

INTERVIEW:

Danny Lennon, MSc



Danny is the founder of Sigma Nutrition, a company providing evidence-based, educational media. The company is perhaps best known for the top-ranked podcast Sigma Nutrition Radio. As of April 2018, the show has amassed close to 3 million downloads.

Tell us a bit about your background. What initially drew you to nutrition and what topics are currently grabbing your interest?

Well, I can't say this is a particularly unique story, as I feel many of us who start pursuing a deeper understanding of nutrition and exercise science do so as a product of our own athletic interests. Growing up I was obsessed with sports, with my competitive focus being soccer initially. When I went to college my focus began to shift as I started training in Brazilian Jiu-Jitsu and dabbling in MMA. To supplement my athletic performance I also started lifting weights. As I was studying biology and physics as an undergraduate at this time, I began to learn how to search through peer-reviewed research. And so given my obsession with performance, as a hobby in my own time I would read research on areas that could help me on the field or in the gym. One of those areas was of course nutrition, which became an area that really grabbed my attention. As I read more and more, the deeper down the rabbit hole I wanted to go. And nearly 10 years later, here we are!

Right now, I would say I keep my interests are relatively broad, which is probably evident given the scope of topics covered on the podcast. I am happy building a relative level of competence in my understanding of a number of topics, rather than mastery of any one sub-topic or niche area. Maybe one day that day will come! I'm a bit obsessed with sleep research, so perhaps that's the one to bet on. So my interests range from chronobiology to glucose dysregulation to sports nutrition and lots in between. But more and more, I'm interested in the components that will likely influence the development of a healthy lifestyle in the real world, the biopsychosocial factors, that in most cases are more important to identify than the underlying physiology of health decisions. Outside of nutrition, my main personal interest is powerlifting, so I aim to consume anything I can that will increase my understanding of performance in strength sport.

You've spent some time developing nutrition programs for combat sports (boxing, MMA, etc.). Could you tell us a bit about these programs and the unique demands faced by combat sports athletes?

For combat sports athletes, considering how well-developed both the physical and technical attributes need to be in order to be competitive, the training schedules and preparation for competition are extremely demanding. Given the energy systems demands of these sports, fuelling the athlete appropriately to both perform and recover is of course extremely important. However, this becomes more complicated given that these athletes compete in weight classes. And so maintenance of a certain bodyweight range, and therefore a limit on caloric intake, is required. And this is before we even get to the weight making process that happens acutely around weigh-in times.

And there have been many external factors that can make the whole process more difficult for combat sport athletes. Due to the culture of fight sports, many athletes engage in practices that are counter-productive and contrary to modern evidence-based recommendations, whether that is in relation to training periodization, strength & conditioning modalities or nutrition. This problem is often compounded by the fact that athletes can have many different coaches for different aspects of their preparation, especially if they compete in MMA.

When the team of coaches is working collaboratively, it's great. But when this isn't the case, it can lead to mismanagement of athlete training and recovery.

Based on all these challenges that combat sport athletes face, and my own love for fight sports, it became a passion of mine to try to help as many athletes as I could. I've worked as a performance nutritionist to many professional and amateur combat sport athletes over the past several years, predominantly in MMA and boxing, but I've also had athletes compete in BJJ, Muay Thai, and Judo.

Having seen first-hand the amazing people in these sports and the athletes that sacrifice so much to compete, it is sad to think about how many of them undermine their own performance and longevity in the sport through poor nutrition and weight making strategies. And so I attempted to synthesize all of the practices and principles I apply with my athletes into a blueprint that could be followed by fighters who couldn't work with Sigma Nutrition directly, or could be used by nutritionists, dietitians, and coaches who work with fighters regularly. The result was the [Sigma Weight Cutting System](#). The foundation for all recommendations is a clear understanding of the physiological requirements of fighting, and sound evidence-based principles of sports nutrition. On top

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of that, when it comes to making weight for competition, I attempt to get athletes and coaches to be aware of the risks to performance and health of various weight cutting strategies, some recommendations on how to mitigate the negative effects, and how to make weight in a safer, more effective manner (whilst still being aware of the reality of athletes cutting weight).

For those involved in weight-centric sports, what are some of the more common errors you see with athletes trying to “make weight”?

There could be quite an extensive list for this, but generally I’ve found that most of the mistakes being made by fighters attempting to reduce weight are covered by these six:

1. Under-fuelling (too hypocaloric)
2. Eating too few carbohydrates
3. Thinking Eating “Healthy” Foods matters more for performance than total calorie/macronutrient intake
4. Cutting Weight Too Early
5. Inadequate refueling strategy after the weigh-in.
6. Not realizing that making weight isn’t the goal.

Winning is.

I’ve talked about each of these in detail [in this podcast episode](#). But I can give an overview of each here...

Mistake 1: Under-fuelling - As this suggests, this is simply the athlete consuming too little calories to maintain appropriate levels of training performance and recovery. This is either the result of a) letting themselves get too far away from their weight class and therefore having to crash diet to make weight, or b) making dietary choices based on the “healthfulness” of foods, without regard for calories and the athlete’s energetic requirements (covered in Mistake 3 below).

Mistake 2: Eating too few carbohydrates - Perhaps as a result of the misleading misinformation about the role of carbohydrates in weight gain, some athletes feel

drastically restricting carbohydrates is their best method to get weight down. This is a misunderstanding of how fat loss occurs. Once you account for calorie and protein intake, the level of carbohydrates in the diet alone will not alter the ability to lose body fat. And so for an athlete with the physiological demands of a sport like MMA or boxing, eating a low-carbohydrate diet is not only unnecessary for fat loss, but is also extremely counter-productive to training quality. One caveat to mention is that the use of carbohydrate restriction in the final week before weigh-in can be a useful strategy, owing to the weight loss you get from losses of glycogen and associated water.

Mistake #3: Thinking “healthy” foods matter more than calories - Let me first make it clear; I am NOT saying food quality doesn’t matter, nor I am suggesting athletes shouldn’t try to eat minimally processed, nutrient dense foods. However, focusing solely on this, at the expense of optimal calorie and macronutrient intakes, will lead to suboptimal performance, recovery and body composition manipulation. Of all the nutritional factors that influence body composition, total calories matter most. Regardless of how healthy your food choices are, if you consume too many calories, there will not be fat loss. The same goes for performance, if you eat super healthy foods, but are eating too few calories, your performance will suck. And the athlete who eats an appropriate amount of calories and macronutrients will always perform better, recover better and be able to make body composition change more effectively, even if their food choices often come from processed foods or stereotypical “junk” foods. But again, this is not an either/or scenario; get most of your intake from good quality foods, but make sure you’re eating the right amounts.

Mistake #4: Cutting Weight Too Early - This relates to practices such as doing sauna sessions on a Tuesday and Wednesday ahead of a weigh-in that isn’t until Friday, for example. It might be cutting water intake dramatically 3 days before weigh-in. Or any other type

of weight cutting strategy. All of these simply serve to put the athlete in a more dehydrated and physiologically stressful state for a longer time period. It's unnecessary, dangerous and has almost no upside. It usually occurs out of panic or a misunderstanding of how to cut weight properly. Ideally, we want to have the athlete in a dehydrated, weakened state for the absolute shortest time interval possible, and so timing each intervention (water restriction, carbohydrate restriction, fiber restriction, sweating, etc.) appropriately is extremely important.

Mistake #5: Inadequate re-fuelling after weigh-in - Once the athlete has made weight, the job is only half-done. Now we have a limited window between now and the competition/fight. Given that the weight cutting strategy likely involved water loss, glycogen loss, electrolyte loss and decreased calories, we need to reverse/mitigate the potential "damage" they would cause to upcoming performance. So rather than letting the athlete just go and stuff their face, we need to make sure they are provided with water, electrolytes and carbohydrates on a specific time-scale to both maximize the reuptake of each and minimize gastrointestinal distress. Keeping food choices to foods the athlete is used to eating is usually a good idea. And for athletes traveling somewhere new, having foods (and their source) planned for ahead of time is useful.

Mistake #6: Not realizing making weight isn't the goal - So often fighters see the role of nutrition as a method to make weight. They look at the diet and weight cutting strategies as just part of the job, with the judgment of success/failure being if they made weight. But as alluded to in the previous point, making weight is only part of the task. And even if they refuel as outlined, that's still not the goal. The goal is to win. You'll find any idiot trainer who can prescribe a plan to starve someone enough to get them to make weight. But did they do it in a way that mitigated the health risks as much as possible? Did they do it in a way that allowed the athlete to

perform at their best in competition? If not, then it's not a good diet or weight cut strategy. Nutrition for combat sports is about performance, not just making weight.

Regular listeners of your podcast will know your favorite word is "context". This can be easier said than done when trying to apply this to real-world science communication. Do you find that there are any "best practices" when engaging with the public about nutritional science? As you say this is very difficult to navigate. It's difficult enough getting individuals to engage with accurate, sensible ideas, never mind large groups. And public health messaging is an area where I've yet to come up with solutions that I think tackle the problems effectively. However, I'll offer up some thoughts...

For ideas to really become embedded in the public minds at large, they really need to be obvious and repetitive. Hence why people have believed so many "old wives' tales"; they simply heard something enough that they believed it, even if it has no evidence. So to get to that point with good quality, scientific information, we need congruent messaging coming from many sides.

I think this probably starts with individual influence. So for example, using my podcast to influence individual listeners about ideas and critical thinking. They, in turn, may influence someone else, etc. But it only becomes powerful once groups of people adopt such ideas, which happens pretty readily. Again keeping with my example, there is a larger group of people identifying as "evidence-based", who will promote the similar ideas and concepts, so that others outside of that sphere will take notice. However, the problem at a mainstream population or public health level, is that there are several groups promoting conflicting ideologies, which leaves the average person with two choices: a) pick the group which appeals to them the most, or b) be frozen into inaction due to not knowing what to believe. Either way, we don't end up with large-scale adoption of useful ideas.

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So to me, the holy grail, is how do we get to a point where there are a large enough number of people and groups that are promoting the same core principles that make it easy for the general population to adopt. How we do that is the big question. One I'm not sure I have a good answer to yet.

So for now, my best practices would be to keep our messaging to the public concise and consistent. What are the few key principles that will really move the needle in terms of their understanding of nutrition? How can we peel these back into simple, yet accurate statements? How can we foster an attitude of wanting to learn more in people? I don't think we should underestimate the power of helping one single person, so starting there is a good idea.

To steal one of your favorite questions, if you could advise people to do one thing each day that would improve their lives in some aspect, what would that one thing be?

Most often in the past I've answered this type of question with the word 'perspective'. Having something that brings things into perspective is incredibly powerful. So often we allow ourselves to feel upset, angry or stressed at things that don't deserve such a response. And one of the reasons why I feel that happens is that we lose perspective of just how good we have it. We just become

habituated to the life we get to lead and the amazing opportunities we are afforded here in developed countries, especially in the Western world.

I've found it useful to remember how MOST of the world's population lives; on less than \$5 a day. It is distressing, but also humbling. It reminds me how good I have it, and just how much of my "success" is simply pure luck.

But beyond that, even within our own communities, nearly all of us can look around and find people who are dealing with things that are actually worthy of complaint. You don't have to go far to see someone going through intense trauma or pain, which highlights the complete unimportance of the things we fall into the trap of worrying about. Go visit a children's hospital and you'll quickly realize how pointless and disgusting most of our complaints about life are.

And we can even use perspective without comparing outwardly with others. We can use it within our own experience. We will all go through traumatic experiences in life, unfortunately some more than others, but we all experience pain nevertheless. It's unavoidable. And some things really are worth worrying about, stressing over and feeling intense pain over. The goal isn't to

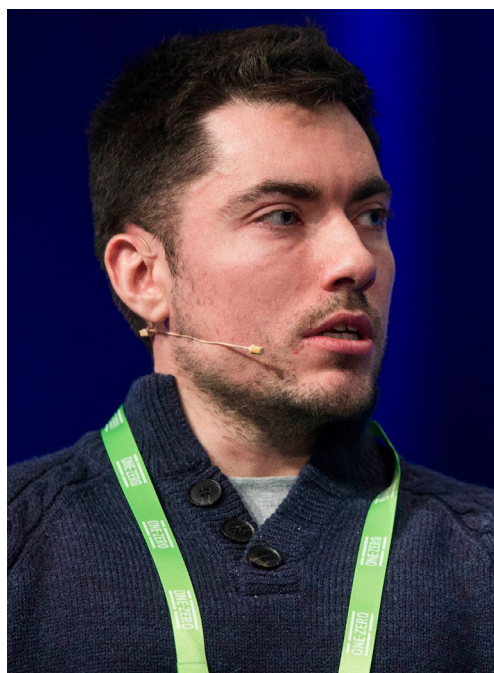
avoid those feelings. But perspective allows you to only feel them when it's actually warranted, not over the nonsense first world problems we feel negatively about.

Now I do want to add, that when you are in the midst of something traumatic, practicing perspective is hard, perhaps impossible in some cases. You can't just make yourself feel better by saying someone has it worse. So when you're in the midst of something, I'd recommend relying on social support as much as possible. This is something I've sucked at for most of my life. And it's been to my detriment. But social support is huge for dealing with life's problems. And the research is overwhelming in this area too. It doesn't just influence us psychologically, but the extent of physiological symp-

toms brought on by traumatic experiences can be predicted by social support structures.

So with all that said, I guess I'm recommending two things to readers:

1. As an ongoing practice, put things in perspective as a constant reminder of how good your life is and how unimportant most of our problems actually are.
2. When you do experience REAL trauma, make sure you rely on a social support structure. Whether that's a family member, close friend or a psychologist/counselor, make sure you have people around. ♦



Danny has an MSc. in nutritional sciences from University College Cork (Ireland), in addition to a BSc. in biology and physics education. He is a recognized speaker, having presented at conferences/seminars all over Europe including in London, Dublin, Vienna, and Amsterdam.

Danny has worked as a performance nutritionist to many professional MMA fighters and boxers, and is the author of the [Sigma Weight Cutting System for MMA & Boxing](#), an evidence-based guide to performance nutrition and making weight for combat sports competition.

Outside of the nutrition world, Danny currently competes as a drug-free powerlifter in the 74 kg class, is a Brazilian Jiu-Jitsu blue belt, and is a life-long fan of Arsenal Football Club.

You can find out more about Danny and Sigma Nutrition in the links below:

Website: [SigmaNutrition.com](https://www.sigmanutrition.com)

Facebook: [fb.com/SigmaNutritionAndPerformance](https://www.facebook.com/SigmaNutritionAndPerformance)

Twitter: [@NutritionDanny](https://twitter.com/NutritionDanny)

Instagram: [@dannylennon_sigma](https://www.instagram.com/dannylennon_sigma)

Podcast: [Sigma Nutrition Radio](#) (available on [Spotify](#), [iTunes](#), [Stitcher](#), etc.)