



<http://www.criticalbench.com/muscle-building-experts.htm>

## WEEKLY MUSCLE BUILDING EXPERT *Interview Series*



### **Luke Allison Interviews Sean Casey**



LA: This is Luke Allison here from [CriticalBench.com](http://CriticalBench.com) with the Weekly Muscle Building Expert interview series. Today I'm here with Sean Casey. Sean, how are you?

SC: I'm doing well, thank you. First off, thank you for having me on your show. It's a pleasure to be on.

LA: Definitely. I think we're going to get into some interesting things. I'm definitely excited for people to be listening to this, but I wanted to give you a chance to sort of explain your background and explain why we're going to talk about what we're going to talk about.

SC: My background is, I went to school at the University of Wisconsin, Madison. While there, I worked with the UW Badgers strength and conditioning department. Towards the end of school, I did an internship at the International Performance Institute in Branson, Florida. While there, I had the opportunity to work with the UAT national men's soccer team. And I also worked with Athlete's Performance in Tempe, Arizona. When I was in Arizona I mostly worked with their NFL guys as well as their college football athletes.

I went back and I finished-up...I had another year of school left. I graduated in '08 with degrees Kinesiology, with the exercise physiology, as well as nutritional science, a second degree in that one.

Post-school I went out to Los Angeles, I had some experience working with the LA Galaxy and Chivas USA. They were the MLS soccer teams out there. And since then, I've continued to work with athletes. I also run a website called [CasePerformance.com](http://CasePerformance.com). And I also contribute to another website called [StrengthSkills.com](http://StrengthSkills.com).

LA: So, it's a pretty considerable base of experience to draw from and one of the things I wanted to ask is, is it correct to view performance solely through the lens of sports?

SC: You know, I think you have to view performance in terms of whatever you're accomplishing, your goal is. If I'm working with an athlete who wants to win a sport, succeed in sports, then ultimately that's what the goals is. You can make him bigger and faster and huge, bulging muscles, but if you don't make him better for that sport, are you really doing that athlete a service?

And so, from that regards, yes, I think you have to view performance how you do as a coach through how your athletes perform on the field, to a given extent. Obviously there's a lot of other factors that play into this. How well their teammates are doing,

their coaching, the opponents, et cetera, et cetera. But, that's one thing to take into account.

But, on the other hand, there's a large population of individuals who are competing with themselves. They're not in an organized sport, or they're just training for health reasons. They want to drop belly fat, they want to get lean, tough-looking for the beach season, whatever. Or, maybe they're just trying to get healthy and they're post...they're diagnosed with diabetes. They want to lose weight. So, their goals aren't necessarily like through the lens of a sport. For them, performance is merely dropping weight, improving blood sugar levels and things of that nature.

LA: And I think that that's one of the things that remains really personal. Just the degree to which you're going to have that specific of a goal and how you want to reach it. That always seems necessary to figure out.

SC: You know, I agree, exactly. You sometimes see coaches who they're working with an individual instead of going after the goals of whatever that individual it is. It's like they train them based off of what their goals are.

For instance, if by background is powerlifting and that's what I'm kind of focused on, if I have an individual come in to work with me who's goal is simply to lose weight, yes, we can do some powerlifting techniques, but if I start imparting my goals onto the goals of whatever you're working with, I think you're going to have issues that arise.

So, I think that's a key thing, making sure that whatever you're training your individual in, that's what you keep the focus in. Don't try to shift the focus off what they want to accomplish to what you want to accomplish, necessarily.

LA: And sort of in the vein of accomplishing goals, you've written a bit about why there are so many self-proclaimed experts and gurus. Talk a little bit about that.

SC: You know, first off, I want to make it clear that I do not consider myself an expert or a guru. I think that title...guru just has a very negative connotation in my mind, unfortunately. An expert...the title itself, I hold that word very kind of dear, up on a pedestal. But, unfortunately, it's really been watered-down by so many people across the internet who are coming across, proclaiming themselves as experts. Maybe they've been training for five years. Maybe they themselves have a good body, and so all of a sudden that makes them an expert in the field. And so, I feel that's kind of a very unfortunate thing, what has happened, just the watering-down of the word 'expert'.

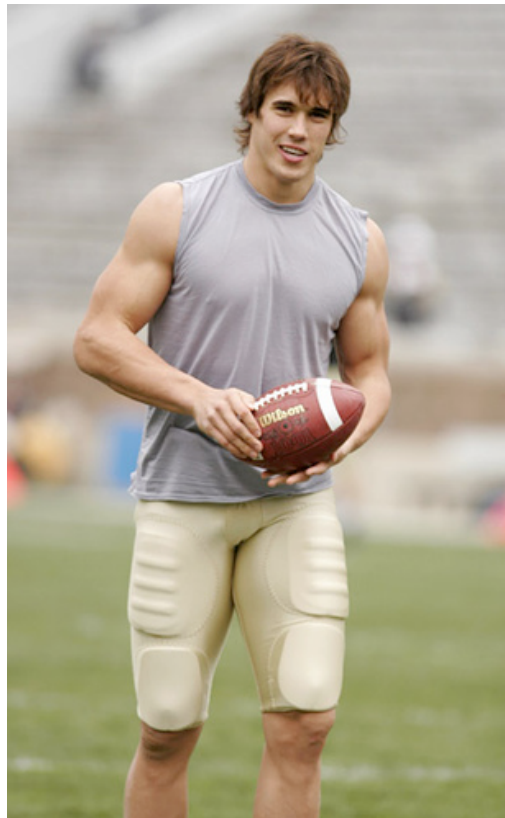
LA: Yeah, it seems very much a marketing tool. What do you think about the idea of the sort of guru/expert crisis, really as a function of people's claim to be sort of advanced or specialized, at the same time rejecting what's sort of general or average.

SC: You know, I think that is an excellent point there, and I have to kind of agree with that thought process. I think that's especially true with respect to the physical training realm. Now everyone has some sort of special title on their name. They're a 'corrective exercise' this and 'movement specialist' that, et cetera, et cetera.

I think in part these titles are more or less words that people give themselves to help to better market themselves. So, it's kind of a catch-22. Is this a bad thing? And I think this is kind of yes and no. It's all how you use it.

On one hand, having kind of specialized titles behind your name does show that you have at least a baseline knowledge on a given topic. I want to emphasize, that's just a baseline knowledge on the topic. And the reason I emphasize that is, and I'm sure you would agree with me, a lot of these titles are earned by reading through text books and then taking a test on it.

The application of those terms does not necessarily demonstrate it, just because you have the title behind your name. And that's the thing where I have issues with individuals who label themselves as a corrective exercise expert or something of that nature.



*NFL Quarterback Brady Quinn has worked with Sean.*

When I think of experts, I think of people who have a broad sense of knowledge over a given area. For instance, Ian King, Mark Verstegen, those are a couple of names who I feel are true experts in the field we work in. Not one of them claims that they're a corrective exercise specialist or a performance movement specialist. That being said, they have this expert knowledge they've built-up over the years and I can guarantee you any one of those individuals can pinpoint movement deficiencies and correct them or implement a program that can correct them.

That's where I see the words 'experts' and 'gurus' being misused by individuals who are using that ability to label something rather than just saying...rather than just being broadly knowledgeable in all areas of training.

You know, I guess we can extend this a little bit further, even in the nutrition realm. Dr. Lonnie Lowry is an individual who I consider to be of the 'expert' status in that field. Ironically, his claim is that he's an anti-guru. So, automatically I kind of like the guy.

LA: Right.

SC: His emphasis is mostly in the strength sport setting. He's a bodybuilder. That being said, I know on a moment's notice if an endurance runner comes in and asks him for help, he can lay-out nutrition that will help them meet their goals. That's just another example to have this broad base of knowledge, and the ability not only to have the knowledge, but to apply it to the individuals you're working with.

LA: Right, a larger understanding of sort of the larger sort of biological processes involved, things like that.

SC: Oh, without a doubt, just the big picture of what's going on. I think you can get lost in all these specialized titles. But, if you don't understand the big picture of how it all works together, the title means nothing.

I know individuals who are 25, 26-years-old. They've been maybe training individuals for two or three years, and they have a list of credentials behind their name that are five miles long in terms of, oh, I was certified in this. I was certified in that. Certifications are great, but I think you truly need that hands-on experience, which builds up over time to really earn that title of an expert.

LA: That really leads me into my next question which was, you had written that if expertise requires 20 to 25 years of experience, what is it going to look like, what's the path that you take going to look like and is there only one path to end up with that kind of expertise.

SC: You know, I would say there's common things. I wouldn't necessary say there's just one exact path people can follow. I think it's a series of events. Obviously you need the baseline knowledge, as we kind of talked about with the books. But, you also need the applied aspect of things.

And one of the key things with experts is, to get to that level, you have to learn from the best minds in the field. I mean, if I decide at age 22 I'm going to enter the training field and by age 45 I consider myself an expert, I mean, there's a lot of things that have to play into that.

You can't be training with any joe-blow coach or anybody who throws up a quick blog post. I think there's an active learning component which involves both pursuing others who are recognized in the field for their knowledge and reading with them, contacting them, just the whole active learning process going through it. And then, applying it time and time again.

And like I said, that may be a curvy road, there may be more directions how to get to it, but eventually I think everyone ends up at the same spot, and I think that can only be achieved through actively pursuing knowledge, actively training athletes and not only training athletes, but listening to athletes.

Every athlete I've worked with has taught me something that has made me a better coach. And I think that's a key thing, being able to listen to your athletes and not just looking at yourself like an all-knowing type of individual.

LA: Right, because in a way they're sort of experiencing the same thing. You're working on the same problem in a lot of ways.

SC: And the other thing kind of looping into that is the importance of trying your training programs out on yourself. I've never had an athlete go through a training program that I, myself, haven't done. I think it's very important to know how your body's going to respond and to know just the rigors of what it's going to feel like before you put it on someone else.

Kind of the classic example I always think of is, when the movie 300 came out, all the dudes there had the great-looking bodies. And the 300 Workout all of a sudden became like a virus across the internet. I mean, it was plastered everywhere. And I remember seeing trainers putting their clients through that workout. And I can tell you for a fact the coaches had never done this themselves. And I kind of use the word loosely when I say 'coach' with some of these individuals.

They're putting their athlete or their clients through these workouts they're never done themselves. They have no idea how it feels. And so, I think that's another thing

that has to be questioned and brought up to the surface. One should do all the training programs before they put them on someone else.

LA: Certainly. Certainly. One of the interesting thoughts that I thought about when I started thinking about 20 or 25 years after I read that, was there are probably three ways to get that that I think fit within what you were describing, which was you could be an athlete, you could be a coach or you could somehow be involved in the pedagogical side or the biomechanics research or something like that. But, it's going to be very difficult to be the same person and do all three of those at a high level.

SC: Okay, yeah, I agree with you 100% on that comment. I wasn't 100% sure on the question, but that...yeah, I would agree 100%. You can have...it's kind of the whole are you going to be a jack of all trades or king of none? I don't know I just butchered that phrase, but you know what I'm saying.

## CasePerformance

LA: Yeah, we know where you're going, certainly.

SC: I think it's... For instance, as a physical performance coach, that is your main focus, dealing directly with the athletes. I think it's great to have an appreciation and a baseline understanding of all those other aspects of things. But, I think you can only be an expert in one field. Maybe a few select individuals are diverse where they can have expert knowledge in multiple fields, but for the most part, I think it's mostly keep your focus on one field, enrich yourself with as much knowledge as you can regarding it and then bring in all these other side fields to benefit whatever your main goal is.

LA: I think that's really good advice, because it seems either too easy or too difficult, a lot of times to sort of spend the time necessary to develop the expertise. That's what you were talking about.

One of the other issues, I think, that come with sort of expertise is how are we determining who's successful and who's not if we don't have a criteria other than sort of success or something like that in athletic competition?

SC: You know, I think other than athletic competition, can you kind of rephrase that question, please?

LA: Yeah. Let me look at how I have it originally written, because I think it was better. Is there a possible alternative criteria for expertise other than athlete success?

SC: I'd say definitely to a degree. Some of the best coaches that I work with, they don't work with elite athletes. Likewise, I think just because you are working with elite athletes that do achieve success, that doesn't necessarily mean that you're a fabulous coach yourself. It's sometimes the idea of athlete got good, despite what you did to him, not because of what you did to him, type of deal.

But, like I said though, there's a lot of coaches or people in the academic field who are experts. The individuals they work with might not necessarily have been the champion every single year due to whatever reason. And I kind of alluded to reasons above. You can have great physical preparation coach. Their athletes from a physical standpoint are phenomenal, but there are so many other factors that come into play on the athletic game field. Are they mentally tough? Does the head sport coach have a good game plan drawn-up? Just all those other circumstances. Psychologically, are they dialed-in to what they need to be accomplishing?

Also, from a nutritional standpoint, which is another area where I feel most strength coaches or physical preparation coaches should have at least a good baseline of understanding of, if their nutrition isn't good, you know... There are so many different things that impact athletic performance outside of just the physical aspect itself.

LA: Yeah, it always seemed particularly difficult to evaluate football and say the football strength and conditioning staff is really good based on how they're doing on the field. I think the most coherent argument for that is as long as they're not getting their athletes hurt, like in a systemic fashion, that's sort of the job of the football strength and conditioning staff.

SC: And you know, kind of building off that point a little bit, I've worked with various Big Ten university athletes, just across the board and they've described to me their training programs. And keep in mind, these are at premiere universities. I'm not going to name them on air here, but they're at premiere universities and they explain their strength and conditioning program to me and it's virtually high intensity hit training every day, machine-based. They don't even squat. They don't even do so many things. But yet, they're top-ten nationally ranked year in, year out.

So, I think that goes to show you that there's so many factors that come into play besides just what the strength and conditioning coach does with respect to preparing their athletes for success on the field.

LA: Right. Simpler than we think and more complicated at the same time.



To change gears a little bit, you have an ebook that goes pretty deeply into human growth hormones and I wanted to give you a chance to talk about some of the misconceptions that people have about HGH.

SC: Human growth hormone is very interesting. By its name itself, a lot of people hear the word, and honestly the first thing they think of human growth. Okay, well it must increase our muscle size and things of that nature. It's true in individuals who are clinically deficient in the hormone. If you give him human growth hormone, it will increase muscle protein synthesis. It will lead to larger physiques.

But, the actual role of human growth hormone looks to be more specifically targeted towards increase in connective tissue growth. So, that would be like your bones, your cartilage, ligaments, things of that nature. There's actually been a lot of very interesting studies done on it.

I'm thinking back right now to some studies conducted by West et al. and they had individuals complete a high hormone training session which was your typical short-rest interval, high reps, things of that nature. And then, they had them complete low hormone session which was fewer reps, longer rest periods, things of that nature.

What the researchers found was, despite increasing human growth hormones significantly higher in the one training session, it led to no increase in muscle protein synthesis between the high and the low group.

Kind of in a follow-up study, they looked at, okay, after one single training session, it's relatively no effect. Maybe if we took this, extrapolated our study out over a 15-week period, there would be different results. Once again, over the course of the 15-weeks, they found that the high hormone training session had no significant effects on both muscle size or strength gains versus the low hormone training conditions.

LA: One of the interesting things I noticed was the point that you made about the connective tissue and collagen, which is just not that sexy if you're thinking growth hormones, I want to get big, I want to... You know, all this other stuff. But then, you start thinking about it. Joints and ligaments and transferring power and being an athlete. Wow, that actually does sound pretty important.

SC: Yeah, from that aspect there is definitely importance of human growth hormone does play a significant role there. It still has to be extrapolated over time. I think the real-world application of this would show this to be successful. Due to ethical reasons, it's not like in the United States here they're allowed to give strength athletes human growth hormone and test them out in this systematic fashion, which I think would be a very good thing to do, just because of the fact regardless if people like it or not, human growth hormone is widely used.

And so, I'm kind of the feeling that we should at least have an idea how this is going to work on health and things of that nature, long term. So, why not study it, being that people are going to use it regardless.

LA: Right. At least give the people who are interested in it, like yourself, a chance to study it in a more useful way.

SC: Exactly. I mean, there has been a few different studies that were completed internationally. I think one was out of Australia and I forget where the other one was located. But, one of the studies, it was in a group of untrained individuals, and they looked at the effects of human growth hormone on muscle gain and nine exercises, including like your shoulder, your bench and like your presses.

And basically they gave each individual 40 micrograms of human growth hormone a day. And so, for reference, for a 150-pound individual, this would be about 8.4 IUs a day. At the end of 12-weeks, they found that the human growth hormone had no effect on either muscle size or strength gains in the exercises, I mentioned, which include the shoulder bench, leg presses. And this happened despite increase in insulin growth factor, things of that nature.

And I know there's been one study completed on trained individuals and in that one they gave them 30 micrograms of human growth hormone per kilogram per day, so a little over 3 IUs per day. And over the course of a 6-week period, they concluded that there was no anabolic effects on individuals with regard to that. And these were highly trained athletes, I should mention. And so, for them, it had no significant effects.

So, the question is, in the short term, it doesn't appear to have any...and again, I just want to emphasize this is human growth hormone alone. It does not have any effects on strength gains, muscle size, things of that nature.

On the other hand, there has been a few studies that have looked at the combination of HGH and testosterone. One study they used 96...they were listed as recreational athletes, which for reference in study design, recreational athletes can be a very loose word. But, with respect to this study, all the individuals had greater than 12 months of resistance training. Each individual was roughly 28 years of age.

They had a really cool study design. They split the individuals up into four different groups. They had a group that received only testosterone, that was 250 milligrams per week. Human growth hormone, 2 milligrams of that per day, and kind of for reference, 2 milligrams of human growth hormone would be about 6 IUs per day. And then, they had a group that received both the testosterone as well as the human growth hormone.

They found that at the end of the 8-weeks, all the performance variables were pretty similar between groups, except the Wingate test, which was a measure of anaerobic recovery. So, this would be like individuals who you sprint and rest, sprint and rest. Your anaerobic recovery is how well you recover in between those sprinting sessions.

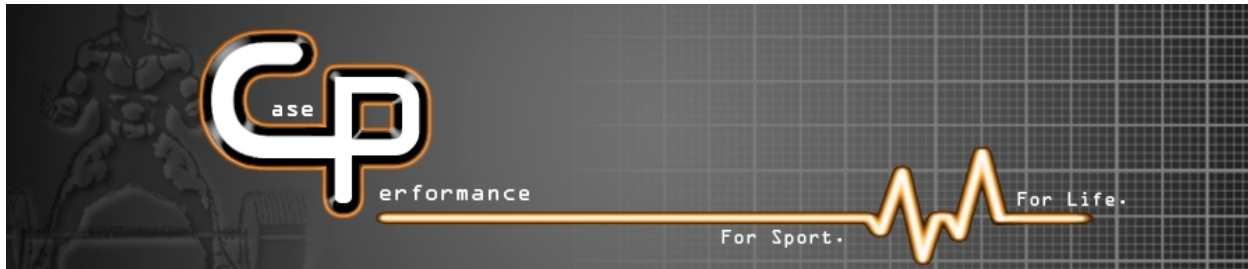
They found that the human growth hormone alone increased this ability to recover. In mean, it was about 3.9%. But, when individuals took human growth hormone and testosterone, this bumped up to 8.3% increase. So, there's a synergistic role between human growth hormone and testosterone when they're taken together.

Likewise, when they were taking human growth hormone alone, there was no effects on muscle cell size, as was similar to other studies. Similarly, taking the 250 milligrams of testosterone per week had a small...it was non-statistically significant, but they did see a small increase in cell mass at 3.1%

But, the cool thing, again, kind of showing the synergistic role of human growth hormone and testosterone, when the individuals took both, their cell size, which is measure of muscle, basically their muscle mass increased by 6%. And again, this was over I think either a 6 or a 12-week period. I don't remember off the top of my head. But, like I said, there's definitely a synergistic role with testosterone plus human growth hormone.

And kind of the other cool thing to mention, you were talking about earlier on the effects of the connective tissue and how that is beneficial. Where I see it coming into play down the road, and currently they still do a little bit of...they do it right now, is in terms of people who get hurt. You think of your athlete who has degenerative knee tissue. Their shoulders are shot, things of that nature. There's some preliminary evidence indicating that if they receive human growth hormone injects, it will help speed-up the recovery of this tissue.

And I think were this really gained a lot of steam was...I'm drawing a name blank, but the doctor from Canada who is associated with Tiger Woods and a bunch of other big-name athletes, got in trouble with bringing the human growth hormone down. In theory, human growth hormone shouldn't be that big of a deal since it has no effect on muscle mass size. But, for injured athletes looking to speed-up recovery, there very easily could be a role that human growth hormone plays in that.



LA: That's an interesting segue, because you mentioned a timeframe in the ebook, like ten years ago. Before that people really were not talking about HGH and I remember the only way I'd ever heard it talked about was in conjunction with steroids and in conjunction with insulin. IE, what the Soviets were doing or what the East Germans were doing. That was the only way I'd ever heard of that.

SC: Yeah.

LA: Does that sound much more where this is sort of appropriate, like within a well confined system that has like decades of research and things like that?

SC: Yeah. That's the kind of scary thing. I mean, in the United States we just don't have a lot of research on it at the top. So, you're getting individuals who are incorrectly taking it or they're having doctors writing prescriptions for them. No one really knows, at least from the scientific literature. There's anecdotal stories about how this can respond in the body. But, I think that's just a scary thing. I think short term studies are definitely...as well as longer term studies, are necessary.

The other area where human growth hormone has gotten a lot of attention is in the fountain of youth. I think that's another area where human growth hormone has really exploded, at least the talk of it.

The research to date doesn't really support the use of human growth hormone as a youth foundation. There was a med analysis, which is more or less like study of all previous...a lot of other studies...

LA: A literature review, more or less.

SC: Literature review. Thank you.

LA: Sure.

SC: The found that...I've been through it all and I think there was over 20 studies and they found that human growth hormone, again, on its own, did not increase muscular strength any more so than exercise alone. There were issues with it. One of the effects of human growth hormone is that you tend to hold onto water more. And of course, since it is affecting cartilage growth, a common side effect is carpal tunnel syndrome.

I think anecdotally, for people who are around athletes who use human growth hormone, as well as the literature, so many individuals who just get sore wrists from using it. And that's, like I said, they kind of hold onto a little bit of water and just the growth of the tissue itself. So, for individuals looking to bench a lot of weight, if you have carpal tunnel, that's obviously undesirable.

LA: That could be a bit of a problem.

SC: Yeah, that might be a little issue. Or, think of your football athlete, lineman trying to block someone who has carpal tunnel. I mean, that's one of the side effects that has been pretty widely noted, in multiple locations. But again, like I said, this was seen in older individuals looking for the fountain of youth. That's what we kind of know the extent of human growth hormone in terms of on a scientific side.

I guess the other thing on the human growth hormone side of things and the fountain of youth, there has been a study that did show that older individuals, when they received human growth hormone plus testosterone, had significantly increases in body strength. But, again, this is only in the groups that received both the testosterone and human growth hormone.

LA: It's inconclusive at this point, or it's sort of not really up to Western sort of ethical or medical standards whether or not it's something that you should be doing. Not a yes or a no definitive, but as everyone likes to say, requires more research.

SC: Yeah, more research, exactly. If somebody came up to me and just asked me point-blank, in 30-seconds, give me your thoughts on human growth hormone. Basically, I would tell them that human growth hormone on its own will not increase muscle size. It will not make you stronger, things of that nature.

In the short term, it appears that you increase your risk of suffering from carpal tunnel and just joint pain in general. Again, I'm not endorsing people to go out and start taking human growth hormone or testosterone or anything of that nature. I don't want my message to be misconstrued.

But, if somebody wants to...is going to be taking that, you're wasting your time if you don't take testosterone with it. It's been shown at least in four to five studies I can think of off the top of my head that you need both of these agents to see any sort of an added effect to muscle growth and size. Again, I'm not using that as an endorsement for people to go out and start taking the testosterone of things of that nature. I just want to share that information.

LA: Right. Full disclosure. But, it's interesting because you would think, theoretically, if someone was at a point athletically where they needed those things or they really

needed peer review literature for other supplements, we'll get into that in a minute, that they would have access to that. They would have a staff biochemist. It would not be sort of scouring the internet by themselves.

It's like if you're recreational, you're recreational. Why are you sort of needing to read medical literature? I don't know. It seems, like you said, don't waste your time, but kind of what are you doing at the same time.

SC: Yeah, exactly. I mean, there's... I would like to see the research community really take the bull by the horns, per se, and just tackle this issue, and how it's going to work. Because otherwise, like you said, you have people just scouring the internet, jumping on Joe-blow's strength forum and just get anecdotal evidence from other individuals in terms of human growth hormone, how it works, if it's good or if it's not.

Forums are a great thing for kind of entertainment purposes and just kind of learning what works for other individuals. But, I don't think those are necessarily good places to learn about if human growth hormone is truly effective. Even supplements in general. I would never encourage anyone to buy a supplement based off of what they hear on a forum. I would encourage them to talk with someone who either studies the stuff more indepthly or they themselves kind of look at the science supporting whatever supplement they're thinking about getting on.

LA: And that's exactly my next question, which is, is it forums or what else is it where the misinformation about supplements is propagated? It seems like that's it.

SC: Yeah. I think without a doubt forums and... Like I said, I think they should be used for entertainment purposes and to get an idea here and there. But, in terms of supplements, I think they are the devil.

And here's the thing with forums, you have no idea who you're talking to. Unfortunately, with the internet in general, you really... It's hard to know who you're talking with. Who is BigGuns69ForLife? I mean, nobody knows who these individuals are on forums. And so, you can be talking to a 300-pound guy, a 12-year-old kid, you just have no idea.

Here's kind of the sneaky thing with forums, say I work with supplement company X. My job may be to solely... I may be paid just to go onto forums and talk about how great this supplement is. I may have four or five different sign-in names and more or less be having conversations with myself, all proclaiming about how great of a supplement this is, or how amazing it was. And yet, there's really no research to back it up. More likely than not, there's probably research that refutes the claims you make. But, on forums, you often don't get this information.

LA: Right, because at the same time you're sort of at this weird level of people that are really interested, but they have no real sort of orientation, authority or experts.

SC: Exactly.

LA: I'm sure we could spend a lot more time on this. One of the other things that I think you advocate, I think rightfully so, is the idea of evaluating supplements, going on PubMeds. That seemed like a really good idea, and then I started remembering how much fun it is to read things that have multiple pages of citations, sort of evaluating sources and realize, oh, yeah, Harvard isn't the best for absolutely everything. So then, you have to evaluate where this school is, where that hospital is. Talk a little bit about that.

SC: Can you say the last part again? My phone cut out, I didn't catch that.

LA: Just the idea of it's not as simple as you would want it to be to evaluate the sources and the schools and the hospitals, and things like that.

SC: Okay. I understand. You know, it's definitely something...an acquired skill, kind of digging through the research. And a good source I would recommend to anyone who's looking at...especially with respect to nutritional supplements, things of that nature, is the Journal of the International Society of Sports Nutrition. It's a peer reviewed, scientific journal, but they have some great... If you go to their website, I think it may be like ISSN.org or something of that nature. But, like I said, it's the International Society of Sports Nutrition.

They have position statements regarding supplements, pre and post workout nutrition, meal frequency. They have pretty long position statements that yes, they're long, but they will layout at least the baseline information regarding a specific supplement.

On the other hand, like you said, it is kind of confusing going on and looking at all this research yourself. That's why I recommend... The athletes I work with, I never ask them to do the research themselves. I think it's the responsibility of the coach that if they recommend a supplement to someone, they better have a good idea of if it's being supported by research or not. An athlete has or the client you're working with has other things on their mind. That's not their responsibility.

But, I think, again, just looking at research, seeing if there's some evidence to support it or you could go on and look at research and be like, wow, this isn't supporting it at all. This is actually saying the opposite. This isn't good.

Something that comes to my mind is anti-oxidants, taking mega-doses of vitamin C. The theory was, well, when you exercise you generate free radicals. Free radicals

cause inflammation. Why don't we try to take some anti-oxidants so we don't have free radicals in our body. They actually found that taking high doses of vitamin C, in a lot of instances, actually had negative effects on performance.

And so, things that intuitively sound good, you know, in the big picture, you may actually be hurting your athletes by recommending this supplement or that supplement. And so, that's something I can feel strongly about, making sure if you do recommend a supplement to an athlete, to have a good idea, at least on a research level, if it's effective or not.

And again, I'm not saying you have to go through every single journal or the specifics of the scientific design of the study or things of that nature, but it's something to definitely keep in mind.

LA: And in that way, I think there's probably things that are a little bit more circumspect in terms of yes, we can research this, and yes, we can validate our findings, and yes, you can sort of take this or not take this. And I think that that's probably the way to sort of shepherd people in that direction, as opposed to the things that they're just not able to be studied for sort of ethical reasons in the United States.

SC: There's...the great thing of the supplement field and this is where individuals who are not comfortable looking necessarily at peer viewed, the scientific literature that's put out by various universities and medical institutions. If this isn't something you're comfortable with, this is when you turn to individuals who you consider experts in the field. What are the experts saying? A lot of your experts use scientific information to support a cause, but they're usually able to translate it for the individual. And that way the final individual doesn't necessarily have to translate how five milligrams of this did on some cellular level. Let the experts do the translation of it.

Just make sure when you're looking at their word, if they claim that something increases muscle size or claim that it does something of that nature, kind of just check in their references. Do they have a scientific journal article to support that claim, or are they supporting it based off some laymen's article that was published a few years back?

The ebook that you were referring to, what inspired me to kind of do that was a client contacted me regarding a supplement called gluconic DMG or something of that nature. I had never heard of the supplement before. So, I went and researched it and actually found.... I went to a website, saw their ingredients and the information that they had put out. They had this great, huge, long explanation about how great their supplement was, but when I looked at their references, I think out of their 14 references, maybe they only had two or three of them that were actually studies done on humans.



And they talked about the performance capabilities of it, and I actually went back to the references, it's a little funny, but they had listed like two or three magazine articles talking about the sexual enhancing properties of it. So, here they are, marketing it to athletes as a way to improve their anaerobic capacity, and they're supporting it using articles that appeared in just common magazines, newsstand articles about how it's helpful from a sexual standpoint. I don't know about you, but if I'm in the gym or something, the last thing I want to be doing is getting aroused and that type of thing while I'm trying to lift weights.

LA: Placebo is one thing. That's entirely different.

SC: Yeah, and that's the other great topic I want to hip up, if I can, is the placebo effect.

LA: Absolutely.

SC: The placebo effect is huge! Huge, huge huge. Thanks to the placebo effect, so many junk supplements have been able to hit the markets and have great success. Take like your N-O Explode or any sort of your muscle pump type of supplements. A lot of people had great effects from these supplements when they first came out, and a lot of people still buy them. And I'll get into arguments all day long, and they'll say it's due to the great supplement they're on. You look at the science supporting it, and there's absolutely no research whatsoever. It's purely a placebo effect that has allowed them to achieve these great effects.

Here's how important, how huge the placebo effect was. There was a study, it was looking at strength trained men. I forget their years of experience, but well-experienced men. First they had everyone take a placebo, but that they told these individuals was that it was steroid, it was an anabolic compound. And so, a week later, after taking these placebos, they measured their bench press and things of that nature. They found that they all had increases in their bench press, their deadlift and squat. The bench press went up by 3.5%. Their deadlift went up by 4.2%. Their squat went up by 5%.

And again, these were nationally-trained powerlifters. And anybody who's squat goes up...when you're at that level, if your squat goes up by 5% in one week, that is huge! As you know. You just don't see those gains. But, they thought they were taking steroids and so mentally, they were able to achieve these amazing results.

So, what did they do? One week later, they repeated the test, however they told half the people in the study, they told them, "You know what? This whole time we've been giving you placebos. We haven't been giving you any steroids whatsoever." On the other hand, they let the second group think that they were still receiving steroids.

And so, what happened? The group who knew that they were receiving placebos the whole time, they went back to their baseline level. The group who still thought they were receiving steroids still had improved performance and in all of those lifts, which just shows you how powerful the placebo effect can be.

So, if I'm playing the devil's advocate here, I'll say, well, what's the big deal with the placebo effect? If you get the result, that's all that matters at the end of the day. If you bench press 300-pounds because you were taking a placebo or not, or you were taking the real thing, what matters if at the end of the day you still achieve your goal?

On one hand, yes, this is an argument. But, the fact that I'd like to bring up is not everybody responds to the placebo effect. In fact, there's a lot of individuals who won't respond to the placebo effect.

And so, if you're going to drop money on a supplement, especially these supplements with the flashy names, the big advertising campaigns, a lot of these supplements you're spending over \$50-a-pop on them a month, to buy them. If I'm going to drop that much money on a product, I better know dang well it's going to work for me. I'm not going to drop money on something that really is garbage and the only reason other people have had success with it is because of the placebo effect. It's very likely I will not receive that placebo effect from the supplement. So, other than having a supplement that may or may not taste good, and being out \$50, I've achieved absolutely nothing by purchasing it.

LA: Right, which sort of opens the door to individual psychology and motivation, which is just not...so much more difficult to measure in a lot of ways.

SC: Oh, yeah. I so wish we could tap into the potential...like of the placebo effect. Like, there's been studies showing that using visual imagery, which is just kind of going through the process of what you're trying to accomplish in your head works, or psyching yourself up prior to competition. I think you're kind of able to tap into the mental aspect of what the placebo does.

Unfortunately, very few individuals can fully pull that out of themselves. I think that's a very fascinating area of research. Is there some how we can tap into this reservoir of strength that is locked inside of our minds? And so, that's just a fantastic area of research. How can we maximize your performance by tapping into that, what's held in your mind?

LA: Certainly. Definitely so. Well, if you find anything, you let us know at Critical Bench and we'll have you back, certainly.

SC: Oh, definitely. I would love to. This summer I'm planning on kind of delving into it more indepthly to see what I can find and you guys will be the first one I'll share that knowledge with.

LA: All right. I definitely appreciate it. Sean, if people are trying to get in touch with your or are interested in the stuff we've talked about that you've written, let them know how to get in touch with you.

SC: You can get in touch with me if you go to [CasePerformance.com](http://CasePerformance.com). I'm there. I have a contact tab where you can get a hold of me, submit an email. I'm usually pretty prompt with my emails, within 24-48 hours.

A lot of the things we talked about today, various ebooks that Luke alluded to, and those are all free for signing up for my newsletter. And I must mention, this is only a monthly newsletter. I'm not going to be sending you mail on an every-other-day basis or anything like that, just one time a month I send out a newsletter.

The other thing, one of the things I discussed was if you're not for sure on a supplement or something of that nature, not necessarily comfortable reading scientific literature yourself, one of the best emphasis on my site is trying to bridge that gap. And so, a lot of the articles on my site, I've already done the research myself and I try to laid out my articles in a user-friendly, easy way to understand. So, I'd encourage anyone who's interested to go to the website, check it out, and like I said, feel free to contact me via the website.

LA: With that, I think we're done. Sean, I appreciate the time. Thank you so much.

SC: Well, thank you. I appreciate you bringing me on the show today.

LA: All right, take care.

SC: All right, bye.

## **Sean Casey Bio**

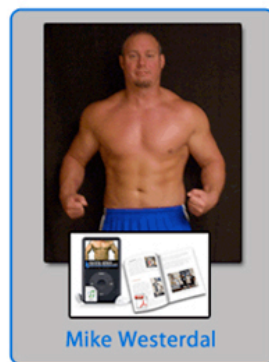
Sean graduated from the University of Wisconsin - Madison with degrees in both Nutritional Science-Dietetics and Kinesiology-Exercise Physiology; earning highest academic honors in the process. During that time period, he developed a true passion for human performance and how it can be maximized via exercise and nutritional interventions.

During college, Sean was an intern strength coach with the UW-Badgers Strength and Conditioning Department. Sean also spent time at the International Performance Institute in Bradenton, FL. More recently, Sean was a physical preparation specialist at

Athletes' Performance.

Sean is also active in the field of sports nutrition where he has consulted with a wide variety of organizations including both elite (NFL's Jacksonville Jaguars) and amateur athletic teams.

**Not a Subscriber? Get 5 Free Interviews For A Buck Just For Trying Out the CriticaBench.com Weekly Muscle Building Expert Interview Series. – [CLICK HERE](#)**



Mike Westerdal



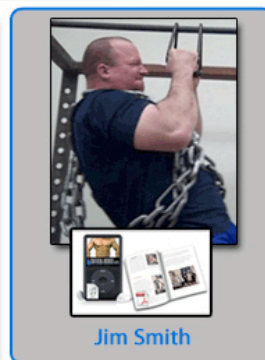
Elliott Hulse



Jason Ferruggia



Dan John



Jim Smith