



DANNY LENNON: Hey, Corey, welcome to Sigma Nutrition Radio. Thanks so much for joining us today.

COREY PEACOCK: Danny, thanks for having me. I truly appreciate it.

DANNY LENNON: This is one of the conversations that I'm actually really looking forward to as I'm sure people will see by the topic of today's show and of course, I think, one of the most interesting aspects of our discussion today is going to be looking at this from the perspective of you are someone who has, I suppose, both a foot in the scientific and the academic world, working in research and being part of a university setup, which we'll talk about later in the show, but then also on the very practical side of working with like truly elite level athletes in combat sport. So a lot of people, who are familiar with MMA, for example, will know guys like Rashad Evans, Anthony Johnson, Michael Chandler, a whole host of other names that you've worked with and so, maybe just to start us off, can you maybe tell us a bit about your experiences as a, I suppose, a performance coach with some of these elite MMA athletes that you've worked? So maybe, let people know who you've worked with and what was your, I suppose, primary

role in their fight preparations.

COREY PEACOCK:

Sure. So you kind of hit on that that I have this title of a performance coach. I think that's a hybrid position that entails strength and conditioning, nutrition, weight cut strategies, exercise physiology along with general periodization and working with our other coaches, our striking coach, our wrestling coach, and additional strength and conditioning coach to be able to implement and peak these athletes at the right time.

My role again, out of all of those roles has kind of varied from athlete to athlete. Some of the people I've worked with you mentioned Anthony Johnson, I've worked with him more from a physiological testing standpoint. Rashad Evans, I've worked with him in multiple aspects working with weight cuts, working with individual strength and conditioning sessions. Michael Chandler, the same thing, along with a lot of other guys.

This past -- I guess over the past month or so, I've worked really closely with Chas Skelly, who actually just had a submission in the UFC victory; Volkan Oezdemir, who made his UFC debut and actually came in and -- on short notice and knocked off OSP, who was currently number six in the world when that fight took place. Other big names this week have a huge fight coming up. I am working with Matt Mitrione as his strength and conditioning preparation coach for the Fedor fight and I think the list really goes on and on.

I've worked with outside of MMA, other combat sports, worked with people like Gilbert Burns for both MMA and BJJ. Chris Algieri for boxing and I think the list kind of goes on and on or the people that I've been lucky enough and blessed enough to work with.

DANNY LENNON:

Yeah, awesome and I think it's really fascinating that there is -- I suppose the importance of us touching on that idea of this performance coach title, encapsulating a number of different aspects. I want to touch on not just strength and conditioning, but all the various things that tie into that and

are related and I certainly want to dig into a lot of the details of that practical work with the athletes throughout the rest of this podcast, but just before that, I'd just like to hear about your role within academia as well. What is your research primarily focused on and can maybe just tell people a bit around especially your academic background.

COREY PEACOCK:

Sure. Academic again, I think a little bit of a variety; through my doctoral work, I was exposed to a lot of different laboratories focusing on human performance, focusing on childhood obesity, neurological disorders, environmental physiology. Now that I'm out in the academic world as a professional, not under an advisor, group of advisors any longer, I've kind of focused my research line both on athletic performance and supplementation. So, looking at a lot of different high protein diet, supplementations on -- you know supplementation on performance measures and different things like that. So, definitely kind of spread out a little bit, but really I think it makes a nice connection with what I'm doing as a performance coach and I think it really ties them together.

DANNY LENNON:

Yeah, yeah, for sure, and I think that will kind of become very evident throughout some of this discussion. In some of our past e-mail conversations, you had mentioned to me that a lot of your focus with fighters during a fight camp is on central nervous system maintenance. So, with that in mind, I'd love to hear maybe first how you monitor different metrics related to fatigue and of course there's various different forms of fatigue, I'm sure, you can manage, but in terms of trying to get a good monitor of that in athletes and beyond that, what do you do with that information in terms of translating that into their training, programming or other recommendations you make to the athlete. How do you not only collect the right information, but then how do you use you that with them as well?

COREY PEACOCK:

Sure. Again, you hit on it really well that primary focus for myself, for our entire coaching staff is to maintain a highly functioning nervous system throughout this camp. Again,

I've been lucky enough to be around a lot of good coaches and this was actually a concept that I kind of brought over from my experience working in football, working in combined preparation and kind of taking -- you know, kind of took that and brought it into the MMA world.

You have such a small window when you're really looking at the amount of time that you have for preparation in these camps, and in this window, I think a lot of times people try and coaches try -- you know, everybody is trying their best, but throwing 10 different disciplines along with strength and conditioning and weight management and things like that together, you start to create this really big confusion on the nervous system. So, I think stepping away from that and being able to use technology to your advantage certain things that we use, we're using the VERT System just looking at basic metrics of a vertical leap, I think even for anybody that has you know -- doesn't have the financial operation to support technology and things like that, I think, using a simple power measure a VERT, a broad jump, something like that can give you a really good look at your athlete's power output and neural function from a week to week basis.

I think -- you know we've used a lot of power grade variability, puller monitoring, Omegawave, you know a lot of these things that we're using and we find certain pieces of technology more advantageous to certain athletes. We see certain athletes respond better to some of these things.

In terms of the recommendations, the things that we sort of change on this as we kind of progress, you know, I think we have a good ability to see if an athlete's may be overly parasympathetic, overly sympathetic, we have the ability to see some of this through these numbers and I think making small modifications more on the fly within a camp is what really leads to ultimately a successful, you know, highly neural functioning athlete. What I mean by that, let's just say for instance, it is something like a really highly neurologically-demanding practice, such as wrestling and are athletes depleted, maybe we can do something to make that a

little bit easier on the nervous system, maybe an active recover session, something like that.

We never really want our athletes to feel like there's -- that there's, you know, a red flag or an alert or anything like that in the small camp, so keeping them doing something on a day-to-day basis, I think, is really, really important, but it just needs to be based on how the athlete is actually functioning from a neurological and a physiological standpoint. So, a lot of the things that we're doing are made on the fly.

We're starting to collect data and starting to see, you know, even small things that are influencing our athletes' nervous system, something like foam rolling density, a soft roller compared to a PVC pipe. You know, these things are helping stimulate or brain the athlete back down depending on where we're at, looking at maybe cold water versus hot water emersion, and things like that. So we're starting to just kind-- you know we're really getting to know our athletes on this level and starting to find things that really help these guys throughout that individual camp and like I said, it's such a small windows of opportunity to really progress these athletes and ultimately if we can get the most quality out of every session, we're going to have the best athlete come fight night.

DANNY LENNON:

Yeah. I think there are some really important points that I want to just go back on that you mentioned. I think the thing about having certain metrics or ability to be able to put in certain tests to like you say check how things are in real time, but then also make changes on the fly as opposed to having an athlete say locked into a very specific or rigid schedule is important. So, kind of talking more to one of the examples you gave, we could have a situation based on what you said, where maybe the athlete comes in, they go through one of these very simple performance test that will give you a gauge on where they're at and then if that kind of maybe flag something to you, where maybe they're not as prepared as they ideally be for a certain type of session, so for example

that wrestling session, would it be a case of where you maybe say, okay, maybe this is not the best time for them to do this, but if we switch they're kind of scheduled around a bit and they're doing a different type of session now that means we're still getting good quality working and then when they're in a bit better place, they can still get those harder sessions in over the week versus what maybe perhaps a lot of guys end up doing if they don't have these kind of metrics assessed, they either end up just keep pushing through and pushing through all the time until they break or on the flip side, they need to completely skip days of practice all together.

COREY PEACOCK:

Yeah, you're exactly right. I think a lot of it is kind of [inaudible 0:14:00.0] you know, the great coaches that I'm working with that are open to this idea and open communication and things like that, because I do find this would probably be a lot more difficult the way a lot of these fight camps and organizations are set up where the strength is his own separate entity and the striking coach you know they might be travelling another hour for the striking coach and another hour for their head coach things like that and lucky enough that I'm working in an area with independent coaches but yup we are all, you know, very close in what we do. We sit down on a weekly basis and talk about all of the athletes that we may or may not have overlapping and really come up with this plan. We have been working together with the Blackzilians and now you know moving forward working in the private sector, it's just been a really good experience to be all that, to share these ideas with other coaches that are receptive to it and ultimately find what works and find what does not.

DANNY LENNON:

yeah, for sure and I think one the interesting things when you are of those I suppose the sweep of different potential tests and metrics you can collect or different tests that you can use having kind of that wide variety of different things to be able to use with different athletics was quite a interesting point in that having I think you have mentioned that different athletes are going to have a different response, so

you are going to be able to collect better data from different tests based on who the athlete is and this is something that kind of thinking too differently makes sense, and so if we take for example heart rate variability, right. So, one of the things that at least I have seen not only in combat sports but really across the board, people who may be used this is that you could have two different people kind of react to the different way and you have one I feel that would respond well to in that, they are the person who never knows when to back off or has this ability to push through until they break, but then on the flip side you might have a different athlete who may be see their HRV flagged of this as something that may be not perfectly desirable and that lets them maybe negatively affect them mentally for the session, and if they hadn't even had that awareness of what was going on with their HRV, they might have been able to do the session perfectly fine, there's essentially kind of no self-censoring themselves, right? So, have you seen that, not only which is HRV across the board overtime; I suppose you have to learn with different athletes what data to share with them if you are collecting stuff and which stuff maybe to keep back from them.

COREY PEACOCK:

Yeah, you know, I think that brings up a really good point, I think we can look at this, you know, some pretty funny stories compared to some serious stories, but one of the monitoring devices that I have used in the past and I really like with my athletes is something called the Ready Band by Fatigue Science, ultimately it's an accelerometer in the wrist that also monitors sleep quality of sleep, you know, a bunch of different metrics. What it is going to do is give you a readiness score based on the different metrics out of a 100, and the athlete has access to that just by clicking on the watch and see where their body is on a scale of you know 1 to a 100. One of the things that I started to find and really started to think about like you said is how will this influence this somebody. Let's say, if no matter what we did everything right, but that wakeup was just a little bit drastic, maybe the rehydration didn't go as planned and that athlete

comes in on fight night, he has the watch looks down and sees it's a 60 out of a 100 right before they are about to go out and have previous competition in their carrier. So, I think that becomes a problem and I think something, you know, some instance with fatigue signs, one of the better things that that actually device a lot you to do and I make sure to tell the athletes before anything goes is that we can actually blind the blind the athlete for the last week where them the pressing the apparatus, they have no way of accessing that I will be the only one to have access to where they are at.

DANNY LENNON:

Very cool.

COREY PEACOCK:

You know, then again some of these other pieces of technology and things like that ultimately are major stake away for the last week. You know, we are already in that tapering, weight cut phase and realistically regardless where the numbers at and where the numbers are going to say, it's not going to influence, I mean it is going to influence the flight, but we can't let that be a psychological effect either. So, you know, sometimes taking those things away might be the best thing for the athlete, but then again some of these athletes do build dependency on certain pieces of technology. So, you know, I think it works in a lot of different ways in getting to know which athletes are most receptive to just certain things. You know, even another thing that I push on my athletes is just that idea of hydration especially after you know working out multiple times per day, trying to keep a good hydration status and allowing the athlete to start to subjectively report certain things to me, how they are feeling, where they are at, their hydration status, you know, a urine color chart and stuff like that, I think athletes start to become really dependant on these things when I start getting pictures of the [inaudible 0:19:29.7] and different things like that throughout the day and look coach I'm hydrated, look I have had a bad day, but I'll pick it up and things like that, but all these things start to weigh in on the athlete and specially at a time like the fight week when they are going through, you know, in my opinion the most difficult part of the entire

training camp and that's the weigh cut and tight preparation and all those things, so I think it's an interesting topic and you know truthfully it's probably something that I would like spend a lot more time with a sports psychologist and kind of get their feedback and just something I haven't gotten to yet.

DANNY LENNON:

Yeah for sure, I can see that the two sides of where you have some athletes of course who may almost need some sort of validation that everything is going okay, but on the flip side I would presume that a lot more of them is just going to be an extra psychological hassle on them and particularly like you said in 5 week there are so much going on, they have—they have the weight cutting process would physically amend these going to be tough anyway, they had just their sense at the competition that is coming up that they told that's playing on them for the guys who are in the high and they have all the media stuff to get done, then they have the just the small things people not realize of, there are now in a kind of a week where they are not quite at the fight ready to do what they want to do and they are not in normal kind of training environment either. So, it's kind of this weird in between kind of phase and I think all these mental stresses can add so it's very interesting to hear you talk toeing the line between using technology to their advantage but also knowing when it can perhaps be problematic. One thing that I did want to touch on Corey is when we were talking about lot of these high level MMA athletes and guys in boxing, another combat sports, the training load of course can be pretty insane for lot of them, right, so whether we take outside of their agency work, they also have to cover so many different basis with their skill work and they are inspiring in these kind of different disciplines that a doing a lot obsessions over the week and many of them of pretty demanding intensities. So, from your perspective of having them progressing physically, how do you toe that line between doing the right amount of work to get them to improve at the rate that you would want whilst still allowing for keeping say injury risk or illness risk at a minimum. How sort of kind of, how is the best way I suppose to think about

programming strain conditioning work with these sorts of athletes, what [inaudible 0:22:12.8]?

COREY PEACOCK:

You know we have kind of built our concept that in the concept that I'm following of some of the literature if you look at Balley and look at his Block Periodization and things like that. You know, we follow kind of a three phase camp progression based on block periodization. Our week, we usually set up and what we call two one off meaning if this was a Monday and this is when camp started, we would have a two a day morning, evening session, the following day Tuesday being one session, Tuesday the night off, Wednesday the same thing, we will be back on two a day, Thursday one a day, Friday two a day, Saturday one, and then we will give him a three off therapy end of the weekend looking at Saturday night, Sunday morning, Sunday evening, and we have had a lot of great success with this while in camp. I think, outside of camp, you know, that's still kind of when we I think something we are still really experimenting with, but I'm really successful with the lot of the stuff we have done, but I think when you also look at an athlete out of camp we know on this side of the thing that majority of these guys that we were working with on a day-to-day basis unfortunately don't have the luxury of being presented a full camp. A lot of these guys are up in commerce that are presented a three week fight against a top 10 opponent and if they are not ready and not willing to take this fight it might be 9 to 12 months before they get another call. So, I think in its own right makes it really tricky because ultimately as strength and conditioning professionals we know how to pick an athlete, and we know it's physically impossible to keep an athlete pit year around, but yeah, we are stuck in this very tricky when it comes to a combat sports and mixed martial arts where that's ultimately what we were trying to do, that e are trying to find this secret agenda schedule periodization to be able to do so. So, I think it's a really, a really tough situation, but you know, if everything is ideal and going into camp we stick with that two one and basically run it in 3 phases, first phase as a strength and conditioning coach is

more strength threshold development where we will utilize in individuals precamp evaluations and really utilize those numbers to progress this, I think the second phase is going to be more of a functional strength type. Periodization where we really just focus on anaerobic development really fight simulation type ideas, when I say fight simulation I don't mean as a strength coach I am not going to have my guys swinging and punching and kicking and things like that, that's out of my scope, but you know when I look at functional strength and things like that, finding movements that occur on the same plane, at the same intensity in the same duration and things like that, you know, really trying to focus that in more fight specific and then we have our taper and weight cut which is really our third phase where I mean to make it really simple. Our priority is to make weight and everything else around that is going to be based on how or—how close we are to that goal and those things. So, really that's where I'm that, that two one system and really just focusing on you know neural functioning and things like that. This was something again I told you kind of earlier professing from more the combined world. Great combine facility down in South Florida, Pete Bommarito has used this for a lot of his combined preparation and it was something I picked up from him and now carried it over here and its really worthwhile for what we are doing.

DANNY LENNON:

Yeah, that's really interesting to hear and I think it's [inaudible 0:26:11.3] very good idea of kind of the framework that you are working with for that and of course it's really important part of the discussion of talking about how things can be trenched to be set up in ideal world versus force a lot of these guys who have to take fights on a short notice or different things are going to crop up to make that as well as impossible in certain cases. So, for a lot of these guys who may be, who can't plan ahead or maybe they don't have the availability of working with a top level strength conditioning facility and a coach and maybe are doing all the stuff because one I thing I see with special lot of the guys coming up is that they have the gym where they are doing all there and may

work sort of striking, grappling, all the other trans skill work related to that and for a lot of them who have to go elsewhere for the kind of strength conditioning or even they end up like planning their own conditioning work, a lot of time you got to fall in to this issue where they plan to do some arbitrary number of conditioning works as per week, they pick just whatever modality is available to them and they end up with really just going in and trying to work as hard as possible in those sessions and because I think it's just one of those things that almost ingrained in a lot of combat sport athletes and you just like going through these sessions, work as hard as I can, and then in the next like 2 days later I will go into another conditioning session, work as hard as I can. For guys in these situation is really like what things would you advice them to be taking in to consideration to have, I suppose, at least some sort smarter foot mark about how they approach strength conditioning that's going to perhaps benefit them better as opposed to just randomly doing some sort of thing that they think or some sort of activity they associate with getting in shape if that kind of question make sense?

COREY PEACOCK:

Sure, one I thought that you made that was really good and I see this concept all the time and this could go for strengthening conditioning, this can go for their [inaudible 0:28:16.1], this can go for weight cuts, but I find the higher levels that we are talking about especially when we are talking UFC Balitore World Series, you know, you would think the majority of these guys really have a lot of these things down if they made it to this level and that's kind of the shocking thing is a lot of them don't. You really see, I feel like the higher the level that we are at in this combat sports the more aggressive they are in multiple aspects of the things they do, whether it's a weight cut, whether it's a rehydration, whether it's a strength and conditioning protocol and those kind of things that they attack things and you know kind of believe in that more is better approach when sometimes we know lift the objective data we are collecting that more can sometimes be less or detrimental to their performance, but I guess to kind of come back to the question and make that

statement, I think what people and athletes really need to do is learn how to keep their strength and conditioning separate from their fight training and I think that's a really important concept and a really important key to be able to pick and progress and develop both of these things, you know, a lot of your true fight shape, your true fight conditioning is going to come on the actual match and going to come from practice, those are things that you just can't simulate and you just can't stress enough in an actual control strength and conditioning facility, you just really can't do that, those ideas that they—that stuff they are going to get on the map is well they develop the stuff. So, they don't need to spend 3 to 4 sessions a week coming out and busting their ass trying to develop you know this cardiovascular conditioning when ultimately what's going to happen is if they bust out a session of cardio along with a high intensity session of let's say sparing or striking or something like that. Now you have created this catabolic or break down of fat where you really just over stressing the system and you are not making really the gains that you could if you were scheduling these things out and keeping them separately. So, keep your strength work separately from your fighting skill development practicing and things like that. You know, ultimately, it's the strength and conditioning session your goals are: one, to basically kind of compensate or correct for the lack of movements you might be making in your actual sport, balancing the system out, keeping yourself healthy, mobile, highly functioning and really you know I think I said this a little bit earlier when I was talking about kind of my phasing with strength and things like that. We are trying to develop the anaerobic system. We are not trying to condition it... trying to develop this fight similar conditioning session. We are just trying to develop the system and improve the system, just like we are trying to improve the strength, just like we are trying to improve power, hoping that if we can make slight improvements in each of these systems both metabolic and physically, that those things carry over for the fight preparation and the things that they are doing on the match. So, I think that's one of the biggest things that you can

encourage. These young athletes are becoming athletes that have start doing on their own is, this strength and conditioning session is to improve yourself for the fighting and on the mach. So, keep them separate and really I think you are going to see a lot more benefit in both aspects of both your physical preparation and your combat preparation.

DANNY LENNON:

Yeah... and what I am really hearing from that is this whole idea of simply just the athlete knowing the purpose of any giving session as opposed to, because so often when you have these kinds of randomly thrown together, kind of sessions that these athletes do, they are going off and doing some sort of... whether it's a spinning class or some sort of running in the hills or whatever it is, they are just throwing together something that they think is going to be physically demanding and then you ask them like well why is this here or why you doing these at these certain times or what is even the goal of this session? Right and I think that kind of talks of what you are mentioning Corey of, it's not the trying to do something that is hard or something that simulates a fight, it's you are doing a certain type of activity in a certain way to try and get some sort of physiologic adaptation that will help you in the fight and so, just having some underlying reason for each session is important as far as this is where the importance of actually having a proper strength and conditioning coach or someone that understand some of this stuff is going to be important. One thing I am really interested to hear your opinion on Corey, given that you are both a scientist and a practitioner working with these elite level athletes is because in my case at least where all of my practice and philosophy around nutrition coaching is based on this premise of evidence based practice, they almost then becomes this paradox almost when it comes to elite fighters because, one: there is just a scarcity of research looking at this specific types of say weight cutting protocols we know fighters are using and that we see working and then, two: across the board one of the big things that I have heard from a number of exercise physiologist or different practitioners

that work in elite level sports is just how different these elite athletes are from the norm... that they are just capable of different things. I mean, one of the great quotes was that physiology can almost be different. I remember Dr. James Morton who is the head of performance nutritional team Sky, talking about some of their elite Tour de France cyclers, I think he was giving example of Chris Froome and some of the physiological testing they have done with him and just talking about how some of these results were so unbelievable as in they were outside of what you might ever read in the physiology text book. So, I suppose it's a case of understanding that the populations that a lot of research is done on even advanced training for example, and realizing how just how of an outlier a Chris Froome is or how of much of an outlier Rashad Evans or Anthony Johnson can possibly be. So, for someone like yourself who is acutely aware of both the literature base and is an active scientist but on the other hand is also working in the real world with elite athletes who have to make way if they want to make money and then they want to push for more and more. How do you balance these recommendations between what is in the scientific literature versus your real-world experience with these athletes?

COREY PEACOCK:

Yeah, I think that's a great great topic. I mean this could be a five-hour discussion really if you think about it. I think the first and foremost the reason that I have been so attracted to these fights sports and these combat sports is the idea of just that. I have a doctorate in exercise physiology that's my formal education. I have spent up to ten years studying exercise physiology just in a class room setting and mix martial arts challenges everything that I have studied and learned through out that process and that's what I think is so amazing about this sport. I can remember being at a conference not too long ago and talking about injury prevention and some of the measures and some the factors that I am utilizing to possibly show certain signs of overreaching and different things like that. One of the things that I brought up was this idea of using some adjective heart rate monitoring and I am very clear about what the literature

says. I know there is a lot of literature out there saying that the heart rate really isn't a reliable source on overreaching, over training and things like that, but like you have said the idea that these guys don't fit this paradox for me, for my thirty-five athletes, I have found that heart rate has been a really good indicator of over training and overreaching within the guy's that I am training. Again, they are different than when you look at the majority of the research out there, it's eighteen to twenty-four college active, physically active three times per week populations and it just doesn't compare to the population that we are actually dealing with. These guys are so far out of the box in their abilities in what they are capable to do. I think this goes from all aspects. I think when you look at a sport like this their cardiovascular capabilities, their neurological capabilities to be able to coordinate and improve in ten different facets of training and skills and things like that, it's just, it doesn't fit what any human should be capable of if you look at what you learn. So, then again like I said I can go on forever on this topic but everything I do and everything I put together is based on science. One hundred percent everything that I start, every idea that I fundamentally put together and conceptualize is based of literature and based of science. Everything that I implement has to have some sort of evaluation, has to have some sort of objective data to go with it for me to be held accountable for that program that I put together was science. So, I have a scientific based program put into a practical setting and whatever that information gives me it's how I ultimately evolve for each of those athletes. So, it's really just putting that... using that science but ultimately that practical approach is what's going to dictate and the results are what's going to dictate how I ultimately come up with the final program. So, I think a lot of it is trial and error in the beginning based of literature and like you said a lot of it this doesn't fit these guys. You brought up the ideas of the weight cut itself, knowing what the literature says. I mean I am aware the literature is saying for ideal dehydration protocol and proper cellular functioning, we are looking at a two to three percent of body weight starting to affect this cellular

function but I am also realistic looking at fighters, somebody that has won three world titles is twenty-four in one and has been cutting eight to ten percent every single weight cut. It just goes to show, who am I to say so. So, am I going to come in here and tell you that scientifically what you are doing is wrong but yet you are number one in the world at what you do, based on what you are telling me. So, I think that's where it becomes a really big thing. Even something like just a pre—you know a sit down, working with somebody for the first time whether it's a physiological or you know a nutritional consult the idea of being aware of what their habits are already and maybe making small changes. That's where I think you become ultimately successful. I have a certain goal, certain ideas and certain concept in mind where I want to get all my fighters at the end of the day but guess what if somebody is cutting from a hundred and eighty pounds to a hundred and fifty-five pounds and they have done this for twenty-five fights, maybe I can make a small change and let's go one seventy-eight the next camp, maybe one seventy-seven, one seventy-six and ultimately get them within that ten percent, that eight to ten percent range where we kind of like to have our guys over time and it's just that idea that these guys do not fit the norm the higher the level we see the more the aggressive they are with all of these approaches and that's just a mentality, that's just a culture that's been created in the sports that science or no science these things can be improved but I don't think they are one hundred percent changed.

DANNY LENNON:

Right. Yeah, I think it can be stated how important of a point that is of when for anyone because for I mean thankfully as I have mentioned on the show before this going to maybe be growth of evidence based practice. It's slowly emerging more and more within the field I think at least it has been and I hope that it's growing because I mean it's a really good base to start from but I think perhaps what people maybe misses trying to understand what evidence based practice really is as opposed to thinking it means you need to only go on something that you point to in a study. Right in

understanding the evidence based is really important first step. So, it gives us a good idea of what is likely to work but again if we are looking at what is likely to work by some studies, then what you do when you come to someone who you know is probably going to be an outlier. Right, then you have to have at least some sort of fluidity to make those changes that you mentioned that's going to suit them based on your experience of working with all these different athletes to this level and then this individual athlete's reaction to what is going on and their response because some of them are capable of things that we on paper might say well this completely wrong but yet it works for them. It's so strange. I was talking to a few friends about a sixty-six kilo power lifter in the USA APL, Keith McConey, he has won US APL national last three years in a row and he was recently talking on a podcast about his warm ups and how he goes about his training. I mean the guy is just so unbelievably strong like his total is ten times his own body weight and he just doesn't do warm ups any more. So, when he says he doesn't do warm ups, he is like that means nothing it's not an exaggeration. For last year's worlds, he was saying he comes in, he was sitting in the back waiting for them to call him, didn't do warm up what so ever sat, on his chair called for his opener and comes out and squats four hundred and seventy something pounds or whatever his first attempt was, and he says that first attempt that was that, feel he is ready and then just goes and does his thing. Same thing he maxes out two days before me and still goes in it for his record. So, all these crazy things that we would never advise to most people but you are always going to find an exception in athlete level of sport. It's not to say it's the right thing but it's just an awareness of sometimes the normal rules don't apply when guys are so elite level alright.

COREY PEACOCK:

You know and then I think about that from a coaching stand point. Imagine being the coach that takes that max effort out two days before and now he gets third place in the competition. Who is to blame? That's what I think is so funny, it's all these things that you are seeing that you think

shouldn't be occurring but yet they still are and these people are still performing and ultimately at the end of the day, us as coaches, our objectives is wins and losses, keeping our athletes opening to the highest of their ability, and a part of that is this non-warm up routine for this power lifter then that's something that you as a coach have to support even though it's probably not something you believe in.

DANNY LENNON:

Yeah. Right. It's again one of the most outlier case I have ever heard of but again [cross talk] It's not to say if he had someone that would talk him through maybe a different type of warm up than what he has in his mind as a warm up, he might not still improve but it's just an idea of having that kind of empathy with certain people as well, because I know people have given examples of there is number of elite level endurance runners where you look at them and biomechanically some of them exhibit some knee valgus as they run. Right, if you take an inexperienced coach and they say okay we are going to completely change your running biomechanics and despite this person never having an injury in fifteen years and they are world champion, now suddenly it is likely, they are not going to perform as well. So, it just gets really strange and I think just that kind of the three-pronged kind of heads and evidence based practice and not only the research base but also the individual needs of the person and then the coaches experience all of those are equally valid and correct with the recommendations. Corey just before we start wrapping this thing up. I did want to get into touch on the bit of the research that you are doing. You have told me that you have just started to analyze some cool data on fighters. Particularly focusing on things like I think it was bone mineral density, sleep and how these things relate to performance. Can you give any details of some of that work and what you have been doing with that and at what kind of stage are you with that stuff?

COREY PEACOCK:

Yeah absolutely, the bone mineral density thing is kind of the newest discovery in what we have been doing in the research lab. We have brought a lot of high level athletes from a lot of different sports into the lab. A colleague of mine Dr. Hozay

Antonio those of you who are familiar of the sports nutrition world he is founder CEO of the International Society of Sports Nutrition you know pretty much a legend in the field. So, lucky enough to work alongside this guy and spend a lot of time in the lab with him for a lot of different studies but you know it's actually funny the bone mineral density stuff, it was an accident. We were using the DEXA not with the intension of even looking at bone mineral density stuff, we were using it just for the body composition stuff and we started to come along this crazy trend where the first couple of fighters it was funny because there is a small little figure table graph that will show you where they are at on the norm and it gives you a pretty large range outside of the norm. None of our fighters were anywhere on the actual chart. So, we started to analyze it and realized these combat athletes are two, three, four times outside of that normal... high athletic population value for bone mineral density high and you know it's really interesting because I think of it from my perspective with a lot of these high-level fighters. Majority of these guys unless they come from a strong [inaudible 0:47:07.5] wrestling backgrounds, most likely don't have a lot of experience when it comes to strength and conditioning, weight training type of things. A lot of them, you are kind of starting over with these guys. Even those guys that were wrestling have always been in a weight restrictive sport where there is just not a lot training for hypertrophy. There is not a lot of load placed on these athletes and things like that. The things that you would normally associate with improving bone mineral density and strength conditioning, even with my guys now always been keen to happen to watch weight and just a fact of injury prevention high level athletes. I don't do a lot of spun loading and things like that. It's just not the way my strength and conditioning is programmed for these guys. So, I think it's amazing to think that all these adaptations are actually occurring from the amount of stress, the amount of damage that they are taking in the actual practice facility and yet that the entire body as a whole is regenerating this. There is an interesting thing that you look at Dr. Sapina, he is the head of the functional anatomy

seminars a lot of certifications out there. I actually sat for his occasional range conditioning seminar and he always make this statement, this idea that forces the languages of the cells, the cells don't really differentiate between, force doesn't differentiate which cell wants to work on. Ultimately, you don't really know what that's going to be the outcome, the end result, it's all just kind of stuff in there that force is going to have a certain effect on and the body is going to respond how the body responds. I think it's an interesting thing to look at, you know I just left seminar when I came back and start looking at this data and to actually see that... although it's not really—none of the training is geared towards improving bone mineral density, the fact that the body again the cells have compensated and taken all this force from impact landing, striking and regenerated the body as a whole like that. So, I think that's a really interesting thing. We are really going to focus on more just the descriptive aspect of that to start and kind of provide a descriptive physiological and outlook on combat athletes. The other study that we are kind of in the final stages of again I told you that were utilizing those Ready Band by fatigue science to look at sleep patterns and different things like that with our athletes. I think to summarize quickly it kind of goes back to that same thing that we were talking about with maintaining a high neural function for these short periods of time in camp, what if the—if you look at a lot of the research out there and we look at sleep, the majority of the studies, the majority of the researches are going to indicate that the quantity of sleep is pretty much your the big factor, are you sleeping enough or are you not sleeping enough and it's actually funny because looking at the way our camps are set up with some of these...some of the session being two a day, some of them being one a day, multiple sessions per day, we are finding that the people that can stay on a better sleeping regime or consistency with their sleeping are showing better physical preparation or showing better physical markers or showing better performance over all rather than this quantity. So, of our guys that may only be sleeping five hours total a day over the course of their entire camp but are consistently sleeping

for thirty minutes following their first session and consistently sleeping for thirty minutes before going into the second session and consistently sleeping for four hours a night at the exact close to the exact same time per night before they redo this, are actually showing the better performance. Now again you are looking at very small eight-week window. Is this something that is sustainable over twelve-week period, sixteen-week period? Probably not, but looking at that very close condensed thing keeping your athletes, keeping them in a thing, that's ultimately the practical application behind this and I think it's really shaped a lot of what we are doing in terms of getting athletes in and out of the gym. Looking at recovery and things like that. A lot of people ask me my opinion on cryotherapy, ice tubs, looking at constriction and things like that of lower extremities. In my opinion, if any of these devices will allow an athlete to get out of the gym or sit down and rest and start bringing their body back down, I am okay with it. Even if you look any of these things the research is always going to be conflicting and there are some that have shown benefit and some that haven't. Well look if they can get these guys out of the gym and onto a routine then I am okay with it and that to me, even if it's not doing anything other than a placebo affect at least it's getting them to start that resting, recovery and keeping them on a routine. So, now two really interesting things kind of along in there but cool data, I am really excited to start getting that... get that out and get that published.

DANNY LENNON:

Yeah, that's pretty interesting, particularly when you mentioned at the end there around if there are any maybe certain interventions that, yeah sure, maybe they are not the most beneficial or at least as beneficial as some people may believe. If there is no harm to an athlete doing them and as a secondary affect the routine itself almost acts as cue for something else I think that can be really important. So, in that case if an athlete is just thinking about okay after my session I am going to go and have an ice bath or something. They are at least thinking about the recovery process as soon

as that session is over and it's acting as mental cue about okay what I need to do between now and my next session to stay recovering as opposed to having kind of no routine and not paying attention to any of that stuff. So, I think those things the value beyond the kind of surface layers stuff can be really interesting, particularly if it reinforces other behaviors and habits. A lot of that stems from a lot of weight loss research where certain behaviors while in themselves don't cause weight loss, just having those weight loss behaviors access cues to do other things that will lead to weight loss that's kind of an interesting side. Corey, we are coming close to end and this has been absolutely brilliant discussion, I have really really enjoyed this. Before I get to my final question let people know where they could find you online if there is any particular website to direct them to or anywhere in social media where they can find more about you and the work you are doing.

COREY PEACOCK:

Sure, social media if you look at Instagram and Twitter handle, it's going to be @doctorC as in Corry Peacock. Both of them are going to be same. You can find me on there a lot of the stuff that we are starting to do, a lot of the preparation with the actual fighters. In terms of email online look at peacockperformance.com you can find...that's actually...we are actually under construction with the website but that will be up and running in the near future and any questions and things like that you can use my institutional email cpeacock@nova.edu.

DANNY LENNON:

Awesome, and of course link to all of that stuff in the show notes for everyone listening as well as anything else that's been relevant in today's discussion that will be in the show notes to this episode. So, with that Corey, that brings us to the final question that we always end the show on. This can be something to do outside of today's topic but it's simply if you could advise people to do one thing each day that would improve their life in some aspect, what would that one thing be?

COREY PEACOCK: There is one thing that anyone could do to improve their life drastically, I would have to say it's going to be start getting on an actual physical activity routine. I think it's the most important thing that you can possibly do. I have this question; I have this talk where you look at certain things as a sports nutritionist, as a strength coach and all these things, what's the most important thing? The amount of reward you are going to get by staying on a routine, the amount of reward you are going to get with each individual physical preparation session, make it a part of your life. Make sure that's something you are doing on a daily basis and it's going to improve every aspect of your life. Your creativity, your ability to go out and achieve and be the best that you can be, if it's just... if it's not a part of your daily routine you are not fulfilling multiple aspects of your life. So, make sure that you are physically active and make that a routine and make that a habit.

DANNY LENNON: Yeah, completely agree and a great answer. Corey, I want to say thank you so much, number one, taking the time out today to come on the show to discuss some of these topics. Two, for the great information you have provided with, people with... I think a lot of people particularly those involved with combat sports are going to get a ton of great value out of this. So, thanks for the work you are doing and thanks for coming on.

COREY PEACOCK: Yeah, thank you I really appreciate it.

If you enjoy the podcast, please consider supporting Sigma Nutrition Radio on Patreon.

For more details go to: patreon.com/sigmanutrition