Danny Lennon: Hello and welcome to Sigma Nutrition Radio. My name is Danny Lennon and today you are listening to Episode 128 of the podcast. For those of you new to the show, welcome, first of all. This is the podcast that gives you access to weekly in-depth interviews with leaders in evidence-based nutrition and related fields. And for those of you regular listeners, thank you so much again for downloading the show and for your continued support. I just can't tell you how much I love the Sigma Nutrition community right now and how it's growing and how people are interacting, and for all the support, thank you so, so much.

On today's episode, I'm going to be joined by Martin MacDonald, the founder of Mac-Nutrition, which is a UK-based nutrition consultancy, and Martin has worked for a number of years in performance nutrition with many elite sport organizations including Great Britain weightlifting, English swimming, Darby County Football Club, and many, many others. He's also lectured in sports nutrition courses in various universities including Loughborough University.

And for those of you who have listened to me for a long period of time, you'll have heard me mention on several occasions the esteem that I hold Martin in and the credit I personally give him for his influence on my own career, because not only is he one of the knowledgeable people that I've had the honor of getting to know within the nutrition field, but he conducts

himself in a very ethical and unassuming manner that I just have so much respect for because it's at a level where it's not all that common. And I just have so much respect for him and I'm delighted that he's on the show again today, and I just know that you're going to take a ton of high-quality info from this episode. I can already see it being one of the most popular today.

The show notes are going to be available over at SigmaNutrition.com/episode128, and if you go there I will link up to anything that gets mentioned in this episode. I'll give more background information on Martin as well as link up where you can get a transcript of this episode as well. And with that, let's get into the show.

Martin MacDonald, welcome back to the show. How are you doing?

Martin MacDonald: I'm good. Thanks, Danny.

Danny Lennon: I know there's going to be plenty of people listening to this who are familiar with your work and what you do, but just for those who maybe haven't come across much of your work before, could you maybe just introduce yourself to those and give them an idea of your background then and where you're coming from?

Martin MacDonald: I suppose the main thing is I own a nutrition consultancy called Mac-Nutrition and we've grown quite significantly in the last two to three years. So I think there are 11 people, eight of which are nutrition-related. And so our work is very wide-ranging from working with members of the general public, athletes, corporate wellness programs. And we are kind of branching into nutrition education, so we created a mentorship program maybe going on three years ago now, and that is a weekend seminar where we've gone through basically upskilling people. The idea behind that was taking people who have actually done MScs in sports nutrition because I knew from my background that that was an area that people just didn't know where to get work. Unless they'd gotten a job in elite sport instantly, they didn't know what to do and they fell out of the industry. So that's I suppose who I am.

My background is I did in my early days, so 18 years older, I actually competed in natural bodybuilding for about five years, and that got me into the industry a little bit, I suppose. I went to university and did a bachelor's in sport and exercise science, and then I went on to do post-graduates in both sports nutrition and clinical nutrition.

And then my work has just been wide-ranging. I did go self-employed straight away as a performance nutritionist, but at the same time I was lecturing. I thought at the time I don't want to be a maverick out on my own and I thought if I stay linked in with university, so I kept on a couple of lecturing positions and they over time just faded out. I still kept kind of a little bit here and there, but really that's done and dusted now that I can guarantee I suppose my own audiences. I love the public speaking and those kind of things, so now I know that I can get people to come and listen to me occasionally. I don't need that assurance, but yeah, I suppose that's in a nutshell who I am, what I do.

Danny Lennon: And just kind of on that idea of, obviously your experience lecturing, but for I think anyone who's attended any of your mentorships or seminars or speaking engagements will have noted that communicating this stuff to an audience in an educational way is probably one of your biggest strong suits and it's something that certainly comes across immediately, and that's why I think with the recent development and announcement that Mac-Nutrition University is coming there's been quite a bit of interest. Maybe just before we get into that specifically, maybe if you just let people know what exactly is Mac-Nutrition University, but I'd be most interested to hear why at this time point did you feel there is the reason to go and create this, or, what was the driving reason you had of creating this course?

Martin MacDonald: This is basically this 12-month online course that we've created and the reason it's come now I suppose is I've always wanted to do something like this. I love education, I love public speaking, and it is an online nutrition course but we've created a course of 50 students which will contain some face-to-face education that, A, is going to be great for the students and learners who want to take that, but really for me it means I get to do the stuff I really love. I suppose, I haven't said this in the public domain, I don't think, before now, but previously it's been a bit of a lack of self-belief, which some people probably think that that's strange coming from me, but yeah, a lack of self-belief in terms of from a business perspective really, putting something like this together, how is it going to work. I have been very busy doing I suppose a day job for a long time with lecturing, with holding contracts, with real sports, as you know, like British weightlifting, the Olympic weightlifters and powerlifters have been doing that since 2008. I've had my work in professional football clubs, England swimming, England athletics. So instead of being able to just be online and create, I've been busy. So, lack of self-belief, being a bit too busy. So now that the business has grown I've got a great team around me, and now

that I've got the support and me, and I feel like I've hit a bit of a turning point within my career in the industry where I don't know really what's happened but I'm getting more recognition, which is really nice and it's almost a bit of a…I feel like very blessed, a bit of a coming of age maybe where people suddenly that have been beating this drum of, "I'm not going to take quick fixes, I'm not going to accept big monetary rewards for selling out to X, Y, Z, and banging the evidence-based drum," you know, I spend countless hours of just reading research after research paper. I used to pretty much start reading journal papers at about 10 p.m. at night and finish at 3 every morning and just had about 75 tabs of papers open, and now it's much less than that.

So why has it come out now? I think there is a big movement supported by people like you, supported by groups like Lift The Bar, Shredded By Science, where people who actually care about doing the right thing and doing the right thing is so inherently tied in with evidence-based practice about questioning your practice. You know, some people generally don't realize that they come into personal training/nutrition industry and it's just like, "Yeah, I'll just do whatever I want. I'll hear something and I'll just do it. I won't question myself and have a second thought about potential ramifications of the advice I'm giving." I mean, we're seeing this in the UK with The Body Coach just giving out advice on an absolutely mass scale with really, in my opinion, no second thought for making sure that information is a kind of a first-do-no-harm-type message. So, anyway, huge movement towards evidence-based practice, people wanting to understand not only nutrition theory and also the underpinning kind of biochemistry, but then on to kind of working with clients and how to do that properly, not just giving out blanket generic plans, and then on top of that going into more specific nutritional manipulations for specific groups of people and athletes and those kind of things. So really, that content is built up in exactly that way into this 12-month course.

Danny Lennon: Yeah, and I think it's really important not only that you decided to do it but at this particular time as well because over the past couple of years there's been a real appetite that I've seen within the fitness industry for people to wanting to try and go and advance their knowledge and learn more about nutrition, but unfortunately there hasn't been a whole pile of options for them that have been evidence-based or something that is actually going to be reliable.

Martin MacDonald: Yeah.

Danny Lennon: And for a lot of people getting into the fitness industry, they can't really immediately gauge that. So I think it's thankfully about time there's something on offer there and I'm sure it's going to do a whole pile of good.

There were a couple of topics that I did want to get into today that I think could be useful and I know we've kind of mentioned them back and forth previously, and I think the first one to start with is around the whole topic of protein because specifically, as a number of listeners will know, over the past few months on the podcast we've gone pretty deep into research-related to muscle and protein metabolism, muscle protein synthesis response, etc., so Donald Layman, Kevin Tipton, Caoileann Murphy who is part of Stu Phillips' lab at McMaster, all these people on the show, and much of those discussions got into the kind of nuances and details of achieving a maximal MPS response, say, over 24 hours or some arbitrary period of time, and things like maximizing protein balance. And I think we did acknowledge that MPS and hypertrophy are not interchangeable and don't correlate exactly, but when we're talking about this in more pragmatic terms, where do you lie on this whole conversation around protein timing and frequency of high-protein feedings this kind of per-meal basis idea versus simply considering, say, a protein intake over the course of the day?

Martin MacDonald: Yeah, so I feel like very much the evidence-based crowd, and I'm talking maybe more about practitioners here or the fitness industry here rather than researchers, have, and please tell me if you feel the same, but have gone towards maybe a bit more of a focus on total protein being the major factor. The way I see that having come about is basically the overemphasis of nutrient timing, and so for years we've heard people—personally, in performance sports, you get sports nutritionists, MSc in nutrition, working with top-level athletes, and this athlete might be consuming 0.8 grams per kilogram per day protein, just not where the research suggests a strength or power athlete should be sitting, even an endurance athlete. Yet, their first recommendation is, "You need to get 15 to 30 grams of protein within 15 minutes of finishing your exercise session," rather than, "You know what? Let's try and increase that to an actually more appropriate level." And so people doing that, and then on the flipside the very, I don't know, bodybuilding-maybe-focused guys going, "Yeah, it's all about timing. You must nail it within this time period," and going very, very minute on—I mean, for instance, I'm not going to name names but a very…I think he's British, but bodybuilder who's a bit of a nutrition guru basically said, "If I went to the gym and I had forgotten my shake, I'd just go home without

training." And I just thought, "Well, you're an idiot then." And he wouldn't, obviously. You know, the fact is that resistance training is far more important than, and as a nutritionist I find it hard to say this, but it's far more important than the nutritional augmentation of that resistance training. So you get a great response just from training, and then whether or not he has it then or an hour later or whatever, it's ridiculous to say you just go home.

So I feel like it's been a bit of an extremist response from people who like to look at research and the research really is total protein does have a correlation in terms of recovery, gains in muscle mass, and these kind of things. My issue with this is that it's almost like total protein is a surrogate marker for protein feedings because you look at people who are eating 150, 160, 200 grams of protein per day and they're not eating that in one meal, they're not eating that in two meals, so you get people who are eating more total protein and in general that correlates to more protein feedings. You then combine this with, A, mechanistic research which I'm sure you've discussed loads on, and B, research that's actually tested this, so research looking at meal frequency and gains in muscle mass or even just body composition during a weight loss period.

So for me, if you look at the mechanisms at play which…what we're talking about, okay, theoretically, if we're creating a model for hypertrophy we're looking at a few things. We're looking at leucine threshold or protein dose, and then we're looking at refractory periods which is a really cool emerging area but probably, in my opinion, when the research gets really strong in that area it's just going to prove what Arnold was doing back in the eighties, so that's a bit of a shame. But we know that if we can get leucine over kind of our leucine threshold wherever that lies, 2 to 3 grams of leucine, a dose of protein around 0.3 grams per kilogram if it's from let's say dairy or maybe 0.4 grams per kilogram if it's coming from just meat, and this is actually, Danny, I should send you this. I've created a new slide within the mentorship which I basically use to describe in my opinion how individualized protein dosing should be adjusted for individuals who want to gain a maximum amount of muscle per unit of time. And instead of these silly discussions online where people say, "Oh, well, I think the optimal is 1.8," and you think it's 1.9 and you're wrong because of this, which is just an absurd discussion when you think about what those values actually turn out as when you work them out, instead it's looking at, "Right, if we base it on a theoretical model," and I'm not saying this theoretical model will pan out

in years' and years' time but there's nothing to suggest it won't currently, is that most people know I'm a fan of intermittent fasting but I do say that probably if you want to gain the most amount of muscle you shouldn't be jamming your food into a 4-, 6-, 8-hour window and you should be spreading your protein out. But if you have protein upon waking and we're saying, okay, if it's a mixed protein source, so we might want to get 0.4 grams per kilogram, and then we have another meal and then we have a shake after training, so we can bring that down to 0.3 grams per kilogram. So we're up to 1.1 grams per kilogram. And then we go on and have another meal to 0.4, so we're up to 1.5. And then depending on how long that person's day is, they might be able to get another protein feeding and these protein feedings are maybe between 2 and 4 hours apart, maybe depending on the source of the protein, and then I'm going to fit in another protein feeding, so we're at 1.9. And then pre-bed we have a bit of a bolus dose, so maybe let's say 0.5; I'm going to go high. You've got 2.4 grams per kilogram for maximal hypertrophy, which let's say you took out one of those meals and you're down to the 2 that everyone ends up as, but instead of that being a summation of the protein research, it is brilliant that we have that information from the likes of Van Loon, Phillips and Tipton, and as you've already correctly pointed out, MPS is not a…it's not how big you're going to get but it is a, if you've got everything else right in terms of training and you are augmenting the adaptation to a good training program, maybe having that high of protein is going to suit that person because, following on for the mechanisms that I've outlined, they're going to end up at that point.

Danny Lennon: Yeah, that's super-interesting. I think there is a number of really important things that you said there that I wanted to pull back on. I think the first one where you mentioned this whole discussion of people previously had gone so far in the direction of talking about nutrient timing being the most important thing and maybe neglecting overall intake, and yeah, when we start to see that was maybe not so correct that a kind of pushback can almost swing too far in the opposite direction then where you get…

Martin MacDonald: Yeah, totally.

Danny Lennon: …people talking about "just hit your macros and don't worry about the rest," whereas yeah, sure, nutrient timing isn't as big as your overall caloric intake but it still can have a pretty significant effect and I think it's probably just an overcompensation maybe by different people because, I mean…

Martin MacDonald: Totally.

Danny Lennon: In different areas in nutrition, I mean, dietary fat intake is probably the best example where when people say, “Yeah, it was probably idiotic to say go as low as possible,” but that doesn’t mean that going as high as possible is better.

Martin MacDonald: I feel like I'm a broken record saying this but I just think that as humans we just tend towards extremes and it's a very rare person who doesn’t want to sit in the extreme, and actually I feel like I've entrenched myself in the middle and I've almost made that my thing, and people like yourself and others are doing the same but in general—but I have in the past with the whole…my early influences with very, very…people with very low fat dogmatic, so in response to that, I would fight that. And even though I don’t feel like I ever went to the other end, like I never was singing the praises for keto for anyone or things like that, I was pointing out studies that were beneficial with low carb and I was showing the information that undermined the idea that we should all be low fat. So very much I was fighting for a lowering of carbs potentially or against the low fat and it just creates—and now I try to be very aware of, you know, with my breakfast stuff where I'm calling everyone idiots when they think that breakfast must be eaten by everyone, I sort of say, “You know, I'm not saying you shouldn't eat breakfast. I'm not saying that you can't eat breakfast. No, what I'm saying is that it depends,” which is such a wishy-washy answer but obviously going on and explaining how and why it depends and how people can use the information for themselves rather than these blanket guidelines. But I totally agree, it's always just a response that can just end up swinging a bit too far, maybe a guru—I mean that in a good way, a guru like me and you—says something and explains something but then your followers hear it and then maybe take it a bit too far, a bit like the “if it fits your macros, the origination of that is not pop tarts and whey diets,” but that's where it's gone by the crowd. So yeah, I think it was just a response as you say.

Danny Lennon: Yeah, and the whole thing with the protein timing is, like you say, like we can have all these interesting discussions around the mechanisms and what specific amount per meal and how many meals per day is going to give that maximal response, but at the end of the day we still have a pretty clear idea of if you can schedule your day the way you want, then having a high protein intake—so whatever, 2 grams per kilo, 2-1/2 grams per kilo—and having that split between four or five of those meals above the leucine threshold, there's really no downside per se of doing that for most people

if their priority with their training is to gain as much muscle mass as possible. And I think maybe people get lost in the whole MPS issue as well when we figure all the other things that go into driving hypertrophy and all the other anabolic signals from oxidation of other amino acids or from hormonal effects, and we can kind of get lost in only focusing on one little thing particularly when you talk about, you mentioned training stimulus earlier, people forgetting just how important is, "Well, are you actually training hard enough?"

Martin MacDonald: Can I, just to add on one thing, that it's worth bearing in mind that what I never want to be associated with is the idea that, "how much do these things matter?" So in the grand scheme of things and for the individual, so you know, you do get nutritionists, personal trainers, fit pros talking to the 40-year-old mom or dad training in the gym and like hammering nutrient timing or hammering protein frequency or hammering the importance of leucine threshold, when for that individual with their goals, for me, or for the old me that had more time and was a bit more focused on training and nutrition, it was yeah, I would like to make the most of all of these nitty-gritties, but knowing that maybe doing X, Y and Z might result in an extra pound of muscle over four years. There was a time when I would have cared about the extra pound of muscle. Now, I couldn't care less. So it's just understanding that we're talking about the fun, interesting geeky stuff where if you have a client who their personality brings you onto these things, then fantastic, but for a lot of them especially if just weight loss is the goal, you don't need to be worrying about many of these things. And even my views on the amount of protein you need for muscle mass retention, I think I feel a very, maybe in a bit of contrast to a lot of what other people are saying, I posted in the **private** LTB [Lift The Bar, Facebook] group recently a bit of a flippant response but basically just said, "Muscle mass loss is a lot of rubbish. No one loses muscle anyway," and just left it, knowing that it would obviously raise some eyebrows. But it was based on something.

So, I don't know, I just want to say that specific to individual, if you do have a bodybuilding competitor who is completely obsessed and wants to do everything, then yes, brilliant. But for a lot of people, yeah, just getting it roughly right is—there will be no notable difference. That's the other thing I want to say, is when people go, "Oh yeah, well, I changed my protein from 200 grams to 250 and, oh, the difference was unbelievable," rubbish, absolute rubbish. I cannot be convinced that someone sees a noticeable difference in performance things. It might be like, "Oh, yeah, I

feel a bit better." Like the most proven supplements in the world, caffeine, creatine, these kind of things, you know they're going to work. You can even placebo control for the use of creatine. People are going on "definitely!" in the creatine group because, "man, it's unbelievable the difference". It's like changing your protein a little bit, the actual real-life changes. It's not like you're seeing the graph of muscle protein synthesis change on yourself. So, yeah, the changes are not even noticeable. It's kind of a bit of faith based on what the researchers are publishing and you're hoping that, "Yeah, I've maxed out my response and adaptation."

Danny Lennon: That actually mirrors something that I remember Mike Israetel saying to me before, I think he used the example of creatine, of "this is the supplement that we know is probably more effective than any kind of other sport supplement that we have available," but if someone goes around saying they started taking creatine and four weeks later that that was the thing that was responsible for X amount of kilos of muscle gain, like that's just false.

Martin MacDonald: Yeah.

Danny Lennon: Like they can't quantify like the tiny change in performance that creatine may give. You can't quantify that with what it's done for muscle mass, really. And so that kind of just reminded me of that.

And the other kind of idea of I think understanding that all these different factors have a—they do matter but it's all kind of proportional. So like we say, if there's someone in the general population that just needs to start making better choices, then yeah, trying to play around with nutrient timing or supplementation is going to have a very, very small impact on results, if any, and that's one thing I've said to people before, but then people can maybe misinterpret that as me saying, "Well, these things aren't worth worrying about at all."

Martin MacDonald: Yeah, yeah.

Danny Lennon: But these things still do matter. It's just that how much they matter probably doesn't matter for most of us, but for an elite athlete a little tiny change is an important change nonetheless.

One thing, just while we mentioned Stu Phillips and the group at McMaster earlier, around the high-protein diet and split over the course of the day, I remember discussing with Caoileann Murphy the study that I think Tom Longland was the lead author on.

Martin MacDonald: Yeah.

Danny Lennon: I'm certain you've seen that where they had the high-protein group able to increase lean body mass whilst being in like a 40% calorie deficit. And I think that may surprise some people who were maybe holding the idea that dieting is, and particularly at that level of a deficit, like a 40% deficit is pretty big, inherently means there's going to be muscle mass loss.

Martin MacDonald: Yeah.

Danny Lennon: So within this area, what do you think is an accurate way to think of the relationship between dieting and caloric deficits and then lean body mass, either retention or not?

Martin MacDonald: I mean, huge can of worms and such an interesting topic for me at the minute. I coined the phrase, I think I did anyway, it's rather long so I don't think anyone else has ever said it, but essentially it links to a couple of different things that you said there, but it was essentially "dieting people on the lowest number of calories that they can realistically maintain for the duration that would take them to their goal." So that was the—I've got that verbatim of how I've said it in other areas. That's one kind of thing that I suppose I've started thinking about more and more and seeing that work with individuals rather than the idea of do it really, really slow, make tiny dietary changes sustainable. And I'm not trying to go against any factors of coaching and behavior change because I think they're amazing. It's a huge part of the MNU syllabus. But understanding the difference between the phase of dieting and the phase of lifelong weight maintenance I just think is very, very often missed. And it's even missed by people who understand it and appreciate it. They just don't put it in some of their writings, so the people who are reading their writings don't understand.

So that's one thing that I suppose is linked to what you said there, but I just want to touch on that Longland study because it's brilliant that you've pointed it out because it's the newest study showing what's been shown two, three, four times before in other studies, but specifically looking at—you mentioned it—the 40% calorie reduction there, but on top of a really low, in terms of industry-standard protein intake, and sorry if I'm repeating stuff that's been said on another episode, but I think it was as low as 1, 1.2 grams per kilogram in the control group. So, really what the general population can hit with their normal diets, and maybe in the general population the distribution is suboptimal, we'll call it, but if we're talking levels close to half what we're recommending as the fitness industry and

people being able to maintain muscle mass, I believe that is right. The lower protein group were able to maintain and the higher protein group were able to gain. Am I right?

Danny Lennon: Yeah, I think the higher group gained like maybe 1.2 kilos.

Martin MacDonald: Yeah. Yeah. So we've got this situation where actually, and there are other studies, well, there's loads of studies out there, where even diet-only interventions of weight loss and people are maintaining muscle mass. And yeah, some of these individuals are obese, but that's who lots of people's clientele are, right? They're overweight individuals who want to lose weight. And they're getting in the gym, and then they're saying, "You know, you need 2.5 grams per kilogram to maintain muscle," and I don't think necessarily think this is a game changer because I'm not telling people to, you know, you have got the potential satiating effect of protein, but again we've got some cool new research about the difference between solid and liquid protein, the difference between 20 grams and 40 grams for instance in terms of not necessarily getting as much greater satiating benefit of high protein in that meal in terms of appetite.

So yeah, it's just a really interesting thing to point out there, is muscle mass loss for me in the fitness industry is a bit of a, I'm going to use the term boogeyman, because someone said it in front of my daughter the other day, so it's on my mind. It's just this thing that, "Oh no, I don't want to lose muscle." I know time and time again over my career I've had people come to me, "I need you to work with me, Martin, because in the past when I've done it I've lost muscle mass." They just didn't have as much muscle as they would like to have thought. So these individuals thinking that, "You know, I've gained a stone." What timeframe did you gain that stone over? "Oh, you know, over eight weeks, but I've not got any fatter." And it's like, "Well, you're a drug-tested athlete. You definitely haven't gained that much muscle, I can guarantee it." So those individuals, yeah, they maybe have a really nice even distribution of body fat, they've gained some lean tissue there, but it isn't myofibrillar proteins that they have gained.

So this idea of muscle loss with good well-planned resistance training, not some silly, "We're going to increase repetitions and drop the weight massively into a competition-type toning program," we're talking maintaining a decent level of stimulus on the muscle whilst dropping calories, for me it's just a case of you can drop weight, you can drop body fat without losing muscle mass to any great extent.

And I just want to touch on an area which I think is going to be publicized a lot more, is that—and I feel like I've been calling this out for a long time—that studies that show muscle mass loss, there are studies that go, "Okay, we're going to compare low-carb versus high-carb weight loss program," and, "Oh look, the low-carb group just by eating more protein or even if it's the same, oh, they've lost some muscle mass." But this is the problem with DEXA scanning. DEXA scans are sensitive to changes in macronutrient content in the diet in terms of glycogen depletion. So whenever I see a study that's gone, "Yeah, we jam these people into a ketogenic framework and look, they lost muscle mass," I just think, "Okay, give them some carbs for a couple of days. Oh look, they gained two kilos of muscle mass in two days. Is that what happened or did they just refill glycogen stores?"

And I even did a pilot study with some researchers and used myself as a subject, and I did this, a week of ketogenic and DEXA at the beginning of the week and had to get signed off approval for the three DEXAs in eight days – DEXA at the beginning, DEXA at the end of the week. The first day I did the dehydration, then I rehydrated, then I did a week of carbing up and I also took creatine, and just saw these massive fluctuations in the DEXA readings.

So it just kind of shows that we need to be aware of, are we actually seeing a big loss in muscle mass? Are people who are doing decent resistance training programs really losing muscle mass? And in my opinion they're not. I've just not seen it. We have the benefit of being able to DEXA lots of athletes, clients, and people gaining muscle mass and not hitting these 2.5 grams per kilogram protein and not dieting slowly on a 500-calorie deficit every single day. So, I mean, even if people look at some of the protein-sparing modified fasts or the very-low-calorie diet research, the massive weight loss stuff—anyway, I just think it's a bit of a boogeyman that people are scared of muscle mass loss and, realistically, unless you're an idiot with your training or you have some absurd dietary protocol, you really can retain muscle mass going as low as you can realistically maintain.

Danny Lennon: I think the thing you said of a phase of dieting versus a phase of lifelong weight maintenance is particularly profound, to be honest, in many ways because I think so often people forget that the dieting condition is supposed to be a very temporary period to achieve one's specific thing…

Martin MacDonald: Yeah.

Danny Lennon: …and so you don’t have to set it up the same way that you would set up someone for the rest of their life in terms of their behaviors or what is “healthy,” right? And seeing it essentially as a very temporary thing.

Martin MacDonald: And like, so because I'm doing loads more talks to the, I keep calling the evidence-based crowd, but I do get nervous. When I go and do a talk to some of these guys, I think, “Man, I'm not going to be able to wow them by telling them that you don’t need to go zero carb to lose weight.” These people already read this stuff. They know this stuff. So it's put me in a bit of a state of metacognition, so like the concept of thinking about thinking, and really having to step back and go, “What can I help these good trainers, these good nutritionists, these good S&C coaches, how can I have them still going away from my talks going, ‘Do you know what? I've got some really amazing advice, really actionable stuff?’” And this is one of those things of the evidence-based crowd, the people who want to do the right thing, the people who are not putting people on stupid plans or stupid supplements or even stupid drugs, that they can be, and I'm going to use a funny phrase, but too evidence-based. They can be too moderate. They can go, “Oh, you know, we just need to be nicey-nicey, not aggressive with any calorie deficits. It needs to just be behavior change. It needs to be sustainable little changes,” and actually going in and going, “Do you know what? The evidence doesn’t support that. The evidence actually shows that jamming someone in a decent calorie deficit and getting weight off them, in the long-term, they are no worse off,” and so understanding that there is a difference between coaching and being a bro.

So you can do what the bro does, the non-evidence-based people who just do silly diets, but you add coaching and education into that—like even meal plans are becoming a little bit frowned upon. If you say to someone, “Here's a framework that what a healthy eating day might look like,” people say, “Oh no, you shouldn’t do that. You should be using fists and cupped hands and thumbs,” or, “Oh no, you shouldn't be doing that. You should be teaching them about portion sizes or food types.” That's not always the case. We have so many clients who we believe we know that a visualization of what a day might look like is really, really helpful for those individuals in their situation. And, “Oh, well, it doesn’t teach them anything because they're just following that day.” Well, A, no one ever follows an example day what it looks like, but if they do do that day it does teach them stuff. It teaches them about preparation of food. It teaches them about portion sizes of what might be appropriate for them and it gives them that structure.

But yeah, this is just the thing, going back to your kind of initial point, is, right, diets don't fail. "Oh, diets fail. It's only when you make sustainable changes that…" no, wrong. Diets do not fail. Most diets work, it just depends on how long people can stick to them. So if someone can stick to a diet and they lose a lot of weight quickly, and I think where this has come from a little bit in my mind is the fact that we know metabolic damage doesn't really exist in the way that maybe a lot of us did once think, so if we can get a lot of weight off someone quickly, what does that achieve? Well, it achieves high adherence, high compliance. It achieves high motivation for making some big changes here. "I feel better about myself."

And if we can then coach them into the idea of, "Okay, well, actually if you tried really hard, it's not been very nice, let's just back off a bit, and then we'll go hard again," or whatever, my idea of as low as they can go for as long as they can, essentially, but as long as it'll take them there, that's not, "Okay, you have to eat 500 calories every day for this long." It can be the diet might only…it may only be a 700-calorie deficit but you've got much lower days on non-training days because you find that good, and it evens out over the 12 weeks that you've got to realistically sustain.

But it's understanding that, and drawing just to another point here, you don't have to have the same boring calorie deficit every single day. So you can literally hammer someone for a day because people have real lives—like Sarah our lead nutritionist, Health and Performance Nutritionist, Mac-Nutrition, like she does amazing things where she basically makes someone eat like a saint for five days and they love it because it's like they've got a structure because they're at work, they are busy so they're less hungry, and the amount of junk food and alcohol she can fit into their allowances for the weekend is amazing and they get results. But they are living like, because some people say, "Oh, that's binging," and it's like, well, no, it's not. Actually, that's how people do tend to set their lives up. They enjoy their weekends. They are much more sociable. So they go out and eat nice food. It's not a binge. It's not framed like a cheat. It's framed like you can go out and select these many more foods and these bigger portions, etc. because you've done like this in the week.

But we have come from a background of, "No, you need to make little changes every day and be in a calorie deficit. Always eat until you're 80% full." What I call boring mediocrity is just, "I'll live this really kind of boring non-extreme life. Don't drive any fast cars, don't have any fun and

never eat until you're full." Like that's not a life I personally want to live. Some people brilliantly do it and it's cool.

Danny Lennon: Yeah. I was just going to say that actually, that a lot of this stuff probably comes down to personal preference and it's something I've definitely in people.

Martin MacDonald: Exactly.

Danny Lennon: And it's funny you mention around creating large deficits on specific days because just as a personal anecdote, over the past maybe five to six weeks, that's something that I've been using where four days of the week is a pretty large deficit and then on other days I've been able to just really jump up my calories, particularly focused around training. But on certain weeks I was getting four days where I could be at 1600 calories…

Martin MacDonald: Wow, yeah.

Danny Lennon: …and for most people it's like, "Well, you're training like four, five times a week. You're whatever body weight at the time. Like how are you eating this low? That shouldn't be possible for you…"

Martin MacDonald: Yeah.

Danny Lennon: …without understanding the kind of context of maybe that wider timeframe and kind of some of those ideas that we just discussed there.

Martin MacDonald: Exactly.

Danny Lennon: I like the idea of when you mention how some people are becoming too evidence-based because…or not even too evidence-based but more a case of too worried to be seen to be doing anything that's not fully supported...

Martin MacDonald: Yeah.

Danny Lennon: …because I've seen it to a point where people are maybe almost scared to say too, "Oh, for this client, we can restrict a certain type of food," and it's almost like they have to be allowed to eat any type of food they want within reason every day.

Martin MacDonald: Yeah.

Danny Lennon: Whereas like if I have a female dieting on a thousand or 1100 calories and we know it's going to be a temporary thing for maybe three, four weeks, then it probably is a good idea to say, "Well, do you know what? For this

period of time at least or on these certain days, let's not eat these types of foods," instead of being worried about people saying, "Oh, well, why are you restricting someone's food? Do you not understand macros and this sort of thing?"

Martin MacDonald: [Chuckles] Yeah.

Danny Lennon: It just made me laugh when you said that because I see it quite often at the moment.

Martin MacDonald: It's cool that you said it out loud, but you know, the whole thousand-calorie thing is like, "What? You've got someone eating a thousand calories? Like you're a complete bro." It's that issue, isn't it, is of, you know, if you're selling generic plans to everyone and they're a thousand calories, maybe that's not a good idea. But I hold my hands up and with absolutely no shame and say I've had many people on a thousand calories, or at least I have had people on that many calories, and I would completely defend my reasons for that. And people thinking that there is this magical figure, like I saw in a group the other day someone say, "Well, you know, one of my clients is eating about 900 calories," and the first comment was basically, "Oh, you're going to mess up their metabolism, thyroid, digestive issues, etc." And she said, "Oh, this person's 4-foot…" I can't remember, 10 or 11, she weighs 50 something or other inactive. And it's like, actually that deficit is probably less than 500, 600 calories a day, and actually for that small human being—it's just weird for a big whatever, 80-, 90-kilo guy, to hear about that few calories but for a tiny inactive female, that's maybe a normal deficit, and so…

Danny Lennon: Yeah. I think even when you consider, I mean, I think one thing a lot of people maybe fail to grasp is that inter-individual variation in how someone's responding to a deficit and that kind of adaptive component of, like you could take two people with same gender, pretty much same body component, their training looks similar, and then you put them in a calorie deficit but how much their body adapts their energy expenditure can vary between different people and so on.

Martin MacDonald: Oh yeah.

Danny Lennon: So like I can have similar people where some of them need to, with this kind of same body type, may need to diet on a thousand or 1100 versus another woman that's on 1400 and they're losing at a similar rate just because of what I'm guessing or presuming is just a difference in how their body is adapted downwards to that intake.

Martin MacDonald: And if you're one of these people who's just, your body hates you and you've got one of these adaptive metabolisms in the wrong direction, it is, yeah. And I see people using this as a, "You know, see, it's not calories," and it's like, oh my goodness. Nothing about that situation says it's not calories. "And it's not energy balance." And it's like, of course it is. That's exactly what it is, but it is the difference in—we do need to understand that it's an organism is an open mechanism. Things change within our environment and within our daily activities because of that.

Danny Lennon: One topic I did want to try and get to because it's one I've been thinking about a lot and I'd really be interested to hear your ideas on it, is this whole concept of carbohydrate tolerance because it's…

Martin MacDonald: Oh, cool. Yeah.

Danny Lennon: It's a term I think maybe everyone listening has likely heard at some point, but when many people throw around that term I find sometimes it's either just use kind of generic term without really understanding it or then some people use it purely as a synonym for insulin sensitivity. So first, how do you view what that term carbohydrate tolerance actually means if there is a thing? And is it more than purely a correlate for insulin sensitivity?

Martin MacDonald: Interesting. So I really dislike this term. I think it's a term that I don't think I've ever really gone near in all my…even in my bro years. I agree with you that more often than not it is people talking about insulin sensitivity whether they know it or not; however, I do feel that there is a large percentage of people who use the term that have absolutely no idea what they're talking about. If you ask them to explain it, they wouldn't why. If you ask them how they were manipulating people's diets based on it, their reasoning would be wrong or it would be…they would be talking about carbohydrates instead of energy, or at least what they were observing is, "I removed carbohydrates from this carbohydrate-intolerant individual and they lost weight," on an N = 1 basis, and saying, "Yeah, see? I told you, I have proven to you that they were carbohydrate-intolerant."

So, I mean, even some of the bigger, huge nutrition coaching companies in Canada or America or wherever they're based, articles on this topic that I've seen and talking about, "You know what, some people do have genetic variations in how they can digest, metabolize carbohydrates," and then linking that to the idea that you should change someone's carbohydrate intake based on a differential digestion. Nothing, absolutely nothing within the research showing—I mean, I'm talking somewhat about

we know that there are gene expression differences between individuals in their amylase genes, and then there is a correlation between people who have this difference, a lower propensity for the amylase gene, and it's like, “Oh, that's correlated to obesity.” There is absolutely nothing within the research that then goes, “Ah, so if you're one of these people with this gene where you don’t have as much amylase, you should go on a lower carbohydrate diet.” It doesn’t exist. Yes, you have a differential response in terms of your amylase, but you don’t therefore…there's nothing to support…it's a complete leap of faith to go, “Ah, that person would then need to eat less carbohydrate because they’ve got less amylase.” It may seem to make sense, it may be common sense, but we know that often if you go by common sense within research and science it doesn’t pan out.

So the carbohydrate tolerance thing, just to add another snippet to it, then you've got people who talk about carbohydrate intolerance like, “Oh, lactose tolerance, lactose intolerance,” because lactose is a carbohydrate. And then you go, oh, what someone’s tolerance to these carbohydrates is just a mishmash. There's no definition and I would prefer it if people would just stop using the term and either refer to insulin sensitivity because it's a known thing, it has a definition, it has standardized methods of measurement, or how people feel when eating carbohydrate because then we're talking about two different things and where someone’s diet ends up, you know, it's like, “Oh, you're really carbohydrate-tolerant, so you can eat shitloads of carbs.” What does that mean? Are you basing that on their feelings of how they feel when they eat carbohydrate? Are you basing that on their insulin sensitivity?

Danny Lennon: I agree with the whole the terminology probably doesn’t help in that it gives an indication that some people just cannot tolerate eating any carbohydrate, which probably isn't the case. Particularly, just when you mentioned the amylase gene, it reminded me of, I remember Chris Masterjohn did a presentation on this before where he essentially was looking at different copies within humans of how many copies of the amylase gene they had, and I think it ranged from like…

Martin MacDonald: Oh, cool.

Danny Lennon: …four or five copies all the way up to 15, so certainly there's a range within humans of how many copies they have, but the kind of point was that even at the lower end they still had multiple copies. And I think the big problem I find with not just on the terminology but if we talked then just about insulin resistance, and I'd like to get your thoughts on this as

well, is that with insulin sensitivity and insulin resistance a lot of conversation I've had with people who have tried to either talk about, “Well, do you not think it's a better idea for insulin-resistant people to always be put on a low-carb diet if they need to either drop weight or be healthy?” And, I mean, some of the data in the area is cool. I think the one I particularly think of is, and if you saw it, Chris Gardner had a study from like 2015…

Martin MacDonald: Yeah.

Danny Lennon: And so there was, yeah, there was a slight advantage for people who are insulin-resistant did slightly better on lower carb than higher carb, but then conversely you had people who are insulin-sensitive had better fat loss on the higher carb diet compared to the lower carb. And so people were kind of trying to point to that and say, “Well, look, this shows that if you are insulin-resistant then a lower carb intake means you're going to lose a bit more fat,” but then I would say to them, if we're looking at this in the pragmatic real-world scenario, both groups, as long as they were hypocaloric, even the insulin-resistant people still dropped significant weight on the diet that was like 60% carb. I think they still lost like 7-1/2 kilos or something like that. So that just started to make me wonder whilst we may have people who are more or less sensitive, to use a bad word, to carbohydrate intake, how much does that actually impact fat loss in real-world practicality for someone? Or how do you approach that idea of if you are considering someone that maybe comes to you that is likely insulin-resistant, does that impact where you would place their carbohydrate intake or would you base that simply more on their own meal preference? And would you just allow that calorie deficit get their body weight down and therefore that [the weight loss] impacts their insulin sensitivity as opposed to trying to do that via the carbs, if that makes sense?

Martin MacDonald: Yeah, it does, yeah. So that Gardner study is a funny one because I've had people, and I say arguing, they were very respectful, but essentially say to me, “Oh yeah, well, now insulin resistance stratification and the newest studies seem to support it,” and I said, “What newest studies?” thinking, “Oh man, it's game over. I'm not keeping up-to-date with the research.” And he said, “Oh, I'll try and find it.” And I posted the Gardner paper back at him and said, “You're not referring to this one, are you?” And he said, “Yeah, yeah, that's the one. See?” And I said, “Your term is significantly…” oh, what did he say? “Extraordinarily different results.” And I copy and pasted the conclusion of the paper, which basically said

there was no significant difference in the insulin-resistant versus insulin-sensitive stratification groups. All groups lost weight but no difference between groups.

So yes there was a numerical difference, but real-world difference? Pfft. Compared to the total weight loss? No, not at all, and it didn't reach statistical significance.

So based on the fact that what matters within nutrition being people's feelings, people's lives, people's adherence, all the boring stuff that I wish didn't matter because controlling human beings is so much harder than controlling macros, based on those things that matter more, this study isn't useless – it's meaningless. In my teachings, that study goes against the earlier studies, which I'm sure you're aware of. There's the Cornier paper, which came up at the EPIC Summit, and then the Ebbeling paper, and there's another paper and, man, I've forgotten the author's name but within our presentations I talked about it, I can't believe I've forgotten it, but essentially those two papers and this other one which essentially showed an increased adherence by stratification based on, and I think that study was actually insulin release in response to feeding rather than the resistance and status, insulin sensitivity status, but those two papers, yeah, showed quite dramatic differences. I think it was like 10 kilos versus 5 and vice-versa. So, really quite dramatic changes.

But it does go back to what you said. So those haven't been repeated and they were really quite amazing results, but those haven't been repeated. But it goes back to what you say of even people who are insulin-resistant who are put on the high-carbohydrate, hypocaloric diet lost significant body weight. So if you are training and your client or your personal trainer, depending on who the listener is, is going, "Oh, I know I'm not losing weight. It's because I'm intolerant to carbohydrate," or, "It's because I'm insulin-resistant," that is not the case. If you are not losing weight, you are even not in a calorie deficit or something is masking your weight loss. So that's the thing. We've got this result.

So for me, it's, what do we do with clients? It's a case of currently—and just let me clarify, I would love it if the research came out and showed conclusively in years to come, the body of research showed and I could make a decision that, yeah, if I could send someone off for testing or get some lab testing equipment that I could just do here with a little pin prick and say, "Yeah, I can now test you on the scale of insulin sensitivity and I can assign you carbohydrate consumption," a bit like the gene-testing

people seem to think they can do, is I would love that. But currently, based on the very few studies we have and the conflicting results, and the most recent and best study, the Gardner one, not having anything amazing to say about it, it's just a case of let's actually look at what is going to suit people. And yeah, I am a proponent of slightly lower carbohydrate diets in lots of our businesspeople clients and parents and non-athlete or non-athletic population. So it's not that I'm against that.

And feeling-wise, yeah, it seems to push people to a way of eating where—this is the other thing, talking about the tolerance thing, is, "Oh, how do they feel?" Well, if we look at something like postprandial somnolence, that's the drowsy feeling you get after eating a big meal, which people often go, "Oh, you know, my blood glucose is going low and now I'm sleepy," or they go, "You know, I ate too many carbs," and they start talking about tryptophan and serotonin and blood-brain barrier where we've just got this, they've just eaten a huge meal and we know that the taxation that puts on the body in terms of the digestive processes does make people more sluggish, and yeah, might have a tiny bit to do with tryptophan and serotonin maybe, if you want to be fancy. But they go, "Oh, you know what? My guru metabolic body-typing nutritionist said to me that if I eat this meal and I don't feel…this big [01:00:42] meal and I don't feel good, I'm intolerant to carbohydrates, and therefore I cut them out and, oh man, I eat no carbs anymore and I've lost weight." You're setting people up to prove it to them, whereas—and that's often the case of, okay, you lower someone's carbohydrate and the calorie content of a meal goes down, and a lower-calorie meal, therefore it does keep people more alert. You give someone a big, high-protein, high-fat, large meal and they will—I mean, go out and try it. Very often, they will have this postprandial somnolence of feeling sleepy. And then it's like, oh my goodness, how did that happen? They didn't have any carbs? And then people might go, "Oh, well, it's because the protein released insulin," or something insane like that.

But the fact is when someone cuts carbs out of the meal and they go, "What are you going to have for breakfast?" "Well, I'm just going to have two eggs and a bit of avocado," you've got this small light breakfast compared to the huge bowl of porridge that they were having with nuts and coconut oil or whatever people have, so yeah, it's going back to this, what's actually happening in real life? And this is why, I'm just going to plug a menu a little bit, but set it up so that we're going to take people from the really basic understanding, the understanding by chemistry,

understanding physiology, understanding the basics and then building up in the practicalities. Once you understand that stuff, you can then make actual decisions based on real knowledge and you can go, oh, you can spot inconsistencies. You can spot what factors are really at play rather than just focusing on, “Well, I've just changed this, so therefore that was the cause.” You can have a slightly more broader perspective within your understanding.

There's two more things I just want to touch on, these things all just rattling around in my head. One is, when you change someone’s carbohydrate intake, if you do lower that carbs and where you've got this big—I know you and I within the mentorship, we're kind of having a few jokes about the whole FODMAP area, Danny, that if you do lower someone’s carbohydrate intake dramatically and their FODMAP, these fermentable carbohydrates, do go down, they may well feel better. And you've not even thought about FODMAPs, but the fact that you've only given someone 50 grams of carbs, 80 grams of carbs, 100 grams of carbs per day, their FODMAP intake may well go down dramatically and therefore they may feel a bit better maybe, if they're one of these individuals that responds that way. So in terms of feelings, yeah, they are less tolerant—for people who are wanting to use that term—to carbohydrates in that by lowering those certain carbohydrates it made them feel a bit better.

And just finally it popped into my head because I know I do have a bias towards lower-carbohydrate-type intakes, and for things like sort of prediabetic individuals or insulin-resistant individuals like individuals with polycystic ovary syndrome or any of those individuals, I am towards a lower carbohydrate intake, slightly higher protein intake for those individuals, but there is really interesting research that I would love to hate but showing that even some reversal or some kind of increase in pancreatic beta cell function, lowering of basal insulin levels, and kind of increasing on insulin sensitivity with super-super-high carbohydrate intakes—and the reason I say I would love to hate these diets is because they're pretty much a vegan diet. And I've got nothing against veganism if as someone’s own personal choice. Obviously, there are just these crazy vegans that seem to come at me, and that's why I've got this tendency to be like, “Oh, I don’t want to promote veganism,” and when people say, “Oh, it's the healthiest way to eat,” I just categorically think that's, “Well, no, that's incorrect.” But actually, as a therapeutic thing or even just as a slight black swan, a way to disprove my own beliefs of lower carbohydrate is the

way forward, just showing that actually even a super-high carbohydrate intake doesn't cause insulin resistance and actually in these insulin-resistant individuals with a super-high carbohydrate intake they improve those things by going to, "Yes, it was an extreme end of the spectrum of macronutrient intake and limiting lots and lots of foods," but I'm just saying that out there for people's kind of understanding a little bit.

And actually this idea that stimulating the pancreas to release insulin and this kind of with pulsatility actually led to this improvement in their—and even these individuals were medicated with insulin and were able to reduce their own insulin use by eating more carbohydrate. So in my mind, what's happened is they have massively increased their carbohydrate intake, they're releasing lots of their own insulin, which is jamming glucose into cells, and they are then able to not take exogenous insulin, and once they've got glucose out the bloodstream and I'm fairly sure, I'm almost certain there was weight loss involved but I actually don't know, but I'm almost certain there was. But versus control—and I think the control group was a more moderate way, and these groups showed great results, so I'll leave that there because it's obviously not an area of my expertise, but just my expertise is questioning. It's this kind of questioning myself, questioning the evidence-based crowd to keep us moving forward.

And yeah, so the whole carbohydrate intolerance thing, I do not like individuals who say, "Yeah, what we do is we really fine-tune people's intake. We take them and we measure this, that and the other to get a starting point, their metabolic type, whatever, and then we fine-tune it along to get that optimal amount of carbs." And with our clients, we give them so many dietary options and variety that one day they might be low carb and another day they might be high carb and lower fat, and based on how they're choosing and their preferences or likes on those days, but we're looking at the things that matter and giving people the ability to make those choices of—because I'm just not convinced enough any way that I can fine-tune someone specific. And we might find that someone does feel a little bit better with a very, very broad brush stroke slightly lower carbohydrate intake, but there's no way we're going, "You know what? That guy over there, we've got him on about 2 grams per kilogram, but that guy, he's much better on 3 gram per kilogram." It's just, no way.

Danny Lennon: Especially when it gets down to a practical level, I've talked about examples I've seen before of people who have come to me who have made or have at least started to try and make some positive changes with their nutrition, and so for them coming from a background of maybe a really

poor diet, they start having some oats in the morning and then suddenly someone tells them that that's the worst thing ever, that you shouldn't have carbs in the morning…

Martin MacDonald: Mm-hmm. [Chuckles]

Danny Lennon: …and it's just kind of missing the whole idea – what if some people could, by having porridge instead of bacon and eggs in the morning, actually stick to a hypocaloric diet better?

Martin MacDonald: Exactly.

Danny Lennon: And it's a funny one as well because I'm sure if people, when they hear me talking about that…or anyone within the evidence-based scene saying that it's not carbohydrates per se making people fat, and then if they were to look at some of the clients like you just mentioned that you have or that a number of people have and that we have at Sigma Nutrition, where if you look at them, actually their carbohydrate is actually low, and they say, "Oh, well, you're using a low-carb diet," but it's really not the carbohydrate intake that we're first trying to modulate. It's more the fact of if you take someone who is a low-calorie diet because they need to diet down, they're probably generally fairly sedentary. And then we're trying to get a higher protein intake with moderate amounts of fat, what's going to be left, right? You're not…

Martin MacDonald: Yeah. Exactly, exactly.

Danny Lennon: So it's a default low-carb diet as opposed to, "We're purposely putting it down super-low to try and get more fat loss."

Martin MacDonald: Yeah, and we can…I suppose that was one of the things that we touched on a little bit I think in the first time I came on your show, was talking about the idea of increasing fat oxidation through whatever protocols. And actually it's a case of, now looking at the energy balance that's available there, it's not that we're trying to increase fat and decrease carbs to increase fat oxidation, it's just where they ended up as a by-product of the amount of calories that they're able to eat with their level of activity and getting adequate other things, other.

Danny Lennon: Right, and then their energy change is the same and people get worried about fat burning and so on which, like you said, we covered well. So, Martin, we're well up on time here, so before I get to the final question, where can people, first of all, find you online, and then where can they get

more information about Mac-Nutrition University if they're interested in checking that stuff out?

Martin MacDonald: Me, like I spend a lot of time on social media at the minute and so my Facebook profile is just a public one now. I don't have a personal one. So just search Martin MacDonald on Facebook. I'm @martinnutrition on Twitter and Instagram, which I don't use a great deal, but the thing I'd like people to check out is any of their newsletter signups, so the newsletter signup on mac-nutritionuni.com, if they go there. So, giving some of that information away so that hopefully, if people are interested in doing a certification in nutrition when you can get insured as a nutritionist that hope maybe I would be someone that they want to learn from if they want to go down the evidence-based route as far as I'm concerned, and you can look at the people like Danny and big names within this industry that have endorsed our course that it's the only evidence-based one out there. And yeah, so sign up to those email lists that I've mentioned there and, you know, mac-nutritionuni, go on there.

We've actually got three live days—one last plug—that we are filming 15 of the lectures that will be within the course live. There's one in July—two in July and one in September. And they will then be online as part of the course. We wanted to give that feel of being in a room, give some of the learners who may be on the full online course, a chance to meet with each other, because we are doing it as cohorts. We want people to feel like they're learning together. It isn't like passive income for us. We're going to be super-involved in there, answering questions, supporting students to be—because we want people to come out of this to be good practitioners, people who have had proper mentoring, not just being out there on their own having read a textbook and take an online exam. So yeah, go and check that out, look at those dates, hit me up on social media. I love conversing.

Danny Lennon: Perfect, and all of that stuff will be linked up in the show notes for everyone listening and of course…

Martin MacDonald: Thank you.

Danny Lennon: …thoroughly endorse that as you'll probably see when you go over to the site. And so Martin, to wrap things up we come to the final question.

Martin MacDonald: I forgot about this. [Laughs]

Danny Lennon: So apart from having to eat breakfast every morning…

Martin MacDonald: [Laughs]

Danny Lennon: …if you could advise people to do one thing each day that would have a positive impact on their life, what would that one thing be?

Martin MacDonald: Do you know what? My one this time is it's going to be—no, it's not related to the fitness industry. Anyone can do this. My thing would be because I've done this recently and it's really helped me, is define your definition of success because by doing that—I was asked to deliver a lecture and it was such a compliment to be asked to deliver this via live feed to another country, but delivering on success within the health and fitness industry whilst maintaining your integrity. And actually, I then had to define success, and I ended up defining success for myself and it's allowed me to—I'm not a good businessman, I'm not a good marketer, and realistically, I just love nutrition and I like helping people and I like public speaking, everything within Mac-Nutrition. There's never been an end goal really. And so it's been hard to feel successful at any point because I'm always striving for the next bit, being a bit more well-known, helping a few more people, getting to talk at X, Y, Z.

So, yeah, I feel like if people, whether they're—and I mean like real success, not just, "Oh, I want to lose X amount of weight. Put a bit of a timeframe on it maybe. One of my definitions or where I came to was about, my definition of success is quite long, but part of it was leaving a legacy within the industry, and actually MNU has really made me feel like one day I might leave a legacy that is lasting and positive within the world and within the industry. So the problem is actually leaving a legacy. I might have to be dead for that to come to fruition. But I do feel like I'm moving towards that, but there are other areas of success that I've defined for myself. And actually, I can see that even if I've made a 1% step towards that specific definition, I can get some happiness and, yeah, I just think personally that's been really helpful and hopefully someone else might find that helpful for them.

Danny Lennon: Yeah, I think that's brilliant, and actually I don't think we've had an answer that's gone down that route or…

Martin MacDonald: has been that clear.

Danny Lennon: Yes! Thank you so much for your time. I know giving up this amount of time to come on the show is a big deal, particularly with the stuff you've got going on.

Martin MacDonald: My absolute pleasure.

Danny Lennon: And I'll be talking to you next weekend if you'll be in London and we'll catch up then.

Martin MacDonald: Yes. Yeah, brilliant.

Danny Lennon: Okay, I'll talk to you soon, buddy.

And that is our interview. That was Martin MacDonald. I hope you enjoyed this discussion as much as I did. I'm just consistently fascinated by Martin's critical thinking and the way he approaches these various topics, and so I always love discussing this stuff with him.

Remember, the show notes are at SigmaNutrition.com/episode128. There, I'll also link up to Mac-Nutrition University for those of you who are interested in enrolling on that course. And as I've previously posted online and in the email newsletter, this course is now basically my default answer to the question that I receive via email all the time, "What course should I do if I'm interested in advancing my nutrition knowledge?" I just think like this is simply it. This is the answer. There's not only the information but how to practically put that into practice as you go forward if nutrition is your passion. I just think it's going to be unrivaled having seen what's gone into this course. And so that will all be linked up for you to check out and make your own decisions on. And I think again with any questions you have around it, Martin and his team are really, really good at giving you honest answers and, so yeah, check that stuff out. It's thoroughly, thoroughly recommended.

If you enjoyed the podcast, please help support it by either sharing on social media, leaving a review on iTunes or becoming an official patron of the show at Patreon.com/sigmanutrition.. And you may think any of those things are small, but to me they're just absolutely huge whether you share it, leave a rating and review. Your support on Patreon especially and like all of those things, no matter what you can manage, they do make a huge difference. I notice every single one of them. I read every review. I read every tweet and Facebook post and Instagram message that you guys put out and tag me in. So thank you so much for that. Like I said, it makes a huge, huge difference. So for those of you who continue to do that, thank you so much, and for any of you considering doing that as well, thank you as well.

Over the next month, we have some absolutely huge episodes coming. Over the next few weeks, we're going to have Chris Masterjohn, Menno Henselmans, Dan Pardi, our listener Q&A podcast. All of those are coming up. So if for some reason you are not yet subscribed to the show, just hit that Subscribe button on your app now.