a weird I don't know where this ever came from. But like in bodybuilding people are like, oh bro, you got to do 15 to 20 reps on the leg Presta you know burn in those cuts and all this weird shit you hear all the time. But like, man, if you are super low on carbohydrates, like doing high rep, you know, squats, deadlifts, leg press, whatever. It's miserable enough as it is, but to be that depleted and then do it. Right. I've just seen it. Just an HRV score is just horch people. And in my head, I'm thinking Wait a minute. Like we're really probably not getting as much hypertrophy right now we're just trying to hold on to as much body mass as possible. Am I going to have a limited amount of energy? Like, how am I going to spend it? Do I really think doing extended drop sets of, you know, 15 to 20 reps? You know, pre contest is a good idea. Like, I don't think so I would much rather especially for natural competitors. Err, yeah, right on doing heavier load. Because to me, that's a bigger stimulus to just hold on to more tissue just because you literally have more stress, more mechanical tension. And I find like, what you said, too, is that it's hard, but it's not as bad. And I think that's because you're probably not running as big of, you know, oxygen debt, you're not probably burning through as much glycogen, etc. Yeah,

40:55

yeah. And that's what I found to be helpful. And again, not everybody,

41:00

yes. Visual differences. But

41:02

yeah, yeah, but I find that the majority of the time, bringing their rep ranges just a little bit lower will help in that later stage of prep, where they're already burnt out and rundown and the goal, like you said, it's not to build muscle or increase muscle, we're just trying to hold on to every little bit we can, if we're lucky, so and natural competitors, right, you may see some of these IFBB guys and girls, you know, doing crazy shit with their towards the end of their prep to really get the definition. They think that they're maybe getting but you know, they're also enhanced. So it's a much different story.

M Michael Nelson 41:36

Yeah. And I've often wondered about, I even tried to avoid muscle damage, if at all possible, even like a few weeks out. Because I'd be interested in your thoughts on this too. It's like I it's harder to recover from, I think the risk reward is not favorable, because I think you'd potentially run into other issues with even just like local inflammation and other stuff where their appearance just doesn't look as good compared to someone who just kind of coast into a show just doing relatively easier, but still heavier work versus trying to brutalize them two weeks out, that always just seemed to backfire on me.

42:19

I agree, I think if you can avoid that. Really. And you know, soreness isn't always the best indicator. No, it's not. But it is it's generally associated with muscle damage. Usually not always, though. But if they're getting sore all the time, then yeah, in trying new exercises would be another way where, if you're switching up exercises, you're going to get more damage? Theoretically, not always. But yeah, if you can avoid that. I agree. I think the inflammation factor goes up. So you know, they may even look, lose some definition, just because they're more swelled. And then also the stress response with that as well, like now, they're going to be more stressed out cortisol, I'm assuming would go up if there's more muscle damage? I don't know that for sure. But I would assume so. So yeah, if you can avoid muscle damage at any cost. Like I think that would definitely help as well. It's just more about managing things. So that fatigue doesn't run extremely high, which would lead to more stress, which would just lead to more water retention in the wrong places, I think.

M Michael Nelson 43:22

Yeah, it's kind of like any athletes. I mean, before competition, like I just spend most of my time and I'm sure you're similar. Just trying to talk them out of the craziest shit known to man. And like everyone felt like, you know, a lot of people I work with are actually coaches too. And yeah, and I've run into this before, just in some of the novice competitions I've done before I find myself going, oh, maybe I should try 400 milligrams of caffeine. I've only tried 300 like, whoa, wait a minute, like you, you know, you. You catch yourself hopefully not all the time. But it's just like I spend more time trying to talk people out of stuff like no just let's just does this do something we've done before. We've tested this let's just keep it easy. Let's not do anything new. Let's not make any radical changes. Just keep everything you know, everything looks good. We don't need to do anything different. Yeah, it's almost like the anti climatic because they're waiting for you to pull out like the super secret crazy. Yeah, Russia, world protocol and.

44:23

Right, it's like now here's this magic thing that's gonna put it all together and you're gonna feel and look amazing, right? It's just like, you know, you're just managing their stress at a certain point for them. It's almost like you're their therapist in a way but yeah, it I think part of it is like they're so dieted. They're so lean, and now their mind just starts playing tricks on them, right, like, especially as a bodybuilder, you know, you're so focused on the vanity aspect because you're focused with the body composition. So it's like now your mind just starts playing tricks on you and you get these inner voices that are just telling you the opposite of what you are actually We may be going through. And so as a coach, I think a big portion of the coaching aspect is just managing their stress and their behaviors and just trying to talk them off the ledge most of the time.

M Michael Nelson 45:12

Yeah, and even a lot of times with if they're sending in pictures and stuff, I, I'm not the best at looking at pictures and noticing these different changes. I'm not a not a judge, I don't work with a ton of physique competitors. So even then, a lot of times, I have friends who have been doing it, you know, all the time and our judges for shows. So I'll just take their pictures and send them to them and be like, Hey, what do you think? Because I also know that if I've been working with someone for like, two years, and this is their first show, I'm probably even not going to see stuff, because I'm so biased into wanting them to succeed, you know, so I even like to check myself sometimes on that. And I'll tell him, like, Hey, I sent your photos to these three other people, I'm not telling you who they are. Here's feedback from person one, person two, person three. And that makes me feel a little bit better one,

that I'm not missing anything, and whether it's my own bias, or just, you know, education, etc. And then I also kind of want to, it's so personal at that point, I want to pull myself out of the loop from some feedback to make sure it's legitimate feedback based on almost an external source.

46:20

Yeah, that's, that's a great approach. And that's one that I haven't I mean, I've done it with. You know, when I was working for another coach, coaching, we've, we've looked at our competitor photos together. But that's something that I definitely haven't done enough of, I think that's a great way to do it. Because you do you get, you know, you can be your own worst critic, even like coach like looking at one of your competitors, and just wanting them to look a certain way, and start changing your perception and subjective outlook of that physique. So I think getting some outside feedback is so valuable. And something I'm definitely going to do more of just now because of you saying that I think it's I think it's very valuable for sure.

M Michael Nelson 47:02

Through and briefly, I wanted to touch on some of the research, he had talked about a new research study we were talking about there was higher carbs lower fat approach, correct. Oh, yeah. The

47:13

the Ludwig study that was recently kind of a criticism of Kevin Hall study. Do you remember the obese or not the obesity? Yeah, it was in the obesity energetics, where Kevin Hall did a meta analysis on like low carb, low fat. Yep. And so Ludwig came out with a kind of a criticism of that, and included some other studies in a new meta analysis. And so they found that you know, that low fat or high fat diets are better for metabolic rate purposes. But, you know, they also use doubly labeled water. Did you ever use doubly labeled water? When you're doing?

M Michael Nelson 47:58

No, we didn't have it at our facility at all. But it's pretty fascinating. It's kind of an old school approach. But if you're looking at free living subjects, like I don't know, the better method, and again, all methods have their pros and cons.

48:13

Yeah, and so what they did is, is they really kind of places their interpretation of high carb, low fat diets on w labeled water. But the problem is like this was in studies that use metabolic Ward data. And so they It was a lot of studies that use both these w labeled water and metabolic Ward data. And so they really predicated they actually stratified the studies in terms of short and long duration studies, I forget what the cutoff was off the top my head, but the shorter duration studies seem to have a bias towards the high fat, the kind of keto groups, but the problem is, most of them were using doubly labeled water. And I know Kevin Hall, actually, I don't know if it's been published yet. I think it's like a preprint. I got it off of his research gate. And it was showing that doubly labeled water can actually over predict energy expenditure and diets that are heavily weighted in low fat or low carb or low, high fat, high carb. So when you have diets that are very widely different in the ratios of carbs to fat, you can get this kind of, I guess, a transient increase in energy expenditure, which leads seem like it's a change in energy expenditure, but it's really just how that measure or how w labeled water is measuring energy expenditure. And, I mean, I don't I don't fully understand how it works. You know, when you talk about it on like a cellular cellular level with like lipo, or gluconeogenesis, and like all these other, you know, pathways, but yeah, it was really interesting to read the Ludwig study and then just do some background research and kind of get into that. literature a little bit with like, W labeled water and colorimetry. and stuff, it's that stuff is just, it's it's one of those things where it's almost hard to interpret kind of like, looking into space and trying to, you know, comprehend the universe. It's just it gets crazy.

M Michael Nelson 50:16

Yeah, isn't. Now I have to look, but someone must have done the study where you take subjects and you do doubly labeled water, and then you put them in a metabolic chamber. Right? Because when they do a way of comparing the two methods in each individual,

50:34

yes, and it is good, it is a good measure. But the problem is those studies have been used with a balanced diet. So

M Michael Nelson 50:43

that's a different thing. Yeah,

50:45

yes. And there is some data, I think, Kevin Hall in this pre pen preprint, he put in there some of their data from a study that did that, where they looked at whole room colorimetry and doubly labeled water. And those that had, you know, this crazy disrupt distribution of fats to carb ratios, had a transient increase in doubly labeled water energy expenditure. So, you know, it's, it's, it's, it's tough, because it's like you have these studies come out that show, you know, a benefit to one strategy versus another. But then you kind of dig into the methods and how are we quantifying certain things? And how are we defining certain things, and it's just, it opens up a whole can of worms for everybody's interpretations to be different, and their own and their bias them. So it can be hard as, especially as somebody who's, you know, maybe reading research and trying to, you know, increase their knowledge, it's hard for them to really decipher, okay, what's right, what's wrong? What's fact and what's interpretation?

M Michael Nelson 51:45

Yeah, and I have a little bit of doubt. So it's not based on a whole bunch of stuff that if you're using indirect calorimetry, and writer metabolic card, however, that is on an individual basis with a mask or in a room, however, your setup is, if you're really hard into ketosis, I don't know how much I trust indirect calorimetry. At that point, there's some earlier work showing that it may not be the best because of the amount of energy that you are then running through ketones, which are then kind of using a slightly different pathway. And the only thing you're really looking at is oxygen coming in and carbon dioxide going out. I just say that physics are invalid, but I think that kind of sort of invalidates a few of the, you know, the, like the seven or eight as to, you know, assumptions that go into using that method to but I don't have anything to base that on, per se. But yeah, then researchers do that yell at me all the time. So

52:47

Well, the thing with indirect calorimetry, too, especially if you're looking at like doubly labeled water, you know, it's heavily weighted on our cue. And, you know, when you're looking at, like Parvo machine, or like resting metabolic rate and breath analysis, like argue, is just all over the place. And I know mean, you have talked about this before, where it's just, it doesn't tell you much of anything, except for maybe what that person ate a day ago in terms of like, did they have more carbs, or fats. And so if you're looking at a measure that's really heavily based on something that's really kind of all over the place, it's, it's hard to be that you know, confident in in the results of a study that uses it. And again, they have good agreement. But when you're going to really start getting into the

nitty gritty of things like you kind of got to look at some of these more controlled experiments to get a an idea of what might be happening.

M Michael Nelson 53:39

Yeah. And I thought for a while because even looking at RMR looking at our Q or R er, right? So for people listening, that's Yeah, percentage of fat. 2% is a carbohydrate, it seems to be quite variable. And I don't know if that's because the system is more, more or less, not as balanced at rest. But I've noticed if I apply just like a very small amount of exercise, I get on a bike and just do 50 watts, right. So just a warm up. I've often wondered if that would be more useful measure for looking at fuel usage, comparing a wide group of people, right, so applying just a little bit of exercise to try to stabilize the system at whatever range it's going to be at. It just seems like that's a little bit more reproducible than a completely you know, at rest measurement that appears to be more sensitive to other factors. But again, no literature on either so

54:36

yeah, I mean, that's great. In theory, though, I think it makes some some logical sense. But, you know, when you start putting those things to the test, it tends to throw a wrench in your your spokes, so to speak.

M Michael Nelson 54:47

Oh, totally. Because now, even if that's true, which again, we don't have data to say that it is true, then. Okay, so now we do a resting RMR. And are we going to do another test to try to look at fuel usage and then I'm biased because my PhD work was looking at low levels of exercise. And then looking at the variability in our er. And we have some preliminary data, a couple studies showing that if it's more variable, so this fine scale variability, that that may be a marker for metabolic flexibility. So you have like an average of the number. And then you've got how much that number kind of moves around a little bit during steady state exercise, right? Just like how much heart rate moves around a little bit during rest is heart rate variability. Right, look at some other variability measurements to try to maybe quantify what's going on with the system two.

55:38

Yeah, almost taking just the averages of the changes that are occurring. It's like body weights, you know, fluctuating day to day and looking at a seven day average to really

see Where's How much do you fluctuate on average, normally, and then comparing that?

M Michael Nelson 55:51

Yeah, and I've done that anecdotally, too, with bodyweight for years where, like, if someone is stuck, like, literally, their body will be almost the same within like less than half a pound per day, most of the time. And so what I've done then is I'm like, I'll give him like a very high caloric day. And they'll go up by like, you know, half a pound or one pound, and then they start losing again. And it's almost like, you need to sometimes inject more variability into the system first to get it moving again, because it was like, I tell clients is like, if you're in Minnesota, and the car gets stuck in the snowbank, right, you can push it really hard? Or do you actually try to generate momentum by rocking the car to paradoxically go backwards? A little bit, you know, to kind of get it out and get it moving again? So

56:38

yeah, yeah, I think that's interesting. And you can even go into like some of those, like, adding, this is a bit different, because we're talking about, you know, calories, and, you know, energy consumption in utilization. But, you know, like, the sensors that we have, like mechanical set receptors, we have in our body that sense, artificial weight, or even just load from lifting, like just changing that. Can that cause an influx in the rate of muscle growth? Or the rate of weight loss if you're adding artificial weight to your body? Yeah, I think maybe just trying to disrupt, like, purposely trying to disrupt the system could elicit a change is an interesting idea.

M Michael Nelson 57:21

Yeah, I asked ourselves that question years ago, I'm like, if we tracked people in outer space, and we know without any countermeasures, they lose muscle mass and bone real fast. Can we stick people in like hyper gravity on earth to accelerate gain? thought about it for why he didn't say I was crazy. He's like, is it? Or is the system just asymmetric? To begin with, meaning that no matter what stimulus, you're going to hit a max and more stimulus isn't going to create greater growth. And that's, he was kind of more on that, that at some point. Once you triggered it, you can't trigger it more, right? That it's just gonna pop out at whatever that max rate is, which we probably don't know. So.

58:03

Yeah. Yeah, the body is a fascinating machine. Yeah. It's

M Michael Nelson 58:09

super cool. Well, thank you so much for all your time. I really appreciate it. Where can people find out more about you?

58:15

Yeah, you guys can follow me on Instagram at Jas long strum. I'm not am on Facebook, but I'm really not active. Hopefully, I'll pick that up as well. And then we also have a team bio link page that I'm pretty active on as well. And yeah, if you have any general questions, or you know, you want to shoot me an email, you can do that. It's James J. A y m s, AP bio lane calm.

M Michael Nelson 58:39

Awesome. Well, thank you so much. We really appreciate it. And we'll hope to talk to you soon again.

58:45

Yeah, thank you so much. Dr. Mike is my pleasure. I appreciate it.

M Michael Nelson 58:48

Thank you so much for listening to the podcast, as always, really appreciate it. Big thanks to James for his time coming on the podcast. I highly recommend checking out his stuff. He's got really great stuff on his Instagram account to research based actionable items you can do for performance. And a body comp, as always, is brought to you by the flex diet certification. It will go on sale again, July 19, which is a Monday 2021. And it'll be open until July 26 2021. So it'll be open for seven days this quarter. I go to flex diet calm. If you're looking for a way to improve body composition and performance, all without destroying your health in the process. I walk you through eight different interventions. And we have the big pictures you understand context, detailed technical primer, which we have made understandable but we do go pretty deep into some of the research there and then five action items for each one. So at the end of the certification, you'll have a total of 40 specific action items and each each In the aid area, there's five in each of the eight areas. In addition, we've got expert interviews from all sorts of people from the industry. Dr. Dan

party, Dr. Stu Phillips, Dr. Jose Antonio, both those guys talking about protein, Dr. Eric Helms talking about flexible dieting, and even Dr. Stuffing DNA, talking about how your brain regulates appetite. And we even got more expert interviews than that. So check it out, go to flex diet.com xdt.com. And you can get on to the waitlist there in the upper right hand corner. If it is during the launch, that'll take you directly to the sales page for more information. So thank you so much, really appreciate you listening. Take care.