

How to Reach Your Fitness Goals (Hard-to-Grow Muscles, Lose Fat, Busy Schedule & More) | Dan Garner

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Dr. Andy Galpin

The science and practice of enhancing human performance for sport, play, and life. Welcome to Perform. Dan Garner.

Dan Garner

Dr. Galpin.

Dr. Andy Galpin

About time.

Dan Garner

It is. This has been a long time coming.

Dr. Andy Galpin

Yes. We have had no shortage of time on the mics together, but the first time in this format, so super excited to have you here. I wanted to actually start by asking you about your summer. I know you had the opportunity to be at two of, we can just say iconic sporting events. You were at the Ronda Rousey and Gina Carano Netflix.

Dan Garner

Mm.

Dr. Andy Galpin

Huge fight, one of the largest viewed sporting events and certainly fighting events, and a real interesting thing. And then a few weeks later, you were at the White House at that event with Sean O'Malley-

Dan Garner

Mm

Dr. Andy Galpin

... and his competition and all that. So I want to hear a ton about all that. But my very first question is, what was the difference between those two events?

Dan Garner

Oh, man. The difference between those two events was the security involved at the White House.

Dr. Andy Galpin

Okay.

Dan Garner

Showing up as a Canadian and seeing the US military flex is a-

Dr. Andy Galpin

Yeah

Dan Garner

... different level, dude. So, everything went the way it's supposed to go at any typical UFC. I arrive on fight week, we go through the weight cut process, we nail it, and from a nutrition and principles and weight cutting structure, it's business as usual. But one of the craziest stories from behind the scenes that you don't really see on camera and stuff like that was actually on the way to the press conference. This was hosted at the Lincoln Memorial, which is huge and amazing, by the way. That memorial is freaking awesome.

Dr. Andy Galpin

It's still really weird to hear you say all this, by the way. Like a press conference at the Lincoln Memorial-

Dan Garner

Yeah

Dr. Andy Galpin

... for a UFC event.

Dan Garner

Dude, it's-

Dr. Andy Galpin

Wild

Dan Garner

... crazy. Yeah. That has a large chance of never happening again.

Dr. Andy Galpin

Right.

Dan Garner

So on the way to this press conference at the Lincoln Memorial, I'm in this bus, and it's like this special security area you've got to go through to get into this bus, and then we're driving to the press conference, and I'm looking, and the road is completely empty. Empty. This is downtown Washington, completely empty. And then I'm looking on the side, and they've actually blocked off every single street. So they've carved the whole path for us on the way. I was like, "Whoa, this is for me."

Dr. Andy Galpin

Yeah.

Dan Garner

This is incredible. Yeah. You feel like, whoa, dang. And then you're looking, and they're blocking the roads with police cars. But then you keep looking, and they're also blocking the roads with military vehicles with machine guns on top of them. And you're like, "Yo, this is actually kind of cool," but I'm also like, "Whoa." And then when I went, "Bruh," is when I started hearing the chopper above us.

Dr. Andy Galpin

Oh, man.

Dan Garner

I was like, dude, there's blocked streets, machine guns, chopper above us. The downtown is opened up just for us to get there. Security like I've never seen or felt before. No one was going to be messing around.

Dr. Andy Galpin

Yeah.

Dan Garner

Dude, no one was hearing a peep. That was excellently done security. Everything went perfectly, and that's what separated the two events. One event, they were both huge, but the other felt like a world event. It was fun. I took in the moment. I've been working with Sean for seven years now, and we've done 14 fights together, so been a heck of a ride. It's been amazing. We've got a tight-knit, trusted team, so hanging with the boys and getting the job done. He got a second-round KO and saluted the crowd before-

Dr. Andy Galpin

Yeah

Dan Garner

... Aiden even hit the ground. So, legendary.

Dr. Andy Galpin

There's that whole distraction. There's also the part of your brain that's like, we're also here to do our job, and we've got to stay focused on Sean and all those things.

Dan Garner

Yep.

Dr. Andy Galpin

Tell me more about the Gina and Ronda event. Contrast that, because that's also, in one sense, a super normal event for us.

Dan Garner

Mm-hmm.

Dr. Andy Galpin

This is something you've been a part of many, many times.

Dan Garner

Yeah.

Dr. Andy Galpin

But I know Ronda was really vocal about your involvement, not only in the fight, but even how you helped her getting back into shape post-pregnancy-

Dan Garner

Mm-hmm

Dr. Andy Galpin

... and all those things. So, with the UFC event, I know everyone got last-minute notice.

Dan Garner

Mm.

Dr. Andy Galpin

But with Ronda's return, you had a really long time.

Dan Garner

We did.

Dr. Andy Galpin

Quite a bit of time. So, we're going to get into the details, tactics, and things that kind of separate all this, but just first, just emotionally, how did that one feel? Going into that, and knowing it, and that whole experience.

Dan Garner

Dude, it was awesome. First, emotionally, just massive gratitude. The fact that I'm a part of these things is amazing. I absolutely love what I do, and I love that what I do helps people do more of what they love to do. Nothing beats that. So Ronda, she just had a kid. This was in 2025. It was June, July 2025, and she had another baby, and she basically contacted me immediately after and was like, "I want to get back into shape. I want to do this, this, that, and the other, going through this process, and I want to get into that athletic shape again." I was like, "All right. Let's do this thing." So then it only took a couple of months later, because she is a machine. She follows the protocol like an absolute boss, like a real athlete, like someone who's been doing this her whole life, which she has been. She's an Olympian. And we went through that process, and she got lean, and she got in phenomenal shape and was like, "I want to fight again."

Dan Garner

Let's do this thing." And so behind the scenes, we knew way before it was ever announced, the intention's there, and when her intention is there, it's going to happen.

Dr. Andy Galpin

Yeah.

Dan Garner

Something's going to happen. Everybody's got to get out of the way. You've got to join the team or get out of the way. So she wanted it to happen, and we were able to prepare for a long period of time. And yeah, a bunch of men's fitness and health, these things picked it up, and it was amazing. Yeah. She did an Instagram post thanking me for helping her reclaim her bodily identity post-pregnancy. But she put in all the work. I was just there to provide the guidance. She got in amazing shape real quick, and then fast-forward, say, seven months or so, then we're starting official fight camp, moving into fight camp, and then going in there and getting an armbar in 17 seconds.

Dr. Andy Galpin

Part of the reason why I want to start with those questions is I think it kind of highlights a little bit of your career. Where, yeah, you've done plenty of athletes and preparation and all that. You've done high performance. But here in the Ronda situation, you're talking about helping somebody just get their body identity back. Do basic things, lose some fat, feel more athletic. We could go on and on about that stuff. So maybe if you wouldn't mind, maybe just give us a little bit more color on that, of the type of people you've coached. When you say you're involved in these, what are you actually doing, kind of your background and what do you do professionally? And then that will set the context because I want to get into all this stuff. I want to talk about how you help an elite level athlete get better. And then I also want to talk about how that helps just somebody getting their body identity back and what lessons all of us can take from that.

Dan Garner

Yeah. Okay. So I actually started my career as a personal trainer at Gold's Gym in London, Ontario, Canada. So way back in the day on the floor, I was the guy that people don't want to make eye contact with because I'd be at the front door like, "I can give you a free training session. Do you have any questions?"

Dr. Andy Galpin

Yeah.

Dan Garner

That guy just hustling, man. And I would actually go to car washes around town and be like personal training services. You put your little Post-it Note up. I would do that at car washes. And there's actually a gym there. They're gone now, but it's called The Athletic Club. And I put my personal training services sign at The Athletic Club, even though I worked at Gold's Gym .

Dr. Andy Galpin

Bold move.

Dan Garner

Yeah. Just going everywhere trying to make it happen.

Dr. Andy Galpin

Yeah.

Dan Garner

That's what you got to do as a personal trainer. So I started out working with anybody who wanted to work with me. So this was moms, dads, I trained a lot of youth athletes. If it was fat loss for a vacation, if it was just to feel better, if you came with a sore knee, whatever it was, I was taking on everybody I absolutely could in order to get as much experience as I possibly can. And that's kind of a one lesson for any coaches out there is like me going around and hustling and learning how to acquire clients. That is a huge part of becoming a better coach. There's a lot of people out there where you're going to think, "I don't want to work on sales. I don't want to get into the world of selling. I just want to focus on being a good coach." Well, I'm sorry to tell you, but in order to be a good coach, you need a lot of clients.

Dr. Andy Galpin

Yeah.

Dan Garner

And in order to have clients-

Dr. Andy Galpin

Oh, yeah

Dan Garner

... you kind of have to get people through the door.

Dr. Andy Galpin

Yeah.

Dan Garner

If you want any experience, that is a necessity to becoming an excellent coach is to have massive experience. So you need to be able to talk about what you do and be able to work with people and collect all of that. So I began my career working with anybody who wanted to work with me, but then I progressively worked up to a situation where I was working with a lot more high performance people, and high performance in different sectors of the world. So I've worked with billionaire CEOs, I've worked with politicians, I've worked with professional athletes, UFC, MLB, NFL, NHL. I've worked with actors. So that high performance tip of the spear, that's what I've spent most of my time doing over the past 15 years or so. And the way in which that I've been able to get consistent results for such a wide variety of people is through blood analysis. Blood analysis, being able to identify where people's constraints actually are.

Dan Garner

And the birth of that idea way back in the day was like in 2014 or so, I was identifying that people getting healthier was improving their performance. People getting healthier was improving their body composition. Health was actually like a primary plateau to people moving forward. And it was something that I was realizing in real time where if somebody came to me with a goal, because I also have been involved in a lot of functional medicine work in the past. So if somebody came to a goal with me to reduce their migraines, I would be able to effectively eliminate that person's migraines, but then their body composition would get better. Or if someone would come to me and they've got bloating, distension, gastrointestinal discomfort in general, or constipation or whatever, I would help them resolve whatever this gut issue was and they would be performing better. They'd be able to handle more training volume.

Dan Garner

And there's this thing where I'm like, people getting healthier is actually a major plateau, and that they consistently have. So that type of practice eventually led me to realizing that the theory of constraints is how most people can kind of look at their physiology and get past what's currently holding them back. And blood work is such a massive way that you can look at your whole body all at once, identify what someone's constraint is, and then resolve it at that level so they can move forward. And that doesn't matter if you're a golfer, if you're an actor, if you are a normal person getting ready for a vacation, that identification of constraint process is what helps you help basically anybody that comes your way.

Dr. Andy Galpin

Going back to Ronda. I think we can use that as an example of saying someone shows up, had a kid, wants to get back. I keep using this phrase because I think it's really powerful, is just like wanting to refine their identity.

Dan Garner

Mm-hmm.

Dr. Andy Galpin

So in that example, what are the first types of things you're thinking about in that client? What should they be paying attention to? Is this calorie deficit first? Is it we want to get you back exercising? Where do I start?

Dan Garner

I think you start with your schedule. That's something that I've worked with a lot with people is I don't think that it's a mistake when you look at the highest performing people in the world, you look at CEOs, you look at athletes, you look at the military, one thing they have in common is the schedule that they don't break. They get up at a certain time, they eat at a certain time, they train at a certain time. And myself, and probably a lot of the listeners right now, whenever I feel like I'm losing a grip on life, it's usually because my schedule's broken.

Dr. Andy Galpin

Mm.

Dan Garner

My normal habituation, the things that I do is, and we see this happen when people travel, we see this happen when they have kids, we see this happen when business starts getting crazy. The schedule that kept you who you are is beginning to break. So actually looking down and looking at your week, Monday to Sunday, what is the schedule that I perform best in, and how can I protect that? That's a huge part of your health, because we can talk about grams per pound of body weight of protein, of carbohydrate, of fat, your fiber, all these things. None of them matter if you don't stick to it. And what allows you to stick to it is actually looking at your schedule and learning how to protect that schedule. So that is something that I think is key. Have that front and center in your mind. When should I go to bed and when should I wake up? And then actually do one thing I've taught a lot of my clients in the past, is to do a 60-second review of their day at the end of the day.

Dan Garner

And what that means is at night, you just stare at the ceiling and you're like, "Okay, well, this morning, I actually hit the snooze, and when I hit the snooze, I actually skipped breakfast. And because I skipped breakfast, I just went straight to work. And I was worried, and I had this whole

process of my morning felt rushed. I didn't get my normal routine in, so I was probably a little bit more stressed than usual. And then by the time lunch came around, I was absolutely starving. And since I didn't get up early enough to pack my own lunch, I'm now going out for lunch while being starving. So I've got a higher predisposition to choosing something that is suboptimal. But also, since I ate so much for lunch, that afternoon fog is kind of hitting me. I was more tired during the afternoon than I usually am. And then by the time dinner rolls around, I have my square dinner. I might have my normal starch, protein, vegetables, and then I'm out of here.

Dan Garner

That's the end of the day." You can look back at that and be like, "Huh. My afternoon brain fog, my overconsumption of calories due to my poor choice at lunch, my slight recovery around dinnertime, that actually all started with the snooze. All of it did." And walking through your day like that matters a lot. What did I do right today and what did I do not right? You can walk through that in 60 seconds and identify something pretty powerful. It's all like a butterfly effect. That butterfly flap can and will impact the entire day. So that schedule, I can't say it enough, protecting your schedule and then doing a 60-second review at the end of the day, they don't sound like they help your training and nutrition, but they are what protects it, and consistency beats intensity every time, 10 times out of 10. You will only ever get results by being consistent in what you do, and you can only ever be consistent if you protect it with everything you got.

Dr. Andy Galpin

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Dr. Andy Galpin

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I've heard you say this before, I think muttering it to yourself, actually, something to the effect of tomorrow's success is a result of today's preparation.

Dan Garner

Yeah .

Dr. Andy Galpin

Tell me more about that.

Dan Garner

I will say that to myself.

Dr. Andy Galpin

You 100% said it to yourself. I don't even know if you knew I was there.

Dan Garner

No. I have my headphones on, and then I'm talking to myself.

Dr. Andy Galpin

Yeah.

Dan Garner

I'm a big fan of the removal of environmental resistance. So the more resistance you can remove, the greater probability you have of completing the thing that you want done. So tomorrow's success depends upon today's preparation. So at night, I will pre-mix my pre-workout, because I train in the morning. I'll pre-mix my pre-workout, I'll pre-mix my intra-workout, and I'll pre-mix my post-workout. Those are all ready. I have folded my clothes for tomorrow's training session, so I can put them on immediately upon waking. But then I've also already folded what clothes I'm going to work in that day by the shower. So I am getting up, my clothes are right there, all of my supplementation to perform optimally is right there. My recovery supplementation is right there, straight to shower, straight out. The clothes that I'm going to work in, right there. There's no decisions. There's no resistance.

Dan Garner

There's nothing. So as much as you can prepare, the least resistance you're going to have. But the more you prepare, too, the more confidence you're going to have. If you actually ask 100 people, "Hey, man, what's your biggest fear? What's your biggest fear?" A lot of them say public speaking. A lot .

Dr. Andy Galpin

Yeah.

Dan Garner

It's not great white sharks.

Dr. Andy Galpin

Right. True.

Dan Garner

It's not crocodiles. It's like, yo, give me the shark before I speak in front of anybody. That's only preparation. That's all that is. Think about you listening to me right now. If I asked the listeners right now, "Okay, you've got to do a two-hour speech in front of 50,000 people next week," they're going to think, "Oh, man, how am I ever going to talk? I don't talk in front of anybody, let alone 50,000 people, let alone for two hours." There's going to be an anxiety breakdown happening there. But then five minutes before they're about to go on stage, I'll tell them Okay, scratch that. All you have to go do is walk up there and recite the alphabet once. There would be an enormous exhale. They're probably going to lose 10 pounds of water weight from the stress retention. Then they're going like, "Oh." And why now are they confident? Because they've said the alphabet 5,000 times in their life.

Dan Garner

They can go up there, A, B, C, D-- They can just go up there and knock it out and get off. That confidence only came from preparation. So that preparation, I just think is the key to removing resistance and being maximally confident. And if you've removed resistance in your life and you're confident, you're going to get a lot of things done.

Dr. Andy Galpin

I have three separate lines of question after that. I'll choose one right now. This is a difficult choice. But you've, in the last five minutes, given two incredibly actionable pieces of advice. The 60-second preparation or review of your day, as well as the just setting out your clothes and whether you're taking supplements or your pre-workout, that point doesn't matter. The point of it is, what do you need to get done in the first 30 minutes of your day and have that-- In my world, that probably looks more like getting this kids' school bags done, getting all those things, getting the dog food out, getting everything ready to go. So I hope that's what everyone listening gleaned. Not like, "Oh, he's saying I have to have pre-workout."

Dan Garner

Yeah.

Dr. Andy Galpin

Or I have to work in the-- No, that was not the point.

Dan Garner

Yeah.

Dr. Andy Galpin

You made it really clear, but I think we should draw that out is, you want to just remove any potential resistance. What is going to block you from getting that first thing done in the day, and get it out of the way.

Dan Garner

Mm-hmm.

Dr. Andy Galpin

So that, I think is the take-home point. I do have to go backwards really quickly on the 60 second. Is this something that you're doing mentally? Are you having people write it down on a piece of paper? Give me more of the mechanics there, because I think this is a really valuable tool.

Dan Garner

I think writing it down is better than just doing it mentally, but I think that if you just do one of them, whatever it's going to be, choose what you're going to be consistent with. I personally just do it mentally.

Dr. Andy Galpin

Yeah.

Dan Garner

I do it mentally. But I used to not. I actually have a journal beside my bed, and I used to actually write that down. But right now, I just do it mentally. I do it mentally when I'm on the road. But walking through that, and yeah, I think either/or, honestly.

Dr. Andy Galpin

And what are the ground rules for that? Are there things that shouldn't go in that 60-second recap? Are there ways to make it a positive reinforcement or avoiding negative rumination? What are the guardrails we can put on that, that make it a positive result? Not necessarily a positive experience.

Dan Garner

Mm-hmm.

Dr. Andy Galpin

But it avoids people from just going, "Oh my gosh, I failed this today, and I screwed this up," and then because some people that's going to lead into a negative space where you're just now going to ruminate right before sleep.

Dan Garner

Yeah.

Dr. Andy Galpin

That's not helpful, right? So are there any constraints that you put in that system to make sure that, maybe I'll say it again, not positive per se, because you're trying to be critical, you're trying to give feedback.

Dan Garner

Mm-hmm.

Dr. Andy Galpin

But the net result is positive.

Dan Garner

I would say the very fact that you're giving yourself feedback based on analysis makes it positive.

Dr. Andy Galpin

Interesting.

Dan Garner

Yeah. So there's a big difference in my mind between someone who's experienced and someone who's wise. Someone who's experienced, they may have just lived that day, but it's only experience plus feedback that makes you wise. You need to have feedback in combination with your lived experience to actually learn and become wise from it. So if I'm becoming wiser in this process, it's essentially a reframe. Wow, I did do that. That is the feedback that I need in order to learn from that and not do it again, so I can be more prepared tomorrow. I am now a wiser person. Because we've all seen someone who makes the same mistake for 10 years in a row. That person's just straight-up experience, no wisdom. They're not giving themselves the honest feedback, which is the honest piece of action that they need to do in order to move forward.

Dr. Andy Galpin

Your client list, we could name-drop all day here.

Dan Garner

Mm-hmm.

Dr. Andy Galpin

And everyone listening would know these people and be like, "Wow, amazing." We've given you two. If more come up, fine, organically, but we don't necessarily need to do that. But my genuine question is, do these people really do this? Are you really getting somebody who's running corporations across the world to do this? Is Ronda Rousey, not her specifically, but are characters like that actually doing something like this?

Dan Garner

People absolutely do this. And this is lots of times the key thing that moves someone forward. It's what separates evidence from coaching in a lot of ways. Because what evidence is, is something that works at the population level but doesn't always work on the individual level.

Dr. Andy Galpin

You're meaning scientific evidence.

Dan Garner

Yeah.

Dr. Andy Galpin

As opposed to data.

Dan Garner

Yeah. Scientific evidence, not coaching evidence. Those are-

Dr. Andy Galpin

Yep

Dan Garner

... thank you for saying that, two different things. Because there's a lot of great things that work at the population level that don't work on the individual level. And the reason why they don't work on the individual level is because even though they absolutely work, that person's got to do them. They got to identify it, and that actually has to be their key limiter. So when you're saying, do people actually do this, like the busy CEOs, they are the ones who have to do it the most. You have to do this mindset stuff. You have to have feedback. And those high performers, the reason why they are where they are, and this is a pattern that I've caught across the people that I work with, is because they are result-oriented and not activity-oriented. When you become result-oriented, you're actually looking at a result, getting feedback from that result, and then adjusting accordingly so you can continue onward and get the next result.

Dan Garner

If you're activity-oriented, you're doing a lot of stuff, but you're not measuring the result, and therefore you have no way to continuously, progressively overload that result. And we see these people in the gym, say, for 10, 20 years. I do three total body workouts per week, and I do 30 minutes of cardio after. That's a lot of activity. What do you have to show for it, right? They're doing the same thing constantly. Whereas someone who is result-oriented knows, okay, this is the result that I want. This is where I'm currently at. I need to apply X progression in order to continue that result. So the CEOs, they are result-oriented. Athletes are result-oriented. You don't get another athletic contract if you don't get results. You're gone. Your business and the CEO won't grow if you're not result-- You're gone. Activity-oriented people, it's like a real reframe

for their mindset. And it can be heartbreaking sometimes because they're applying, in many cases, the same amount of effort as someone who's result-oriented.

Dr. Andy Galpin

Yeah.

Dan Garner

But the hardest worker in the room is never the one who gets the most results. It's only the person who's able to allocate that hard work into the most intelligent areas who's going to get the best results. That comes from being result-oriented.

Dr. Andy Galpin

I'm channeling David Senra in my brain right now, and I want to use the word, say more. This is all I can come in my head. I'm listening to David too much. Activity versus results-oriented.

Dan Garner

Mm-hmm

Dr. Andy Galpin

I want to know more about that directly, and you gave one example. This is, I'm going to the gym, I'm doing all this training for years on end, I am high activity, but I'm not results.

Dan Garner

Mm-hmm.

Dr. Andy Galpin

Other examples of that, and how do I correct it?

Dan Garner

Sure. So a good, clean, easy example is 30 minutes on the treadmill. So when you're starting to get lean and you get 30 minutes on the treadmill, you're going to have a heart rate, probably, depending on what you're doing, obviously, but if you're doing 30 minutes, say, post-workout in the pursuit of getting leaner, you might be on that treadmill going at 120 beats per minute. But then as you get leaner and as you keep doing that treadmill work, your heart rate is then going to be 110, 100, 90, 80, 70. And then you're like, "Man, I'm doing the same 30 minutes." It's not the same stimulus anymore. So someone who's result-oriented, they're going to stay at 30 minutes, but they're going to watch their heart rate. So now they're going to stay at 120, and they're like-- And then it's amazing. You're like, as you get in better shape, it's amazing how much harder you have to work to stay at 120.

Dr. Andy Galpin

Yeah.

Dan Garner

It's really hard .

Dr. Andy Galpin

Yeah.

Dan Garner

And you're like, "Man, I have to go at this speed, at this incline, just to maintain this?" When I started this, I was walking at a three with an incline at two, and then now you're just in a different spot. So that person, that's someone who's result-oriented, and that's something I've done with people, so I never have to really increase the minutes of their cardio as they're getting leaner. If you watch your heart rate, you're just going to work harder as you get in better shape.

Dr. Andy Galpin

So this is an example of somebody who's using that 30 minutes of cardio as a method for body composition change.

Dan Garner

Yes.

Dr. Andy Galpin

And so what you're saying, if I'm hearing that correctly, is if that person would've stayed at the same intensity, at the same speed, and the same duration of their exercise, because they're more fit, then that actually isn't providing enough stimulus, as one example, to burn enough calories to keep getting them the negative calorie state that they get to. So they needed to adjust intensity or speed to be able to get enough output because they've just gotten really efficient at it.

Dan Garner

Yeah. You're just better.

Dr. Andy Galpin

You're better at it.

Dan Garner

You're better.

Dr. Andy Galpin

This is different than somebody using the treadmill for performance goals.

Dan Garner

Mm.

Dr. Andy Galpin

Or where you might not want to do that or whatever. So this is just one example, which, thank you, super helpful.

Dan Garner

If you see the person who's on there, and a month ago, they looked really tired, but now they're rapping and they're singing and shit.

Dr. Andy Galpin

Dancing?

Dan Garner

That person, yeah. That person's not working that hard anymore .

Dr. Andy Galpin

Yeah. Which may be the point.

Dan Garner

If you've got enough air to sing "Rap God" by Eminem-

Dr. Andy Galpin

Yeah

Dan Garner

... whilst you're on a treadmill, you could probably work harder.

Dr. Andy Galpin

I want to balance this because you've used this idea of progression and focus. You're obviously a very results-oriented person, that you align with that, your clients align with that. How does this stuff apply for the person who's just not that attached to results? "I just like going to the gym because it's fun. I feel better mentally. I feel in a good spot. I kind of want to be healthier, but I'm not this like, I don't want everything to be a checklist. I don't want everything to be a progress bar."

Dan Garner

Mm-hmm.

Dr. Andy Galpin

"I just want to be present. I just kind of want to enjoy my experience." How are these lessons applicable for that person, or are they not? Or are those people really should just disregard everything you said?

Dan Garner

I would probably say two things. Number one, I'm probably not the coach for that person.

Dr. Andy Galpin

For sure.

Dan Garner

Yeah.

Dr. Andy Galpin

Fair.

Dan Garner

Those people don't really find their way to me. I'm a guy who solves problems and will measure your results. And I'm going to measure it, and I'm going to make sure that they're happening, because then we need to adjust it if it's not happening. So I would say that. But then the second frame of that is maybe that is the result they want. And that's okay, too. If the gym is a social thing for you, that is one of the primary things of longevity, is social connection.

Dr. Andy Galpin

Sure.

Dan Garner

You don't need to go in there and have headphones on and be like, "I've got to be at 120 BPM."

Dr. Andy Galpin

Yeah.

Dan Garner

No, a lot of people actually just want to talk and be a part of, be around people and get some movement and activity in, which is still healthy. It's just not progressive.

Dr. Andy Galpin

Yeah.

Dan Garner

Those can be two different things, and I myself do that. One of the healthiest practices I do in my whole life is walk my golden retriever. That is, I am out there, I'm getting 45 minutes of sunlight. I go into a forest and breathe in the natural air there, and I'm just walking. I'm not going to progress that, but it's a really, really good health practice for me. So it just depends on what goals you have. And for me, being a coach and being results-oriented, I kind of divide people into two categories, complaining and not complaining.

Dr. Andy Galpin

Okay.

Dan Garner

And this goes for everything in life. Okay? If you are not measuring results and you're not progressively overloading those results, but you're not complaining, you already won life, bro.

Dr. Andy Galpin

Yeah.

Dan Garner

You won.

Dr. Andy Galpin

100%.

Dan Garner

Dude, if you're not complaining and you're happy, you won life. Who am I to say that you need to do this to be more result-oriented? That's ridiculous. He's not complaining. He's good. But if you're complaining and there is a lot more result orientation and measurement and analysis and feedback and wisdom waiting for you on the other side of the door, and you're not taking it, and you're complaining about being on this side of the door, get out of here.

Dr. Andy Galpin

That makes complete sense. Your example of walking in the forest with your dog just nailed it for me. Okay, great. So there are some potential activities, things that you're doing for your health that you don't need to be results driven, or in fact, almost actively shouldn't be.

Dan Garner

Shouldn't be, yeah.

Dr. Andy Galpin

You probably don't count your steps when you're out there. I'm sure you don't time it to the minute.

Dan Garner

Meditate harder.

Dr. Andy Galpin

Right like-

Dan Garner

Yeah.

Dr. Andy Galpin

Great. But then if you're trying to get somewhere and you're not getting there, and you use the word complain, that's when it's like, okay, well, you've mismatched expectations and outcomes

with actions.

Dan Garner

Right.

Dr. Andy Galpin

And that's a problem. Okay. Really helpful from my perspective. Circling back, you gave us two great examples of how you, at night and the morning Set up ways, I think you used something like you want to remove environmental barriers or constraints or something like that, all under the guise of driving adherence.

Dan Garner

Mm-hmm.

Dr. Andy Galpin

Right? And as we know scientifically, whether you're looking at exercise, mental health practices, meditation, nutrition, adherence will always be the number one predictor of long-term success.

Right? You have to do the thing-

Dan Garner

Mm-hmm

Dr. Andy Galpin

... more consistently. You never have to be perfect, but you just have to be more consistent, or as close as you can. Do you have a third example? Are there anything else that either you do personally or have found in your coaching clients that help remove some of those environmental constraints or barriers?

Dr. Andy Galpin

The evening practice, the morning setup, anything else pop into your mind of ways to improve likelihood of success?

Dan Garner

I protect a deep work block of my day every day, and a big part of that is just getting my phone out of my room. I think that that's a huge part of success for anybody. Almost nobody does it, and I think it's worthy of mention. The amount of work that you can get in if you actually sit there and do two hours of no phone and 100% work-

Dr. Andy Galpin

And no Slack and no email and no like-

Dan Garner

Nothing.

Dr. Andy Galpin

Yeah.

Dan Garner

And also, just think about the listeners thinking right now. When was the last time you sat at the computer and went 100%? I mean 100%. You're looking, you're even moving the mouse pretty fast. You're typing. You know what you're going to do, that you've prepared the framework of what you're going to get done in that two hours in advance, because preparation is success. You know what you're going to do. You're in there. There's no distractions. There's nothing. You are going 100% at the computer. People are probably thinking, "I wonder when the last time I actually did go 100%." They don't even think about going 100%. So, in order for someone to have success, I do protected deep work blocks of two hours, and I put my MIT for the day in that, my most important task. So, if that's going to be a lab analysis, if that's going to be a research paper that I'm supposed to read, whatever it is, your MITs will change based on the season of your life.

Dan Garner

But you should have a time that you protect within each day to get something in that moves you forward, that's completely undistracted. The universe is very forgiving. It's very rare for me to come across somebody who actually did everything at 100% and the universe didn't give you what you wanted. That's very rare. Like, okay, I actually was in a calorie deficit. I actually trained hard. I actually measured what I was doing. I actually slept for eight hours. I actually did the mindfulness practices. If you're doing that stuff, you're getting in shape. The universe is very forgiving, and it will do that if you want to research to have more knowledge, if you want to work with people to have more experience, if you want reflection to gain more wisdom. Those protected blocks, you're going to find very quickly that the universe is going to move you in the direction that you want because you are applying the appropriate focus in order to get there.

Dr. Andy Galpin

All three of these examples translate into whatever outcome you're after, right? So, whether this is doing something at night that will help you follow your nutrition plan tomorrow.

Dan Garner

Mm-hmm.

Dr. Andy Galpin

That's the point, right? Have that thing set up in the morning, and then have a protected time where you're meal prepping. So, if you exchange out, say, meal prep for deep work, the point is, are you allocating time to get the most important thing done? If the most important thing is get your stretching in, or the most important thing is your journaling. Point is, block that out.

Dan Garner

Mm-hmm.

Dr. Andy Galpin

And that's how you find your path to success.

Dan Garner

Mm-hmm.

Dr. Andy Galpin

The exact examples, I hope, are helpful, but if those are not your goals, you could switch it out for something else.

Dan Garner

Yes. They'll vary from person to person, but the principles and framework of that structure apply to all, and that is what I do with people.

Dr. Andy Galpin

You've brought up some other sub-points in there a handful of times, and I think this is a perfect way to get into these examples. You've mentioned science. You mentioned scientific evidence. Yourself, you have published research papers. You've been involved in these things. It's not your primary job, but you've been involved in science. And one of the reasons I wanted to have you on, and so many things I've learned from you over the years, is the second half of this sentence, bridging the gap between science and application. You started off by saying, "Look, most research is done at the population level," right? And what we're trying to identify is what's most likely to work in most people most of the time.

Dan Garner

Mm-hmm.

Dr. Andy Galpin

But especially in sports science, it's different than medicine, but in sports science, rarely does a study or even collection of studies tell you exactly what to do for each individual client. It's just framework and guidelines, right?

Dan Garner

Mm-hmm.

Dr. Andy Galpin

So, I think the next chunk here, I would like to spend more time getting into the details of that. How do you stay evidence-based? What does that mean to you, not as a scientist, but really as the practitioner who still values and treasures science?

Dan Garner

Mm-hmm.

Dr. Andy Galpin

And so, I want to know specifics of even things like your thoughts on nutrition and training and supplements. But then also, how do you balance that? How do you pay attention? How do you filter information? And how do you put that all into practice? So, that wasn't a question. That was a framing of where I want to go next.

Dan Garner

Mm-hmm.

Dr. Andy Galpin

I can't think of a better person to ask these questions to. Maybe we'll go backwards here, and we'll just start with you pick your poison, training, nutrition, supplementation, somewhere else.

Dr. Andy Galpin

Is there an example you can think of in your career where the science has really helped you make a positive decision with a client? So, you've gone in, you've read a paper, you've been to a clinic or a conference, and you've learned something, and then you put it into practice, and it helped. It got past a barrier.

Dan Garner

Mm-hmm.

Dr. Andy Galpin

It finally made a change. Is there anything like that that has come up where And the science went, "Ah, this was the unlock, and it worked now."

Dan Garner

Maybe between 2005 and 2010, I thought carbs made you fat.

Dr. Andy Galpin

Ouch.

Dan Garner

I was one of those guys, admittedly guilty.

Dr. Andy Galpin

That was 20 years ago, I'll give you a pass.

Dan Garner

20 years ago, I was young, I was scrappy. I'm in Gold's Gym. Come on.

Dr. Andy Galpin

Yeah, your car washes.

Dan Garner

Yeah. I'm in car washes. But dude, very intelligent men with PhDs, with books 500 pages long, and you look at these citations, but you don't really know how to interpret them yet. You're young. And you also want to understand something easy, like you can grab onto carbs make you fat. Man, I get that. Cool.

Dr. Andy Galpin

Yeah.

Dan Garner

I can give my people proteins and fats. And, I think that is an area where I was young and impressionable and just trusted people for what they were saying, and then I looked into the literature, and I read from some other researchers, and I was like, "Oh, no."

Dr. Andy Galpin

Mm.

Dan Garner

"I've been saying wrong things." And so the science really helped me, like, wow.

Dan Garner

Two things. Number one, people are paying you to get a result for them, and you really need to know what you're talking about because you can just straight up lie to people, but you do it with such confidence that they pass it off as truth, and that's kind of what happened to me. People very confidently saying things that are straight-up incorrect about energy balance. And I didn't know at the time, so in this time period, I thought something very incorrect, and then I was rattling off mechanisms about insulin being a storage hormone and these types of things in 2005 and this kind of-- I'm like, "Whoa, dude." Like, I probably owe some people their money back if I'm honest. Okay? Hopefully, they're not listening to this right now.

Dr. Andy Galpin

Fair.

Dan Garner

"I know that guy from London."

Dr. Andy Galpin

Yeah.

Dan Garner

"I wonder what..." Yeah. Hey.

Dr. Andy Galpin

I paid that guy 20 bucks for a nutrition plan 20 years ago.

Dan Garner

You don't want to tell people wrong things. You just don't. And number two, science really taught me how to have a critical mindset. Even if you're hearing it from someone very intelligent, someone you trust, someone you respect, you should still look into it yourself. You should still look into that research on your own because you may read the same research or come up with a different opinion or a different interpretation. And that was probably the most relatable example to the audience that I can say regarding something I was very wrong about, and then I looked into it and learned that I need to be better for the people I work with, but then I also just need to be better for myself and have a critical mindset. And the whole world of evidence and how I approach the bridge is you've got evidence-based coaching. And as you alluded to, evidence-based coaching sometimes gets mistaken for you can only do what's in an RCT.

Dan Garner

And that's evidence of research, but that's not evidence of who you're working with, what their preferences are, what has worked for them in the past, what they're currently excited about. These things really matter. They're important components between the science of coaching and the art of coaching. So I view it like model-based thinking. I view it as being quantitative and qualitative. The quantitative approach to evidence-based coaching is the science, is the research. I need to have an understanding of physiology. I need to have an understanding of nutritional biochemistry. I need to have an understanding of training stimulus. I need to have this population-level understanding because it does work, and it is real, and the mechanisms are known. That is quantifying research so that I can tell my person what to do. And what happens when you quantify research, you are able to confidently prescribe your first program to that person with a higher level of probability that's going to work.

Dr. Andy Galpin

Interesting.

Dan Garner

Out of the gates, you've got a higher level of scientific probability that that is going to work. Then there's a baton pass. Quantitative moves into qualitative. That is measure and adjust. Measure and adjust. Everyone freaks out about the first meal plan, the first training program, as if the first swing at bat needs to be perfect. It doesn't. You know why? Because next week, you're going to measure and adjust. Measure and adjust. Measure and adjust. That's over and over and over. That is what you do. So quantitative is quantifying the data so that I can give my first best guess,

and then qualitative is now I am qualifying my guessing through that client's subjective and biological feedback. What's actually happening week to week, and then we become a team now. So in the beginning, I'm telling you what to do based on quantitative data. I'm the boss, you listen to me. But now that you're in this plan and I don't live in your body, you're giving me the biofeedback that I need to know in order to measure and adjust, measure and adjust.

Dan Garner

All decisions are now being qualified through that person, and then it's like this zig-zaggy thing up and to the right, and then you have that person's physiology and adherence figured out. That's when they're cooking with gas.

Dr. Andy Galpin

What do you actually care about first, the physiology or the adherence?

Dan Garner

Who cares about the physiology without adherence? It means absolutely nothing. It means nothing. If you don't have adherence, the best plan in the world won't work, and even population-level stuff like in sleep, for example. At the population level, it is great advice to tell someone to get in bed an hour early.

Dr. Andy Galpin

Sure. Yeah.

Dan Garner

Are they going to do it in the real world? They won't.

Dr. Andy Galpin

Yeah.

Dan Garner

They just won't.

Dr. Andy Galpin

Yeah.

Dan Garner

So that works, man. It does, and it's phenomenal advice, and if you can do it, it's great. But as a coach, if I'm going to say, "Yeah, man. So this phase, we're going to get into bed an hour early." He's going to be like, "What? No. I'm with my kid. We want to watch Netflix." No.

Dr. Andy Galpin

Yeah.

Dan Garner

There's also just no. So it's like something works at the population level, but it doesn't work, I'll say at the individual level, but to stay on topic of like-- because I want to give people a framework, it doesn't work at the qualitative level.

Dr. Andy Galpin

Yeah.

Dan Garner

So what's your next move? It needs to become individual, and it might actually not have this RCT up here, but it'll be very effective for this person in front of me who's paying me to get the result.

Dr. Andy Galpin

Does that look something like you're asking them questions every single day? Are you taking measurements every week? What does that tactically look like?

Dan Garner

It tactically, quantitatively looks like blood work every 90 days, and then weekly updates from that client telling me what's up. That question list will differ. So if they have a fat loss goal, then I'm going to have a series of questions for them related to that goal. If it was a gut health goal, it'll be a series of questions related to that. I'm not just going to give everybody the same questions. And then I also just want them to tell me what's up, too. So once a week, I get that qualitative feedback on what I want. But then a trick that I've done a lot as a coach is I say, "What's the story?" This is something I learned way back in the day, because if you ask someone, "So how's it going, man?"

Dr. Andy Galpin

Good.

Dan Garner

Of course. Everyone says good. No one thinks. It's kind of just saying hello. "How's it going?" "Good." But if I say, "All right, what's the story, man?" It opens up this like, yo, now they can communicate to me what the actual story is. It's been a total game changer in my coaching. You open the road up and you'll hear anything. You'll hear, "Oh, man, my cat is keeping me awake at night." You'll hear, "I didn't get my meal prep done." You'll hear maybe relationship problems. You open up that doorway for anything, and that's a lot more valuable sometimes than what their body weight on the scale was that day.

Dr. Andy Galpin

Today's episode is sponsored by Eight Sleep. Eight Sleep makes smart mattress covers with cooling, heating, sleep tracking, and more. I've personally been sleeping on an Eight Sleep

mattress for more than three years now, and it's absolutely glorious. I love it so much that I hate traveling away from home because I can't sleep on my Eight Sleep Pod 5. As you'll hear me talk about endlessly on this podcast, there's really nothing you can do that makes more of an impact on your health and performance than getting a great night of sleep. And getting great sleep requires having your body temperature drop a couple of degrees at night, and that's hard to do on your own. The Eight Sleep has been a game changer for me because I run hot at night, or as my wife calls it, I'm a furnace. If I don't have something like an Eight Sleep helping me cool down, I'll wake up in the middle of the night overheating and not feeling great.

Dr. Andy Galpin

This is something I've also found in many people that I coach, especially those who are really physically active. The Pod 5 is the latest generation of the Eight Sleep mattress covers, and it can go on any mattress, heats or cools each side of the bed from 55 to 110 degrees Fahrenheit, and provides high-fidelity sleep tracking. If you'd like to try Eight Sleep, go to eightsleep.com/perform and use the code PERFORM to save up to \$350 off your Pod 5 Ultra. You get 30 days to try it at home and return it if you don't love it. But I'm confident that you will. I certainly love mine and would never consider returning it. Eight Sleep currently ships to the US, Canada, the UK, and select countries in the EU, and even Australia. Again, that's eightsleep.com/perform, and use the code PERFORM to save up to \$350. So getting into the human relationship aspect of it as a method of trying to drive and understand behavior so you increase your likelihood of adherence, and then we'll figure out what we're adherent to almost secondary.

Dan Garner

Mm-hmm.

Dr. Andy Galpin

But we got to figure out how do we get you within constraints.

Dan Garner

Mm-hmm.

Dr. Andy Galpin

How do you handle the, "I followed the plan, coach, but my kid woke me up. But I had to take a late-night call."

Dr. Andy Galpin

Sounds like, man, you're so results driven. You're getting your stuff prepared tonight. That's not realistic for me because I have kids.

Dan Garner

Mm-hmm.

Dr. Andy Galpin

How do you answer those types of questions?

Dan Garner

I agree with you.

Dan Garner

I agree with you. Yeah, if that's what the situation of life, I've been in that situation. I've been in situations where business is crazy. I've been in situations where my kid got sick, and I missed training that week. I've been on travel for work, and I've missed training or whatever, but-

Dr. Andy Galpin

You have an average of a 12-hour delay every plane flight.

Dan Garner

Bro.

Dr. Andy Galpin

An average.

Dan Garner

Hey, YYZ, Toronto Airport, calling you out.

Dr. Andy Galpin

Oh my God.

Dan Garner

I build it into my trips now.

Dr. Andy Galpin

You literally fly in a day early and go back a day late, assuming you miss a whole day every trip.

Dan Garner

I have to, yeah.

Dr. Andy Galpin

And it's a 50% hit rate.

Dan Garner

Yeah.

Dr. Andy Galpin

At minimum.

Dan Garner

It's a smart thing to do. Like the correlation it's there.

Dr. Andy Galpin

Insane.

Dan Garner

Yeah. So that type of stuff just needs to be built in for me and anybody else who wants to not lose their mind in airports. But you just have to have an expectation that matches reality. And what I've found as a coach is it starts before then. So if someone says, like the example you said like, "I didn't have this meal," or, "This was busy. I had to take care of my kid here."

Dan Garner

I agree with you. However, normally, your ability to accomplish a task is tied to how connected you are to the goal. That's the reality of the situation. There's always a way to do things. There is. And you actually have to sit back and think about what goal you actually want and make it important to you. Because if your goal is, "I want to lose 10 pounds of fat," and that's been your goal for the last two years, which a lot of people are in, that goal's clearly not important enough to you. That body fat, it might hurt your confidence. You might not want to take a shirt off. You might not feel good in your skin sometimes. These things can still negatively affect your life, but you're still not doing the thing. And what I've found is just Yeah. Sitting down with that person and asking them why over and over and over again to identify if that goal's even important to them, or if they think they should do it because they listened to a podcast, or they think they should do it because someone else told them they should do it, or someone else made them feel bad about it.

Dan Garner

You're free to change your goals. You're free to move on to something else. So it is two things. I believe that people have periods of their life where something is important to them and they can't get it done, but I also think in a strong way, and this is where I'm more of a hard-ass coach, there's generally always a way to get it done if you care about it enough.

Dr. Andy Galpin

You had a child, you had, I don't know, somewhere between three to five businesses, and then within a six-month span, I think it was six months-

Dan Garner

Yeah

Dr. Andy Galpin

... you benched 405 pounds for the first time and ran a marathon.

Dan Garner

Yeah.

Dr. Andy Galpin

This was your first ever endurance event of any kind?

Dan Garner

Yeah.

Dr. Andy Galpin

For the most part.

Dan Garner

Mm-hmm.

Dr. Andy Galpin

Outside of the obvious answer of, okay, you white-knuckled it, you just worked harder than ever, self-discipline, all that I'm sure was true.

Dan Garner

Mm-hmm.

Dr. Andy Galpin

Was there anything past that that helped you make sure you were adherent? That's a lot of program. That's a lot of stuff to do.

Dan Garner

Mm-hmm.

Dr. Andy Galpin

And I hear that and I'm like, okay, either sleep went, family time went, business time went, training went. One of those had to go away.

Dan Garner

Mm-hmm.

Dr. Andy Galpin

But they didn't. So how did you fit all that in, and what did go away so that you could land all those things?

Dan Garner

You know what didn't go away? Presence. I think that a lot of times, time management is less

important than energy management. And the way in which you can have optimal energy management is to be truly present in any given moment. So my daughter's Hallie, love her more than anything in the world, but if I'm playing with her, I'm not going to be on my phone. I am there, right? I'm there in that moment. That's what I'm going to do.

Dr. Andy Galpin

You shut down still to this day at 4:00.

Dan Garner

Yeah.

Dr. Andy Galpin

And you refuse to work under any circumstances after 4:00.

Dan Garner

No. Important meetings, the things that are really big, not going to do it. And you're on the West Coast, so I know that annoys you.

Dr. Andy Galpin

It's horrible.

Dan Garner

Yeah. When-

Dr. Andy Galpin

Because I'm like, 1:00, my day's over with you.

Dan Garner

I'm gone. Yeah. I'm out.

Dr. Andy Galpin

Yeah. For the record, Dan and I have multiple financial relationships together, but nonetheless.

Dan Garner

Yeah. So yeah, no, but I've been doing that for years. I've been doing that before 2020, because I was doing that in one of my earlier YouTube businesses, where I was just shutting her down at 4:00. That's it, man. I'm not doing anything after that. Whatever happens after 4:00 can wait until tomorrow morning. That's just how I operate. But I think energy management, to get back to it, is more important than time management because you could have managed blocks of time, but if you're not present within those blocks of time, then you're activity-oriented and not result-oriented. Like that deep work block I told you about previously, get your phone out of there and stay focused on task. That's someone who has energy management and time management. You're pretty deadly if you can do that. So I have a concept that I call extreme balance, because

balance is typically seen as someone who is taking it easier.

Dan Garner

They're doing things at 50% to 70%. They're making sure that they can recover a little bit. It's like balance is a scary word because it can make you think that you're doing something right when you're really just doing something comfortable.

Dr. Andy Galpin

Mm-hmm.

Dan Garner

And I don't like being comfortable. I like moving forward. So what I like to do with my life is extreme balance. Extreme balance means I can train hard if I recover hard, if I also spend time with family hard, if I also work and I have my deep work blocks so I could help my business partners hard. I think that you can do these things at a higher level and then be able to have all of those went to the same height for a reason. You're balanced up here instead of balanced down here. Train hard and recover hard, and then when it's time for family, be focused on family. When it's time for work, be focused at work. And you can accomplish-- Everybody listening right now can accomplish so much more than they think they can if they really take that to heart.

Dr. Andy Galpin

One of my mentors as a grad student, his office was in the lab, and he intentionally had his computers and his screens facing the window, and he sat with his back to that. Meaning you walked in the lab, you could see into his office, you see his back, and I could see his screen, which is like the ultimate, no one wants that, right?

Dan Garner

Oh, that's a ballsy move.

Dr. Andy Galpin

That guy would come in at 6:00 a.m. with a jug of water, a cooler of food, and he would sit down, and nothing would go on his screen besides Word documents and research papers until 2:00, and then he would leave.

Dan Garner

That's inspiring.

Dr. Andy Galpin

He was insanely productive.

Dan Garner

Yep.

Dr. Andy Galpin

He would get up, go to the bathroom, but he would tell me, "Oh, I don't want to have to fill my water bottle up. That's too much of a waste of time, so I'm just going to bring in a gallon of water."

Dan Garner

Mm.

Dr. Andy Galpin

I'm like, "Oh."

Dan Garner

Dude.

Dr. Andy Galpin

Like okay.

Dan Garner

Talk about removing resistance, man.

Dr. Andy Galpin

He wanted no resistance.

Dan Garner

Dude. I love it.

Dr. Andy Galpin

He had young kids. He trained. He competed in bodybuilding, some stuff like that.

Dan Garner

Yep.

Dr. Andy Galpin

And he just wanted to do what you're saying of my balance is I'm done by 2:00.

Dan Garner

Mm-hmm.

Dr. Andy Galpin

And I'm going within those eight hours I'm going to put in, it was the most productive eight hours you'd ever seen because there's nothing going up on his screen.

Dan Garner

Yeah.

Dr. Andy Galpin

There was never ESPN on there once. I never saw anything on there. No phone was out, and he was just hammering away, going to meetings, going to class, grading, whatever he was going to do.

Dan Garner

Get some. I like it, man.

Dr. Andy Galpin

Yeah.

Dan Garner

I like it.

Dr. Andy Galpin

And he was wildly productive.

Dan Garner

Yeah.

Dr. Andy Galpin

Wildly productive.

Dan Garner

I also think, too, and there's of course limitations to this, but I think when you are intentional about your life, that you can live a life that you don't always have to recover from because you enjoy so much of what you're doing. I think that a lot of what creates a large fatigue debt is when we're not doing what we enjoy doing.

Dr. Andy Galpin

Mm.

Dan Garner

Your output is a lot higher when you're living with intention and you're doing things that you want to do. Recovering from a life that you're really enjoying is not the task. When you're recovering from a life where things are going really bad right now, it's insurmountable. So, that kind of goes back into creating and protecting your schedule. What schedule makes me happy? And better than happy, what schedule makes me prideful? What schedule do I have where I have self-respect? And you'd be amazed at how much more you can do within that schedule and not need the crazy recovery practices from because of how in the moment and enjoying you are of everything going on.

Dr. Andy Galpin

So then I guess the question is, if you can't control your schedule, what would be the second most important thing to control? Because you said kind of like the first thing to do was control your schedule.

Dan Garner

Yeah.

Dr. Andy Galpin

All right, so what would be step two? Let's just say either case, actually.

Dan Garner

Mm-hmm.

Dr. Andy Galpin

"Great, coach, I got my schedule controlled. Now what's the next big rock I can move?" Which would be the same answer as the person who goes, "Oh, look, I'll keep going back to the on-call nurse."

Dan Garner

Mm-hmm.

Dr. Andy Galpin

"I literally don't have a vocation where I control my schedule."

Dan Garner

Mm-hmm.

Dr. Andy Galpin

Great. Let's just throw that in the you will never be able to control it.

Dan Garner

Yeah.

Dr. Andy Galpin

So what's the second big thing to control? Is it something food related? Is it movement related? Is it sunlight? What is the next big thing you typically like to get under control?

Dan Garner

Constraint theory. Someone might be sunlight, someone might be fiber intake, someone might be protein intake. If you can't control your schedule, have one gram of protein per pound of body weight per day and target 15 grams of fiber per thousand calories of intake per day. You'll be amazed at how many of your problems go away nutritionally when you hit a protein and fiber target per day. Those are targets that I don't care what your schedule is, keep track and get it in

when you can. Hit your protein and fiber target each day, get some sunlight. Constraint theory comes back to blood work. So if you can't control your schedule and you're someone who just, you're kind of stuck in that world, you better have a physiology that's resilient enough to survive in that world, and you're only ever going to really unlock that by looking at someone from the inside out.

Dr. Andy Galpin

You said it twice now, but what is constraint?

Dan Garner

A constraint is a bottleneck toward progression in the result that you want. To use a business example, a business will only ever scale to the degree that it is constrained. So this business is scaling, and then it's become constrained. An excellent CEO is going to look down at the departments of his business and say, "Okay, our business isn't scaling or growing anymore. Is my business constraint in marketing, or is it in sales? Is it in team culture? Is it in product quality? Is it in pricing? Where is my constraint? Let me remove that constraint so that the business can move to the next level." I do that with physiology. You look at somebody's blood work and you identify what is the nutrient status, what is hormone status, what is inflammation status. You're able to identify somebody's constraint from the inside out, and then when you're doing that, you're building this person's resiliency up from the inside out, too, so that even in an uncontrolled environment, they are checking the boxes of their internal environment.

Dr. Andy Galpin

What are some of the more common constraints?

Dan Garner

We've gone through schedule, protein, fiber.

Dr. Andy Galpin

Ah, great.

Dan Garner

Man, you help someone clean up their schedule, they're getting feedback from their schedule, from the 60-second movie review of their day at night, and they're hitting their protein and fiber target, that person's generally doing pretty darn good.

Dr. Andy Galpin

Yep.

Dan Garner

And then moving into say blood analysis, constraints are found there. There's a lot of things. It depends upon who it is, and it also depends on what the constraint is toward their goal, because

sometimes if you have an unhealthy person metabolically, but they're an offensive lineman in the NFL, that's charges of the game.

Dr. Andy Galpin

Yeah.

Dan Garner

That's a part of the process. That's going to happen-

Dr. Andy Galpin

Yeah

Dan Garner

... and you need to be realistic about that, and they probably don't need citrus bergamot and berberine to try and just relax.

Dr. Andy Galpin

Yeah.

Dan Garner

Right? That's part of the process. A few popular ones are testosterone, vitamin D, and omega-3. I think that those three are very popular, not just in terms of people talking about them, but people are talking about them for a reason.

Dr. Andy Galpin

This would be someone saying, "I'm not reaching my goal cognitively, physically, recovery-wise, whatever. It must be my vitamin D, it must be my omega-3, it must be my testosterone." That's what you're referring to as being popular. People are jumping to the assumption that those things are-

Dan Garner

Yes, but it's also popular because lots of times those are issues. There are a lot of people with particularly messed up vitamin D and omega-3, but not necessarily testosterone all of the time. People think they need to be really high. They don't really need to. But the key is looking at those and being able to actually program for them properly and knowing when you've achieved a successful result. The big part of identifying if someone's actually making progress or not is looking at what's known as CVA, CVI, and CVG. Okay? So put very simply, that's analytical variation of someone, that is the CVA. The CVI is the individual, so the variation within an individual. And then your CVG is difference from one to another. So this actually determines noise of a biomarker. A lot of people look at biomarkers as if it's just a golden thing, it's good to go, and I trust the number that's on the paper.

Dan Garner

That is anything but the truth because even between testosterone, vitamin D, and omega-3, you've got testosterone is a fast and noisy clock, vitamin D is a broken clock, and omega-3 is like an honest clock that runs at the right time. So Testosterone being a fast and noisy clock, the reason why it's fast and noisy is because it can change a lot within a person, and the statistical variance of it is 29%. So to backtrack a little bit, that analytical variation, what that means is the variation that a biomarker will go through from a machine. So just the machine processing the specimen is going to create a certain, we'll just make a number, but plus or minus 10%, that noise level is your analytical variation. Your within self variation, that's your CVI, that's going to have its own variation because day to day you're going to be different. 7:00 a.m. might be different than 11:00 a.m. Stress status, that's biological variation within yourself creating a known acceptable noise level.

Dan Garner

And then there's that third one, which is the how do you stack up to other people? That one actually doesn't matter.

Dr. Andy Galpin

Yeah.

Dan Garner

So when you're looking at RCV, which is your reference change value, you're only combining your analytical variation with that within person variation. That creates what's known as an RCV. Knowing an RCV is what determines whether or not you're actually making progress in blood work, getting out of that world. So for example, testosterone has an RCV of 29%. So that means if you got a testosterone done today and then you did three months of testosterone herbs, and then your testosterone went up 20%, that's actually within the noise. So that's within the noise of that marker. You may have not made any progress at all. That is just within noise. You need to be able to exceed this percentage of variation that takes place. So that's an important call-out, and that's a fast and noisy clock because it changes day to day and you can get blood work at a high frequency because it changes day to day.

Dan Garner

It's not connected to your red blood cells, which have a turnover rate of four months. So you can imagine four months from now, you're going to have brand-new red blood cells. Testosterone doesn't operate by that rule. It's fast and noisy. There's a lot of variance. Whereas with vitamin D, vitamin D actually doesn't have a known RCV. Doesn't exist.

Dr. Andy Galpin

Interesting.

Dan Garner

Doesn't even exist. How you look at that and calculate it, you've got what's known as a homeostatic range, and your measurements of a marker is just some random scatter plot around it. And then the average of those is this homeostatic range that you stay in. That doesn't exist in vitamin D because vitamin D is constantly drifting up or down based on season, based on sunlight exposure, based on many different things. And, Cavalier recently did a study exclusively looking into identifying RCV values for vitamin D in 2023. Found nothing.

Dan Garner

So it's just drift and at a homeostatic range with scatters around it. Scatters aren't the same as drifting nonstop.

Dr. Andy Galpin

Yeah.

Dan Garner

And actually, an analytical variation in that study was seen to be 49%.

Dan Garner

So the action point for vitamin D is you actually need to compare, what I think of as a coach, okay, well, if this is all over the place, how can I actually control drift and control analytical variation? One, measure season to season. So I'm going to measure winter to winter. I measure summer to summer. So that is going to give me, okay, drift aside, this is where I'm at in these seasons. And number two, control the blood draw environment. Same amount of fasting, same amount of hydration, same Quest laboratory, and same machine that you're going to. Do the same blood draw method every time and compare season to season. That's what's going to allow you to actually do, have I actually protected my vitamin D here? Because there's literally no RCV for it. Whereas your testosterone, you know that you can make some progress if you're measuring from test to test and you're outside of the RCV. You did something positive to get outside of the RCV to make progress or life kicked your ass and you're actually below.

Dan Garner

But that's another thing that's just as important because if my testosterone goes down 10%, I might be like, "Oh, what? That did nothing for me. I got worse." No, you didn't because if you could blood draw tomorrow and it might be up 10%, right? So identifying that with testosterone, fast and noisy clock. Vitamin D, broken clock. So you have to create your own lines for it. And then lastly, you have omega-3. This is the honest clock. This is the one where this is within your red blood cells. So you're measuring omega-3 status within the membrane of a red blood cell. That red blood cell has done the averaging for me. So you're looking in there, red blood cells have a half-life of, or sorry, have a life of 120 days. So we're measuring the membrane status of that RBC. So I am getting a really good stable look at omega-3, and the omega-3 index is the

marker that I recommend people get. That has a noise of 0.8, so you're going to get a percentage for your omega-3 index.

Dan Garner

0.8 is the known noise. So you want to have an omega-3 index ideally of greater than 8% in order to optimize your cardiovascular and your cognitive health as you age. But like me, I want to get into the nines or into the tens. Something like that, just to get past the noise variation and I think that that hopefully gives the audience insight on yes, look at these markers, but really understand that sometimes progression or regression is nothing but noise.

Dr. Andy Galpin

I can't avoid the temptation to talk about all three of these markers more-

Dan Garner

Mm-hmm

Dr. Andy Galpin

... and what you've actually found works to improve them.

Dan Garner

Mm-hmm.

Dr. Andy Galpin

Prudent though, before we do that to summarize what you just said because this was incredibly helpful, and I want to make sure everyone got out of that the value that you just gave me.

Dr. Andy Galpin

The question I asked was effectively how do we understand when something is constraining me? So this is the actual reason, or it's contributing, it wouldn't be a single reason, but it's contributing meaningfully to me not making progress on one of my goals.

Dan Garner

Mm-hmm.

Dr. Andy Galpin

My goals could be my brain fog. My goals could be my joint pain. My goals could be I don't have energy today. And what you've identified is, okay, start running an experiment to figure out is there something physiologically that is meaningfully blocking it? I'll reiterate, I don't think any of us would argue suboptimal vitamin D is the single and only cause of low energy.

Dan Garner

No. Yeah.

Dr. Andy Galpin

But it could be contributing significantly to it.

Dan Garner

Mm-hmm.

Dr. Andy Galpin

Meaningfully to it is probably the best way to say that. So then you walked us beautifully through constraints. Go find that constraint. Is there something that is happening in your physiology that is making that really difficult? Assuming if you remove that constraint, then now your path forward is easier, more successful, all that. Great. Totally landed with me. Hopefully, everyone got that. Then you got into that and said, okay, well, the first step in that of identifying if the constraint is gone or improved is you actually have to be able to identify-

Dan Garner

Yeah

Dr. Andy Galpin

... did it really move?

Dan Garner

Mm-hmm.

Dr. Andy Galpin

Or are you seeing a false representation of progress? Or actually, as you pointed out, a false representation of regression.

Dan Garner

Yes.

Dr. Andy Galpin

Great. I'm glad I understood that correctly. With that, I actually want to go through each one of those one by one.

Dan Garner

You recapped that a lot more succinctly than I did, with much less hand-waving than I did. So I applaud you for that.

Dr. Andy Galpin

Yeah, but I didn't provide the detail.

Dan Garner

Yeah.

Dr. Andy Galpin

Which is what mattered.

Dan Garner

The hand-waving is in the details.

Dr. Andy Galpin

First quick question. Male and female, you've coached a ton. You've coached figure skaters.

Dan Garner

Mm-hmm.

Dr. Andy Galpin

Gymnasts. These are 120-pound girls that are keeping calories low.

Dan Garner

Yep.

Dr. Andy Galpin

Kind of doing all those things, right? You got Olympic medalists in those types of sports. You've coached and yourself competed in fitness and bodybuilding.

Dr. Andy Galpin

So you've been in that calorie low game. You've been in the hyper-calorie endurance world. You ran a marathon yourself. You've been to them.

Dan Garner

Mm-hmm.

Dr. Andy Galpin

So with all that combined, high calorie output, bigger body, smaller body, low calorie, male, female, just give me a rough understanding of what does total testosterone look like in men and women that are performing great? Give me the range.

Dan Garner

Mm-hmm.

Dr. Andy Galpin

And then give me the number at which you go, "Ooh, that is actually low enough for me to start caring."

Dan Garner

For your normal range, or the range really that you want to be in for males and females, you're looking at 400 to 900 for men, and you're looking about 25 to 45 for women. Going below those

thresholds matters. I know a lot of people want to stay at 900 or more for testosterone, but those who are staying within the physiological range of testosterone, it's an unpopular opinion, and one that I learned recently from a very intelligent colleague of ours, Dr. Ben House.

Dr. Andy Galpin

Oh, yeah.

Dan Garner

Done some phenomenal work-

Dr. Andy Galpin

Yeah

Dan Garner

... in the world of testosterone. But, the difference in say muscle growth and things like that between say 400 to 500, 600, 700, 800, 900, it's not as much as people think. You start getting a much bigger result when you get into the super physiological world of injecting testosterone. Then you're getting into the thousands, the couple thousands. You're in pro bodybuilding. You have a number that looks like a 1-800 number. It just keeps going. Yeah.

Dr. Andy Galpin

Instead of four digits, it's six.

Dan Garner

Yeah.

Dr. Andy Galpin

Yeah.

Dan Garner

It's just like dial this. Yeah.

Dan Garner

So you really don't want to get below 400 for men. You don't want to get below 25 for women. And testosterone plays a big role in both of those environments, cognitively and physically. It's important for recovery. It's important for anabolism. It plays a role in muscle contraction. It plays a role in a lot of these things that are important for our mental, emotional, and physical health. And those are the ranges that you typically want to be in or the bottom thresholds that you want to review. And the thing that kind of trips those people getting into the lower thresholds is just not as sexy as people want to hear. It's not a specific thing that happens. It's usually low energy availability. It's usually sleep. It's usually stress. Not sleep really independently, sleep in combination with stress and low energy availability because stress and low energy availability both reduce sleep quality and length.

Dan Garner

And then that combination is just going to reduce anabolic hormone status by quite a bit.

Dr. Andy Galpin

Are you really seeing these MVPs and Cy Young winners and high performers, are they really at 400 total testosterone and feeling great? Is that happening? Or are they at 600? Where is a number where you're like, "No, legitimately people feel great here. They feel fine. We perform well"?

Dan Garner

They actually do feel quite fine there.

Dr. Andy Galpin

At that number.

Dan Garner

They do, yeah. But that's not a number that you want to hang at. So a good example would be a fight camp or an off-season. So if you're starting fight camp at 400, you're only going to go down from there.

Dr. Andy Galpin

Yep.

Dan Garner

Because we're programming low energy availability.

Dr. Andy Galpin

Yep.

Dan Garner

We're programming that. So if you're 12 weeks out and at 400, you're likely to get into a threshold that is connected with suboptimal performance at that point.

Dr. Andy Galpin

Yep.

Dan Garner

So does someone feel good at 400? If they started at eight and then at the end of fight camp they're at four, I'm a happy coach. But if they started at four, they're probably not going to end at four because we're dieting, we're cutting weight, you're stressed, you're training a couple of times a day. So it depends what road you took to get there.

Dr. Andy Galpin

Today's episode is sponsored by David. David makes protein bars unlike any I have ever

encountered. They have an amazing 28 grams of protein, only 150 calories, and zero grams of sugar. That's right, 28 grams of protein, and 75% of its calories come from that protein. This is 50% higher than the next closest protein bar. Honestly, it's the best-tasting bar I've ever had in my life by a mile. And their newest bar, the David Bronze bar, tastes incredible as well. While I often talk about the importance of getting one gram of protein per pound of body weight for things like muscle health and recovery and the promotion of lean body mass and satiety, the reality of that is, for most people, getting that one gram of protein per pound of body weight is really challenging. However, David makes that easy. Their bars taste incredible. The Gold bar is packed with 28 grams of protein with just 150 calories, and the Bronze bar has 20 grams of protein, also with just 150 calories.

Dr. Andy Galpin

I eat one almost every single day and always have two or three with me in my backpack when I'm traveling, and I literally mean always. It probably sounds funny, but I eat them as dessert all the time. When you try them, you'll know exactly what I mean. If you're interested in trying these bars for yourself, you can go to davidprotein.com/perform. Again, that's davidprotein.com/perform. You mentioned quickly sleep, stress, low energy availability.

Dan Garner

Mm-hmm.

Dr. Andy Galpin

Give me a little bit more what low energy availability is, and then the second question will be, are there any other of those non-generic, non-common things that you found actually help get testosterone-

Dan Garner

Mm-hmm

Dr. Andy Galpin

... to increase? Let's just assume peptides and exogenous hormones are not on the list currently.

Dan Garner

Yeah.

Dr. Andy Galpin

Which they totally are, but-

Dan Garner

Yeah

Dr. Andy Galpin

... in this example, and if the answer's no, that's fine, too. If the answer's no, nothing else really works, that's fine.

Dan Garner

There's healthy low energy availability, and then there's problematic low energy availability. Low energy availability, you are reducing this person's energy intake, and they are, at least in my world, they're involved in a lot of physical activity. They are training, and there is a sequence of events that takes place. You're going to see things like leptin and insulin drop, and then you're going to start to see things like testosterone and thyroid drop, and then you're going to start to see white blood cells, these last things to hang on. They're starting to, immune system, these things all happen in a sequential way. And the difference between low energy availability and problematic low energy availability, and this is why I actually like doing this even for people with cosmetic goals, because low energy availability is a state that you actually want to be in, and a lot of people feel great.

Dan Garner

When you're beginning your fat loss process, you don't have bloating, you don't have distension, you feel pretty light. Your endurance is going up. You're starting to look in the mirror. Things feel good. And then, when you cross that barrier into, "Now I'm dieting hard. This is starting to get tough," that's when you're switching from low energy availability to problematic low energy availability, and you're feeling that because testosterone's going down, because T3 is going down, because metabolic health is starting to suffer. That can all lead you to a place where in the art of coaching world, when I'm working with actual people, that's the bad side of dieting. So when you're doing blood work during a diet, it's like, okay, we're starting the diet, and you've got your baseline. Halfway through, you're in low energy availability, but not problematic low energy availability. This is expected.

Dan Garner

I've put you in a caloric deficit. Subjectively, how you feel it, what's going on? How's training? How's training performance? How's recovery? How's sleep? What's your gastrointestinal symptoms like? Because that's connected to this, too. You're coming back clean. Okay? So I've got the quantitative blood work, and I've got the qualitative intake coming from this client, and then you can get blood again, and if you start getting into problematic low energy availability, bump that person up to maintenance calories for two weeks. They take a two-week diet break. Lots of times they actually get leaner. This has been my experience. Bumping them back up to maintenance, you're going to fully refill their glycogen. Their pumps are going to be better. Their muscles are going to be rounder. Stress goes down, because now they're eating again. Cortisol goes down. Water retention goes down. Training performance goes up.

Dr. Andy Galpin

They definitely sleep more.

Dan Garner

They sleep more.

Dr. Andy Galpin

Yeah.

Dan Garner

Lots of times, you're increasing back to maintenance and getting leaner, and then you also, from the inside out, moved away from problematic low energy availability back to just normal low energy availability or none, and now you can re-begin that process again. And I actually used to do this back in the day. I used to be a lot more involved in coaching bodybuilders and bikini competitors and these individuals to show day, all the way through the whole process. A lot of cosmetic only, who cares about performance type stuff. And I would build diet breaks right into it before I ever did blood work. So this is way back in the day, and I would do 18-week contest prep, which sounds long for people.

Dr. Andy Galpin

That's brutal.

Dan Garner

Yeah.

Dr. Andy Galpin

Really brutal.

Dan Garner

Well, it was eight weeks deficit, two weeks off, finish eight weeks.

Dr. Andy Galpin

Interesting.

Dan Garner

And that's how I set it up every single time. It worked every single time. And then what it was like is like, okay, for eight weeks, we're going to be underwater. We're going to be swimming. And then for two weeks, I get to come up for air. I feel good. This deep water's nice. I feel good. And now I've got enough air to go back down for my last eight weeks. We're going to run you to the show, and you're going to feel good.

Dr. Andy Galpin

During these two weeks, this is eat whatever you want, total rest, no training. Is that what you

mean when you say back up to maintenance for those two weeks?

Dan Garner

Back up to caloric maintenance. So we're increasing, typically it's just carbs and fats. Protein, I keep at one gram per body weight the whole way through.

Dr. Andy Galpin

Yep.

Dan Garner

And then we're just going back up in carbs and fats. You're getting glycogen, you're getting these fats, foods, all these things are good. And I personally don't change the training. We're still going to train hard. And the reason why is actually a bit of art of coaching based, because they want to train hard.

Dr. Andy Galpin

Because you feel better.

Dan Garner

They feel better.

Dr. Andy Galpin

Yeah.

Dan Garner

And you're also like, "I've got this thing coming up. I want to achieve my goal." So, they might not listen to me if I'm like, "We're going to increase calorie..." Just think about the mind of someone who wants to get lean and like, "All right. I'm going to increase your carbs and fats this week, and we're also going to train less."

Dr. Andy Galpin

Yeah

Dan Garner

They're like, "No."

Dr. Andy Galpin

"I just got all this progress in two months, and now I'm going to go all the way backwards."

Dan Garner

Yeah. And that's doomsday.

Dr. Andy Galpin

Yeah.

Dan Garner

It's like two things in coaching that you just can't say to a client is like, that's one of them, "We're going to take a diet break," or they'll freak out. Number two is if you take their coffee away.

Dr. Andy Galpin

Holy shit.

Dan Garner

Yeah. You take someone's coffee away, yeah, you're gone. It's just the check-ins, the emails stop coming in.

Dr. Andy Galpin

Yeah.

Dan Garner

I'm not working with that guy anymore.

Dr. Andy Galpin

Yeah. 100%.

Dan Garner

He doesn't know what he's doing.

Dr. Andy Galpin

When you say go back to maintenance, this is typically a 500-calorie change, 1,000-calorie change? What kind of a rough increase in calories are we getting?

Dan Garner

Probably-

Dr. Andy Galpin

Depending on the person's size and course load.

Dan Garner

Yeah. So it's probably 400 to 800.

Dr. Andy Galpin

Okay.

Dan Garner

400 to 800, which is just an ocean of food at that time in their prep.

Dr. Andy Galpin

Yeah.

Dan Garner

Yeah. 400 to 800, depending on the size.

Dr. Andy Galpin

Okay. Super helpful. How does somebody know who doesn't have a show coming up, but they definitely have cosmetic or aesthetic goals?

Dan Garner

Mm-hmm.

Dr. Andy Galpin

I'm just trying to lean up, look a little bit better.

Dan Garner

Mm-hmm.

Dr. Andy Galpin

I'm going to try this thing. I'm going to go eight weeks, two-week refeed, come back up. First question, do you feel like that's a reasonable strategy generally?

Dan Garner

Yeah.

Dr. Andy Galpin

For the average person.

Dan Garner

Absolutely. Yeah. So you've got your first eight weeks, 5% deficit weeks one to four, 10% deficit weeks five to eight, back up to maintenance for weeks 9 to 10, and then 15% deficit, 20% deficit. So you go 5, 10, maintenance, 15, 20, done.

Dr. Andy Galpin

How do I know 10 versus 15? What does that actually mean?

Dan Garner

You're just doing an estimation and reducing calories.

Dr. Andy Galpin

Total calorie number.

Dan Garner

Total calorie number. Yeah.

Dr. Andy Galpin

And what is your favorite way to estimate that number to get started?

Dan Garner

I've just used the old school body weight way. So you can do a lot of fancy stuff. In most cases, most of the time, maintenance is body weight times 15.

Dr. Andy Galpin

Body weight times 15.

Dan Garner

And then guess what? Next week, measure, adjust.

Dr. Andy Galpin

Yeah.

Dan Garner

Measure, adjust. It doesn't matter. Everybody relax. You don't need to go to a lab and did this crazy analysis to identify where your maintenance is going to be. Just start.

Dr. Andy Galpin

Can I do this in pounds, kilos? Does it matter for my body weight times-

Dan Garner

Oh, pounds. That's in pounds.

Dr. Andy Galpin

Pounds.

Dan Garner

Reading. Yeah.

Dr. Andy Galpin

So I take my body weight, multiply that by-

Dan Garner

15

Dr. Andy Galpin

... 15, and that gives me a number, we'll say 2,000.

Dan Garner

Yeah.

Dr. Andy Galpin

Right? And that's, so what you're saying is start at 2,000 calories.

Dan Garner

Mm-hmm.

Dr. Andy Galpin

How many of each do I-- You've already described one gram per pound of body weight. That'll set your protein. How do I set my fats and carbs within that total number?

Dan Garner

I do one gram of protein per pound of body weight, and then fats at 30% of total calories. Carbs make up the rest.

Dr. Andy Galpin

Right.

Dan Garner

Yeah.

Dr. Andy Galpin

In fairness, everyone listening too, I'm giving him no context, no individual person. That's just a rough number.

Dan Garner

Population level.

Dr. Andy Galpin

Totally population level.

Dan Garner

Yeah.

Dr. Andy Galpin

One assumes that 30% number is wildly different depending on goals and context and preference.

Dan Garner

Yeah. Generally speaking, men can do better with lower fats. Women do better with higher fats. If someone struggles with appetite, I'll actually climb their protein. So from stage to stage, it'll go from 1 to 1.1 to 1.2 to 1.3 to 1.4. So grams per pound of body weight.

Dr. Andy Galpin

Yeah.

Dan Garner

So I'm building that as it goes down, while I'm taking away from other areas. And I'm taking away

usually based on adherence. And I'm a fan of actually taking away from fats first and then keeping carbs in because the most important thing that you need to have at the end of your diet is your muscle tissue, your muscle definition, and that's going to come from maintaining your lean tissue while you're in a deficit, and the primary stimulus for that is training. That's not going to be just getting your protein in. So I actually hug the carbs pre, intra, post. And what I used to tell my clients is that we're going to live hypocaloric but train hypercaloric. So that means that you're going to live dieting, but we're going to train like you're bulking. And that's because I would put the majority of their daily carbs, worse, you're going to the gym, you might be hungry outside of the gym, but in the gym, I promise you're going to get pumps, you're going to feel amazing, and it's not going to feel like you're dieting because I'm putting so many nutrients in that window.

Dr. Andy Galpin

Yeah, I love that strategy as a way to get quality exercise in.

Dan Garner

Yep.

Dr. Andy Galpin

So carbs before, during, after, or some combination of that to feel great in the training. And then if you have a little bit of low energy in other parts of the day, that's the cost of doing business of-

Dan Garner

Yeah

Dr. Andy Galpin

... trying to be hypocaloric.

Dan Garner

Yeah.

Dr. Andy Galpin

I'm assuming you probably wouldn't make many changes after one week, almost no matter what.

Dan Garner

No.

Dr. Andy Galpin

Unless you saw probably, presumably, a huge drop.

Dan Garner

Yeah.

Dr. Andy Galpin

Then that might be more concerning than anything.

Dan Garner

Yes. That's a great call-out. Yeah, if they're coming down too quickly, then we're sacrificing lean mass.

Dr. Andy Galpin

Yeah.

Dan Garner

So to give people a ballpark idea, I generally want 1 to 2 pounds per week, depending on where they're starting, of course.

Dr. Andy Galpin

Yeah. If you're 350 pounds versus 150 pounds, we have a lot more to lose or less.

Dan Garner

Yeah. And then also, if they started creatine in week one, you might go up. All this stuff needs to be taken into consideration to make a proper assessment from.

Dr. Andy Galpin

When you brought up low energy availability-

Dan Garner

Mm-hmm

Dr. Andy Galpin

... you said something really quickly that caught my attention. People have asked me this question before. What about the person who starts in a diet, in a hypocaloric state-

Dan Garner

Mm

Dr. Andy Galpin

... and immediately feels those symptoms that you call, I think you call the negative or problematic.

Dan Garner

Problematic low energy, yeah.

Dr. Andy Galpin

Every time I diet, I just feel horrible in the first week.

Dan Garner

Mm-hmm.

Dr. Andy Galpin

Energy's gone, sleep's gone.

Dr. Andy Galpin

They're not likely in chronic long-term low energy availability. But at some point, if you've been dieting for three, five, seven, eight weeks, and you feel that, now you're likely in. So independent of blood testing-

Dan Garner

Yeah

Dr. Andy Galpin

... how do I know if I'm the former or the latter? How do I know if I'm actually causing T3 to go down?

Dan Garner

Mm-hmm.

Dr. Andy Galpin

If my testosterone is lowering. I don't have blood work. I can't afford it. whatever reason. What is signal versus noise in symptoms of low energy availability?

Dan Garner

There's validated intakes that you can-- There's the LEAM, and there's the LEAF, which is the low energy availability female or the low energy availability male.

Dr. Andy Galpin

These are scientifically validated questionnaires.

Dan Garner

Scientifically validated questionnaires. So let's figure out, let's tease that apart. Is this actually related to low energy availability, or do you have anemia, and we need to do your blood work? So I think filling out those intakes is probably the most straightforward thing that you can do. But if you're starting the process and you are already feeling these things really early, it's probably not low energy availability. It's just not. Something else is going on in your blood work, and something else in-- Like for a female, a good insight would be menstrual cycle status. Is she still getting her status? Is she not? Something else is going on, and that type of weird symptom, yes, I want you to do the validated questionnaires, but I would say, "Yo, you have to do blood work." And I actually do it anyways.

Dr. Andy Galpin

Yeah.

Dan Garner

So, well, you have to do a process, like there is a phase that you need to go through in order to determine if you're even ready to diet.

Dr. Andy Galpin

Yep.

Dan Garner

So, you have to prepare to diet. You can imagine it like you're going to take off on a plane. You're looking at the dashboard, and you're making sure we're checking all the engines. Like okay, iron status is good, hormone status is good. The electrolyte status is good. If you're not cleared for takeoff, I'm actually not going to diet you, and you don't want me to diet you because you're going to feel terrible, you're going to plateau, and you're going to blame yourself when really you just didn't know what was going on from the inside out.

Dr. Andy Galpin

Yeah.

Dan Garner

You started this process with low iron, so just you were never going to win. You tried to take off the plane-

Dr. Andy Galpin

Got it

Dan Garner

... with no fuel. So-

Dr. Andy Galpin

Got it. Yeah

Dan Garner

... you need to prepare to diet. You can't just diet.

Dr. Andy Galpin

So you were either already below or at just above a threshold, and as soon as you brought calories down, boom.

Dan Garner

Yeah.

Dr. Andy Galpin

Something went below that threshold. So you're advocating for some sort of a check maybe rather than maybe here's an example. You can afford one blood test, or your insurance covers one per year or something. You may be actually making the argument of doing that blood work before you start-

Dan Garner

Yeah

Dr. Andy Galpin

... rather than waiting to do it three or four or five weeks in.

Dan Garner

Yeah, absolutely.

Dr. Andy Galpin

It's interesting.

Dan Garner

Yeah. That prepares you to even diet.

Dr. Andy Galpin

Yeah.

Dan Garner

You may not be-- And also, if you're somebody who does feel terrible on dieting, it absolutely might not be your fault. That's a real thing. You've asked me a couple of times in this podcast, like, "What if someone asks you this? What if someone asks you that?" And one of the time I answered, I agree with you. I do.

Dr. Andy Galpin

Yeah.

Dan Garner

Because I've seen people's blood work be off so many times that I'm like, "Coach Dan, I feel like I'm doing all the right things, and I'm just not getting the results that I expected." I believe you.

Dr. Andy Galpin

Yeah.

Dan Garner

When was the last time you did blood work? And then that's usually, "Eh, I did, like, a year ago. Can I send you that PDF?" "No. You can't." Okay? So that person needs to prepare to even diet because something is going on, and that's when you can change someone's life. Because yes,

they want to get leaner, whatever.

Dr. Andy Galpin

Yeah.

Dan Garner

But at the end of the day, if you have anemia-related fatigue, if you have a vitamin D deficiency, if you have low zinc status, if you have these things, that reduces your whole life quality. Your brain fog, like the symptoms attached to those things affect who you are, not just what you are. They affect who you are. So this preparation phase, they feel amazing. And then also, then they're going to go into a diet successfully for the first time in their life, and that's when you get the Dan Garner testimonial for the

Dr. Andy Galpin

Yeah

Dan Garner

And it makes me look like I'm some crazy awesome coach or whatever, but really I just did blood. I looked under the hood before we started the process. I found the thing that was staring us both right in the face. We removed the constraint, which allowed her to take things to the next level.

Dr. Andy Galpin

Very obviously, no one has to do blood work prior to going on a diet. You don't have to do that.

Dan Garner

Yep.

Dr. Andy Galpin

I think more what I was getting at is the person who's gone and tried it three or four times, and it doesn't work, and they feel terrible all the time. Now we have a rationale. Maybe something's happening here.

Dan Garner

Mm-hmm.

Dr. Andy Galpin

If that's not you, and you're just like, "I just kind of need to get in shape. I got 70 pounds there." Oh, good. Just probably start, and you're probably fine. I would rather people who need to lose a lot of weight just get started.

Dan Garner

Yeah.

Dr. Andy Galpin

If the constraint is getting some blood work done, I'd rather you just get started-

Dan Garner

Yeah

Dr. Andy Galpin

... on your diet. That's a bigger win for all of us.

Dan Garner

Yes.

Dr. Andy Galpin

Which is great. We should also probably, it's fair, you and I have co-founded a blood work company, Vitality.

Dan Garner

Mm-hmm.

Dr. Andy Galpin

So if anyone's like, "Oh, got you. They sell blood." Yeah. Got it.

Dan Garner

Yeah.

Dr. Andy Galpin

Okay. You're out there. I want to go back now to testosterone, though. And actually, to be honest, I'm going to draw this out a little more. My hope is all the information you're sharing here allows people to solve all these problems on their own.

Dan Garner

Mm-hmm.

Dr. Andy Galpin

No one has to go buy anything from Vitality ever if you don't want.

Dan Garner

Mm-hmm.

Dr. Andy Galpin

It's a great system there, but that's the goal today. So we'll keep in that theme, sharing all the gold.

Dan Garner

Mm-hmm.

Dr. Andy Galpin

Okay. So you gave us the rough values for total testosterone. Give me the units on that typically is for all of our international-

Dan Garner

Nanograms per deciliter.

Dr. Andy Galpin

Nanograms per deciliter.

Dr. Andy Galpin

And you walked us through some of the evidence base as well as what you've just seen in your coaching practice that helps people actually elevate testosterone. And just to make sure we round that out, if my total testosterone's 500, and I take this supplement, I do this red light therapy, I could apply, I do something else, and my testosterone comes back on my next blood draw at 505.

Dan Garner

Nothing.

Dr. Andy Galpin

If it came back at 520?

Dan Garner

Nothing.

Dr. Andy Galpin

If it came back at 498?

Dan Garner

Nothing.

Dr. Andy Galpin

Where is the line in this person, roughly, where you as a coach- Because you can go calculate 30%, everyone. Go ahead and calculate it. That's a quick number.

Dan Garner

Mm-hmm.

Dr. Andy Galpin

150, right? Okay, great.

Dan Garner

Yeah.

Dr. Andy Galpin

But where would you actually go, "Oh, okay. I'm paying attention to that. That is interesting"

Dan Garner

On the lower or the higher, both.

Dr. Andy Galpin

Both. If that person goes from 500 to 600-

Dan Garner

Yeah

Dr. Andy Galpin

... are you paying attention?

Dan Garner

I think 150 in either direction. So it'd be 650 or 350 would be the swing that I would want to look at where I'm like, "That matters."

Dr. Andy Galpin

That matters.

Dan Garner

Yeah. That matters.

Dr. Andy Galpin

Below that, you're not disregarding it, but you're not 100% sold that your X routine is actually driving a change because you don't know if that's just variation from day to day.

Dan Garner

Yep.

Dr. Andy Galpin

If that's variation from the lab to the lab.

Dan Garner

Yep.

Dr. Andy Galpin

And also, on that point, it's incredibly important that you get it from the same company both times.

Dan Garner

Oh, yeah.

Dr. Andy Galpin

Because, as you mentioned, the lab itself has actually used different techniques here.

Dan Garner

Mm-hmm.

Dr. Andy Galpin

So if you're going to compare your blood draw from this company to the next draw company, some of the variables, in measures it matters, some it doesn't.

Dan Garner

Yeah.

Dr. Andy Galpin

Omega-3 doesn't-

Dan Garner

Right, yeah

Dr. Andy Galpin

... matter.

Dan Garner

But for the ones it does, it looks like a completely different person.

Dr. Andy Galpin

Totally different person.

Dan Garner

Completely different, yeah.

Dr. Andy Galpin

So that's an easy way to help reduce the noise. Just get it under the same circumstances as much as humanly possible.

Dan Garner

Absolutely.

Dr. Andy Galpin

Quickly, what about free testosterone?

Dan Garner

Free testosterone is informative, but not like total testosterone. Total testosterone, you can think about that like the full tank of available testosterone that you have to use in your body. And then free testosterone, people over-romanticize it because it's what's active, it's what's doing the

things. Your body's able to get that free testosterone when it wants to. Okay? You have that total testosterone, that tank, that reserve. That's what you want in a good optimal amount. That's what I'm looking at in terms of thresholds. When I'm looking at thresholds for low energy availability, when I'm looking at thresholds for metabolic function, if I'm looking at thresholds for training stress, I'm looking at total T. That's what I want to know. I want to know the total raw tank of testosterone that you have in your body, and the free will vary, and the free will vary a lot from lab to lab as well.

Dan Garner

And you can get a marker, it'd be like 100 different because if your lab report says free testosterone calc or free testosterone direct, these are completely different readings. One is simply calculated, and the other is actually the direct measure.

Dr. Andy Galpin

The direct measure means they took something, put it in a machine, and directly measured the amount of testosterone. How common is that versus calculation?

Dan Garner

Calculation's way more common because you're already getting a lot of the things involved in the calc. So if you're doing a sophisticated Vermulen, believe it's pronounced that way, calculation of it, you're looking at a combination of sex hormone binding globulin, albumin, and your total T, and then you're taking off the difference. You're using that as to calculate what's going on with free. For biologically available testosterone, it's just albumin. That's the only other protein involved in it. But the direct measure is the pure actual measured of direct.

Dr. Andy Galpin

So, several important take-homes for everyone that I wanted to draw out of you there.

Dan Garner

Mm-hmm.

Dr. Andy Galpin

If you're comparing direct, and again, look at your lab report. It says free testosterone direct, free testosterone calc, C-A-L-C as in calculation.

Dan Garner

Yep.

Dr. Andy Galpin

If it's direct, that means that lab directly measured it.

Dan Garner

Mm-hmm.

Dr. Andy Galpin

That should be pretty standardized.

Dan Garner

Accurate. Good measure.

Dr. Andy Galpin

And you can compare that across companies. There'll still be company variants, but that should be okay.

Dan Garner

Mm-hmm.

Dr. Andy Galpin

Under no circumstances should you ever compare your calculated to your direct, even within companies.

Dan Garner

Right.

Dr. Andy Galpin

Because those numbers could be off by-

Dan Garner

100

Dr. Andy Galpin

... 100.

Dan Garner

Yeah.

Dr. Andy Galpin

It's not even going to be close.

Dan Garner

Nope.

Dr. Andy Galpin

Not necessarily. The calculated means they didn't actually even measure it. They took three or four or five other markers-

Dan Garner

Mm-hmm

Dr. Andy Galpin

... assumed the difference based on evidence, scientifically published, validated calculation.

Dan Garner

Yep.

Dr. Andy Galpin

They're not fake. They're not robbing you of your money. They're not any of that stuff. It's just a different way. But those values, you might as well call one free testosterone and call the other one available testosterone, or you call it something different because they're not even really the same thing.

Dan Garner

Mm-hmm. Yeah.

Dr. Andy Galpin

Let's move on. Let's quickly do omega-3s and vitamin D just because those are so impactful.

Let's do omega-3s-

Dan Garner

Mm

Dr. Andy Galpin

... first. If you were to flag omega-3s as very stable, like you said earlier-

Dan Garner

Yep

Dr. Andy Galpin

... total testosterone was reasonably stable, and then on the further end of the spectrum would be something like free testosterone-

Dan Garner

Mm-hmm

Dr. Andy Galpin

... which is way more variance.

Dan Garner

Yeah, they're noisy.

Dr. Andy Galpin

Up and down.

Dan Garner

Yeah.

Dr. Andy Galpin

Omega-3s themselves, what are the values you're typically seeing in people? Remind us of the numbers you like to see, and then give us what actually moves the needle-

Dan Garner

Yeah

Dr. Andy Galpin

... outside of noise. What works?

Dan Garner

This is a marker that I think tells a lot about cardiovascular health, inflammation status, supports immunity. It's connected to cognitive aging. It's connected to mortality. It's connected to many things. So in terms of a marker being looked at and being genuinely connected to what I would consider a real constraint theory. So if there's a door here, and to get through that door, you unlock five things, that's a real constraint, man.

Dr. Andy Galpin

Right.

Dan Garner

That's omega-3 index. That's how you can think about it. And there's a recent NCAA Division I, they looked at 401 athletes Zero of them had over 8%, which is considered the optimal range. Zero.

Dr. Andy Galpin

None.

Dan Garner

None. And that optimal range originally started with one of the omega-3 index researchers, so like it's who owns the company, so that should be mentioned as well. But that range started way back in I think it was 2002, and it was just being connected to mortality.

Dr. Andy Galpin

Yep.

Dan Garner

Mortality.

Dr. Andy Galpin

Yep.

Dan Garner

So, and hazard ratios, things like this. But it's progressed along and it's done a great job. And even as recent as 2023, there's excellent papers on omega-3 index continuing to shine in this world. So I'm a huge fan of the marker. Almost everybody comes back below 5%, and this is the place that you don't want to be in. When you start to get over 5.5%, that's when you start to realize some of the cardiovascular benefits. But once you get over 8%, that's when you're realizing the cognitive and the cardiovascular benefits and the mortality risk, that you're starting to maximize everything in this world. And important to point out, the range actually goes from 8% to 12%, but that 12% was just based on that population, that's just what they saw, that there's not a point, and it's not that I recommend this, but it's not considered technically unsafe to be past 12%.

Dr. Andy Galpin

Right.

Dan Garner

That's just what's been seen in the data. So there's no further benefit, but it's just not been seen yet that there's more benefit or that it's toxic to be beyond that amount. So you want to be past 5.5 to start to realize some of the benefits. You want to be past 8% to realize all of the benefits, and you want to stay right in that world. Me personally, I just got a test back last week, and I came back at 9.34. And just for the audience, I'm not chasing for more. I'm not like, "I've got to have more salmon. I've got to have more omega-3." No, I'm in a gray spot.

Dr. Andy Galpin

How much omega-3 are you taking?

Dan Garner

I take, and this is what I recommend for everybody, I take three grams of combined EPA and DHA per day. So not three grams of fish oil per day, three grams of combined EPA and DHA per day. And I do that at a 50/50 split. So 1,500 EPA, 1,500 DHA.

Dr. Andy Galpin

Any particular brands or anything that you get that from or you've been using to get there?

Dan Garner

Disclosure, I'm friends and work with people at Momentous.

Dr. Andy Galpin

Right.

Dan Garner

But that's who I use.

Dr. Andy Galpin

Yeah, okay.

Dan Garner

But I've got the omega-3 index to demonstrate that puts me in an amazing spot. So-

Dr. Andy Galpin

So for you, three grams gets you into the right wheelhouse. Plus, presumably you consume a serving or two of salmon, fish weekly.

Dan Garner

Probably one salmon a week-

Dr. Andy Galpin

Yeah

Dan Garner

... would be a guess, yeah. And that's kind of what I recommend people, what my clients do. So if you're at home and you have chicken every day for your at-home diet, anytime you go to a restaurant, get a different meat.

Dr. Andy Galpin

Right.

Dan Garner

I think that's a practical example to get a different variety of amino acids, a different variety of fatty acids, a different variety of micronutrient intake. And also with that, at the restaurant, like you saw yesterday, I got bok choy, something I never get at home.

Dr. Andy Galpin

Right.

Dan Garner

And I do that for a reason. Whenever I go out, I don't want to eat the same vegetables I ate at home. I don't want to eat the same meat. I want to enjoy my meal but get a greater nutritional variety elsewhere. So yeah. I do that salmon once per week because me and my wife go out once per week. And I eat like a bodybuilder, chicken and rice.

Dr. Andy Galpin

At home normally. Yeah.

Dan Garner

Pretty much at home all the time.

Dr. Andy Galpin

Yeah.

Dan Garner

So that's what I take for supplementation. That is the salmon that I consume per week. That's the threshold that you want to be at for the omega-3 index. Now, it's important to note that genetic mutations impact 24% of omega-3 uptake. So the same three grams for me is not the same three grams for you, is not the same three grams for listeners.

Dr. Andy Galpin

Yeah.

Dan Garner

So there's not one rule. Three grams of combined EPA and DHA has been associated to the better inflammatory control, to the better cognition, these things that you want to see, but you never actually know how much you need until you do your test. You talk to the legends in the power lifting space, and they're like, "Just do the basics really good." You talk to the legends in the bodybuilding space, "Do the basics really good." Even the speed space, the endurance space, "Get really good at the basics." In my world, this is what I think that is. Get really good at taking omega-3. How do you do that? You test.

Dr. Andy Galpin

Yeah.

Dan Garner

That's being good at the basics. It's actually not just take omega-3. It is because, okay, do I want to improve my squat? I should learn squat technique from the best in the world, and that's going to change how much I can squat that day.

Dr. Andy Galpin

Oh, yeah.

Dan Garner

I will have more biomechanical leverage by learning better technique. That day, I will appear stronger that day, and it was just through technique because there was a lot of technique I needed to learn in order to perform the squat properly to get the result that I wanted. Well, there's things that you need to know to take omega-3 properly to get the result that you want. There's a lot of people that come my way who've been taking fish oil and omega-3 for years, and they come to me and they're at 5%. They come to me, they're at 3%. They're not doing the

basics properly.

Dr. Andy Galpin

Right.

Dan Garner

So in this world, that's doing the basics properly. It's like, "Man, I listened to Dan talk quickly for 20 minutes, and all he did was tell me to take omega-3." You have to do the basics really well, and you will realize dozens of benefits on the back end of that because you test, you see where you're at. I'm at 3.5%. Okay. I've been taking two grams per day. Now I have a target of 8%. So now I know where I'm at and I know where I need to be, and I know I need to increase what I'm doing to get there. That's doing the basics really well, number one. Number two, you're going to realize dozens of benefits on this end. And number three, you're actually realizing if your supplement is even working.

Dr. Andy Galpin

There's so many people like, "Well, aren't omega-3s oxidized? Is this, are the all this?" Oh, yeah. You test that, man. Just know. Just find out. Yeah. Yeah. Whenever I've got a question for the world, the first place I don't go to is Instagram. Okay. Yeah. "I've got a real important question. Let me just go to Instagram and we'll solve this here- Yeah ... with this trusted group of thousands of people. We'll really get..." No. Okay? If you want to see if it works for yourself, which is what you should do, get a test done, and then you could even stay your current dose, right? And then if nothing happens, then nothing is happening. Right? And then you're able to change company, change product, change dose, change fish intake until you get to that spot. And trust me, you will feel it when you get there. Your subjective experience of life will change by doing the basics properly. Today's episode is sponsored by LMNT.

Dr. Andy Galpin

LMNT is an electrolyte drink that has an ideal electrolyte ratio of sodium, potassium, and magnesium, but no sugar. Hydration is critical to performance, both physical and mental, and countless studies have shown that even a slight degree of dehydration, even as small as 1%, can lead to decreases in physical output and mental performance. We also know that electrolytes are critical to proper hydration, which I've been harping on for years. But you can't do that, proper hydration, by only drinking water, especially if you sweat a lot. You need to get the right amount of electrolytes in the right ratios, and that's why I'm a huge fan of LMNT. In fact, many of you might remember that I featured LMNT in my YouTube series on hydration nearly six years ago. I featured LMNT in these videos because their blend of 1,000 milligrams of sodium, 200 milligrams of potassium, and 60 milligrams of magnesium really is unique and different than any other electrolyte on the market, and it has great scientific support.

Dr. Andy Galpin

I use LMNT on nearly a daily basis, especially when I'm doing really hard training in the heat and I'm sweating a lot. If you'd like to try LMNT, you can go to drinkLMNT.com/perform to claim a free LMNT sample pack with the purchase of any LMNT drink mix. Again, that's drinkLMNT.com/perform to claim a free sample pack. Vitamin D is next. Mm-hmm. I don't assume this one is much different than how you answered testosterone thematically- Mm-hmm ... or categorically. Omega-3 as well. So give me the same breakdown. Where do you like to see vitamin D? It's up to you. But where are you also actually seeing people? What's realistic numbers for what you're seeing for your clients? Mm-hmm. And how do I move it? Numbers come back pretty low. Vitamin D, especially where I live in Canada, we got a countrywide deficiency in vitamin D with no sun and all winter. But I see people come back low and you think about that, that makes a lot of sense.

Dr. Andy Galpin

They spend a lot of time in cars. They spend a lot of time indoors, in computers. There's few people-- You survey people, like how many people get an hour of actual sunlight per day? It's not that much. No. It's not. Yeah. Statistically zero. Yeah. It's like you get very little. Get enough population, you'll see that number be zero. Yeah. Yeah. And then it's like, oh, well there's tons of people low in vitamin D. That kind of makes sense. Yeah, that of course makes sense. And the normal reference range for vitamin D is a 30 to 100 milligrams per liter, and then where I want to see it is actually above 40. And there's good research that below 40, it increases injury risk, and it actually can increase stress fracture risk up to 10 times. This is seen in military data. So that threshold, that's like a really cool example of where normal and optimal actually mattered. Yeah. And it wasn't just made up or pretend.

Dr. Andy Galpin

Right. Yeah. Yeah. And it's also cool because it's independent. So if vitamin D is less than 40, that's an independent risk factor for injury. So if you want to maximize your injury risk reduction, like your injury risk status, vitamin D by itself will increase your risk. So you could come back normal at 35. That's fine. You're not deficient, but you are not optimally resilient as far as injury risk status goes. So I want people above 40, but more is not better, right? Above 40, but less than the top end of the range. And then that's where you're realizing the benefits of vitamin D in your life from many different areas. Cognition, circadian rhythm, injury risk. Vitamin D, you look at the functions of vitamin D, and it's all over the place. But many people come back low. How do you measure it properly? We talked a little bit about it previously. I measure season to season, so I'll measure winter to winter and summer to summer because there's too much- Yeah, it moves ...

Dr. Andy Galpin

it literally doesn't exist. So I measure season to season, instead of draw to draw, and then I'm not crazy with the dosage either. That's like another thing. I think people just don't realize how to interpret vitamin D properly, and they just do this like hammer, sledgehammer. It's like, "Okay, I've been on 5,000 IU of vitamin D and then my vitamin D didn't go up, so maybe I'll try 10,000. Maybe I'll try 20,000." And they just keep going up like- Yeah ... bro, that's obviously not it. Yeah. When you're at thousands of percent of the daily intake of vitamin D that you should be at and it's not moving, dare I say, your protocol sucks. Yeah. If you're on 20,000 IU of vitamin D and your vitamin D is not moving, your protocol is not well-designed, and your vitamin D in general wasn't interpreted appropriately. I'm having people generally between 2,000 and 5,000 per day, higher end in the winter months, lower end during the summer.

Dr. Andy Galpin

IUs? Yeah, IU. Yeah, yeah. Yeah. If somebody is on 5,000, 10,000 IUs and it's not moving, why isn't it? It's an excellent question. So vitamin D is an acute phase reactant, so in the presence of inflammation, it will actually be artificially lower. Right. And also vitamin D is stored in adipose tissue, so adipose tissue being fat tissue, so vitamin D, if you're taking in vitamin D and you've got a decent amount of body fat in your body, you are hiding and storing that vitamin D in your fat cells. This is known mechanisms. So then who listening right now knows someone who's inflamed and overweight?

Dan Garner

Probably a lot of people, right?

Dr. Andy Galpin

Yeah.

Dan Garner

And you look at population-wide data, 70% of this country is low, 50% of this country is low. So it's a lot of inflamed and overweight people, man.

Dr. Andy Galpin

Yeah.

Dan Garner

It's not hard to find. So then you see, okay, inflammation by itself makes it artificially look lower, and then it's artificially lower again if this person's overweight. It's a poorly interpreted marker. And you can also, if you've just been training a lot and you didn't take time off from your workout to your blood draw, and you've got elevated inflammatory markers and vitamin D came back deficient, those need to be co-interpreted. I'm currently inflamed, so I can now not trust my vitamin D reading because it's an acute phase reactive.

Dr. Andy Galpin

And how much of a response, in other words, if I do all the right things and my vitamin D comes back at 50-

Dan Garner

Mm

Dr. Andy Galpin

... right where you want me to be.

Dan Garner

Mm.

Dr. Andy Galpin

And then I do some training and maybe I'm not long-term inflamed, but I got a little bit of short-term exercise-induced inflammation cooking.

Dan Garner

Mm-hmm.

Dr. Andy Galpin

Could that drop me to 20 on my next blood work?

Dan Garner

40%.

Dr. Andy Galpin

40%?

Dan Garner

40, four, zero.

Dr. Andy Galpin

So this could be something legitimately like you went from 50 to 30-

Dan Garner

Mm

Dr. Andy Galpin

... and almost exclusively because of a combination of just the variability in a lab-

Dan Garner

Mm-hmm

Dr. Andy Galpin

... as well as what my inflammation in this example.

Dan Garner

Yeah. And then you give that person vitamin D supplementation, and they never needed it.

Dr. Andy Galpin

Yeah.

Dan Garner

They never need it. And now you're process- and then the next reading comes back at like 85.

Dr. Andy Galpin

Yeah.

Dan Garner

"Oh, you're a hyper-responder."

Dr. Andy Galpin

Yeah.

Dan Garner

No, he never needed it.

Dr. Andy Galpin

Yeah.

Dan Garner

He was already at, and you just went up for no reason.

Dr. Andy Galpin

What I like about all this is you're taking very simple markers, especially vitamin D, where almost everyone goes, "I know how to interpret that" because they look right at it. It's one number. It's super simple. I can put it into GPT. I can put it into AI. It can totally interpret that for me.

Dan Garner

Mm-hmm.

Dr. Andy Galpin

I've never heard of a single person getting an AI prompt back that said, "Your vitamin D is low. What's your inflammation status?"

Dan Garner

Yeah.

Dr. Andy Galpin

"Did you exercise before?" I've never seen it do that.

Dan Garner

Nope.

Dr. Andy Galpin

No one's ever told me that it corrected for that.

Dan Garner

Yeah.

Dr. Andy Galpin

Which is interesting. And 40% is a very large number.

Dan Garner

It's huge. Yeah.

Dr. Andy Galpin

What I also think is helpful here is for both omega-3 and vitamin D, the answer itself, assuming it was a real finding, was the source. In other words, if vitamin D is low, you need vitamin D.

Dan Garner

Mm-hmm.

Dr. Andy Galpin

Most of the time.

Dan Garner

Yeah.

Dr. Andy Galpin

If omega-3 is low, your recommendation was consume more omega-3.

Dan Garner

Yeah.

Dr. Andy Galpin

But when you got to testosterone, if your testosterone was low, your recommendation was not take testosterone. Your recommend- not to not do that, but your-

Dan Garner

Yeah

Dr. Andy Galpin

... recommendation was sleep, stress, lifestyle.

Dan Garner

Yeah.

Dr. Andy Galpin

That to me is a really important thing because as you start going through blood work or performance gains or body composition or subjective, it's really important to understand that the solution isn't always the number, isn't always the same thing, right? In this case, as one example-

Dan Garner

Mm

Dr. Andy Galpin

... you may want your testosterone to go up, but the solution itself is not taking more of that-

Dan Garner

Right

Dr. Andy Galpin

... per se.

Dan Garner

Yeah. No-

Dr. Andy Galpin

There's other pathways.

Dan Garner

For sure, and sometimes the pathways, they're just not obvious. Like if you could have low testosterone and it's not because you have a deficiency in tribulus.

Dr. Andy Galpin

Yeah. Right.

Dan Garner

Okay?

Dr. Andy Galpin

Right.

Dan Garner

It's not because you have a deficiency in some herb. It may be because of low energy

availability. You see, your low testosterone, you actually just need to eat more calories.

Dr. Andy Galpin

Yeah.

Dan Garner

It had nothing to do with the herbs that sound about-

Dr. Andy Galpin

It's a response rather than, in that case.

Dan Garner

Yeah.

Dr. Andy Galpin

As a quick answer here, are there any nutraceuticals that you feel like actually do move the mark on testosterone meaningfully?

Dan Garner

Yeah. I think ashwagandha has a decent effect. I really do. But the way I test that effect is never in the beginning. So once you are relieved of constraints, then we'll add it. That's how I see if something's going to work or not, and that's at $n = 1$. But people should be doing that. We're all different, and you don't want to compare yourself to population-level stuff all the time. So if you've done an analysis and you've removed your constraints, whether they're from the blood or not, so you're just in a good position right now. Now you're in a position where you're reducing noise, and you can see if something actually works or not. And I actually do think 600 milligrams of ashwagandha, in most cases, most of the time, for natural people who are relieved of their constraints, you'll see a good bump, and you'll see a subjective reduction in stress.

Dr. Andy Galpin

Are you comfortable with people running that indefinitely? Should they stop after six, 10, 12 weeks? What are your thoughts on long-term ashwagandha?

Dan Garner

I'll generally cut things off and change them on an as-needed basis every 12 weeks.

Dr. Andy Galpin

Okay.

Dan Garner

Yeah. So every 90-day cycle is typically when I'll switch things off. Just as a coach, and being a cautious coach at that, I like to err on the side of, "Okay, this is a short period of time. Let's use it as a tool, and then let's get back to what should be the focus," which is lifestyle and nutrition.

Dr. Andy Galpin

I can't let you escape our conversation about aesthetics, people just wanting to look better. There's the old famous quote that for every person who wants to be strong, you'll find 10 who want to look strong.

Dan Garner

Yeah.

Dr. Andy Galpin

So I get it. You all want to look a little bit better. You gave us a lot of really good practical advice on the nutrition side, especially assuming you want to lean up and lose some fat, right?

Dan Garner

Mm-hmm.

Dr. Andy Galpin

So your eight-two is very helpful there. I'm interested in the training part of the equation, and I want to go into specific exercises and questions about that. But when you were talking about the schedule, this came up in my brain, and now is a good time for it.

Dr. Andy Galpin

If I am at this goal, I mostly want to look better. I want to feel better, I want to perform better, all this stuff, but mostly just want to look better as a primary goal.

Dr. Andy Galpin

Do you care from a scheduling perspective? Does it matter if they train in the morning, train in the evening?

Dr. Andy Galpin

Does it matter how many meals they're having per day? What time those things are? So in the theme of scheduling With the primary goal being aesthetics. Where do you land on these types of things?

Dan Garner

I want to land where they're going to be most adherent. I know. It's like, it's a boring answer, but it is the real one. Nobody-

Dr. Andy Galpin

Well, it's not boring, though. It is not, because it's actually directly telling them a prescription.

Dan Garner

Yeah. You want to be where you're going to be most adherent. If that's in the morning, if that's lunch, if that's in the afternoon, go where you are going to be most consistent, because nobody

builds a great physique quickly. Nobody. That does not happen. This takes months, years, decades sometimes. Depending on who you are and what you want to accomplish, this is not a short game.

Dr. Andy Galpin

That's not to say you can't make progress quickly.

Dan Garner

Oh, for sure.

Dr. Andy Galpin

But you're just not going to get all the way.

Dan Garner

Yeah. Decades is more like get to Mr. Olympia status type of work.

Dr. Andy Galpin

Yeah.

Dan Garner

But people can make incredible progress in just three months. It is amazing what you can do to a physique with real dedication across a three-month span. But it's not the length of time, it's the consistency of the quality training sessions. That's what's going to determine somebody's result at the end of the day. And quality is important because you want to fit it in where you perform best and not fit it in where you can get it in always. And it's a bit of a contradiction of, "Hey, I want to just maximize adherence." But when possible, if you do perform better in the morning than after work, try to get up a little bit earlier and perform it in the morning. If you actually are someone who likes to train at 6:00, 7:00, there are some people who like to train a little bit later, train at that time. So be more consistent, more than anything, but have when you feel best to be at the forefront of your mind, because in the world of physique enhancement, that mind-muscle connection matters a lot, and some people will say that it's not.

Dan Garner

Some people say, "Well, it's just the range of motion. You're going to activate things no matter what." It's just not the case when you do work in real-world aesthetics. I had a story once. I was at this biomechanics seminar in Toronto, and there was a pro bodybuilder there. Everybody knows his name, and he was doing chest flies in the way that he feels it best. So not in the way that he was shown, not that it was maybe biomechanically perfect, but he used the word, "I feel it the best here." And there was this absolute dork there telling him that he was doing it wrong. And this guy, it was just the most disconnected from reality example of someone subjectively feeling a contraction and being sore the next day. So that feeling was there, the damage happened, the development was showing, and someone else told him he was doing it wrong.

But that's all to say that your mind-muscle connection has to be there.

Dan Garner

And I generally think that you're only going to have that great mind-muscle connection when you go to the gym at the time that you're actually going to feel your best.

Dr. Andy Galpin

Yeah.

Dan Garner

And that prioritization structure should also start with where you're weakest or what your priority is. So you don't really start with what somebody told you to do in a textbook. You want to actually have, in the interest of return on investment from effort that you're applying in the area that you want to develop most, go when you feel good, be consistent with it, and put that at the top of your workout.

Dr. Andy Galpin

You made it really clear the way that you coach is concepts-driven, not methods.

Dan Garner

Yeah.

Dr. Andy Galpin

And I know you, I can say this. You'll use whatever method suits and whatever fits. You're not tied to those things. You've not made a career, a brand, or companies based on training methods or nutrition methods. You're very independent with those things, right?

Dan Garner

Mm-hmm.

Dr. Andy Galpin

You have the concepts which you've shared. So I don't have to ask you that question because I know that answer from you directly, and I think that's freeing because at the same time, that doesn't mean you can't give recommendations for direct methods because you actually have to coach. You have to give results to people. In that vein, where do you stand quickly on things like intermittent fasting, on meal frequency? And we'll just kind of run down the list quickly based on your experience, not necessarily what the research is showing.

Dr. Andy Galpin

Does it work for you and your clients? Do you find them to work a lot, a little bit, everything? Because I know the real answer is, "It depends."

Dan Garner

Yeah.

Dr. Andy Galpin

Yeah. You've done it all. You've seen it all work. But categorically, which ones do you find yourself as a coach using more than others? Maybe that's the most succinct question.

Dan Garner

I gravitate towards four to six meals per day as opposed to intermittent fasting, but massive disclaimer, total daily caloric intake-

Dr. Andy Galpin

Yeah

Dan Garner

... total macro amounts have to use the disclaimer so someone doesn't say, "Well, it's the only studying matters."

Dr. Andy Galpin

Yeah.

Dan Garner

I know, right?

Dr. Andy Galpin

Yeah.

Dan Garner

So total daily caloric intake and the way in which you structure your total macros, that is at the absolute top of the mountain. But from there, I have found that people actually perform really well with four to six meals throughout the day on training days, and then intermittent fasting on non-training days. I think that there is a value to be had there, but the four to six meals throughout the day, that's mainly just to keep something in the gut for training. Like I said previously, I like to actually stack the training window with a lot of nutrients pre-workout, a lot of nutrients during, and a lot of nutrients immediately post, and that's just going to involve a higher meal frequency.

Dr. Andy Galpin

Yeah.

Dan Garner

I tend to also get better subjective feedback from people who have a steady flow of nutrients coming in throughout the day. If you're going into a session, and there's a lot of people that are

going to disagree with this, but I just completely disagree back with them. If you're dieting and you're going to train fasted, man, training fasted in a hypocaloric state's pretty tough. But if you can get a meal in you before you go to the gym, it is a completely different workout. It is a totally different workout. So since I want to prioritize performance, since I want to prioritize stimulus, I generally lean towards four to six meals throughout the day, an even distribution of protein in every meal. So if you're having 200 grams of protein per day, you're going to do 40, 40, 40, 40, 40 for five meals. 40 throughout the day. A steady, readily available supply of amino acids throughout the day is an excellent place to be at.

Dan Garner

Carbohydrates are hugged around wherever you train, whether that's a.m. or p.m., and then fats are not around training, whether that's a.m. or p.m.

Dr. Andy Galpin

Anything else that stuck out at you like, "Yeah, I know that there's evidence On both sides of this equation, but I actually just found myself using this side of it more often than not.

Dan Garner

I think when people are dieting, because shuttling calories to the evening is something that helps sleep, doesn't hurt it.

Dr. Andy Galpin

Mm.

Dan Garner

That's something you just see in the coaching world.

Dr. Andy Galpin

Yeah.

Dan Garner

A very common practice in the science world, do not eat within, as far away from bedtime as you can.

Dr. Andy Galpin

Yeah.

Dan Garner

And there's great data on that.

Dr. Andy Galpin

Sure.

Dan Garner

There's great data on that, man. But then when you have someone who's dieting, who's going to bed starving, they're going to bed sympathetic. They're going to bed-

Dr. Andy Galpin

Yeah

Dan Garner

... activated. They're like, "I'm hungry, man."

Dr. Andy Galpin

Yeah.

Dan Garner

And you give that, you shuttle most of their calories to the end of the day, that person's going to sleep better.

Dr. Andy Galpin

Yeah.

Dan Garner

So I like the calories, and that's honestly, as a coach, I will bias that. Calories around training and calories before bed, which goes against a lot of some sleep people out there, but-

Dr. Andy Galpin

Yeah

Dan Garner

... I just don't really care.

Dr. Andy Galpin

You're not going to be sleeping if you're that hungry.

Dan Garner

Yeah, you're not.

Dr. Andy Galpin

And we don't have data on this. Like, people don't do studies on fit people in a hypocaloric state, and they're just like, that's just-- So you're not really comparing the same population.

Dan Garner

Yeah.

Dr. Andy Galpin

Same outcomes, independent variables, dependent variables, they're different.

Dan Garner

That qualitative feedback will come back. You'll measure and adjust, and if they've got a wearable on, sleep metrics aren't ideal, but you can look at total sleep time.

Dr. Andy Galpin

Yeah.

Dan Garner

You're seeing total sleep time improve, things are better, like, "Hey, man, we're in a good spot right now."

Dr. Andy Galpin

What about from an exercise perspective? Do you care if they're doing their cardio or endurance work in the morning, or first? Do you prefer them to get their lift in? Do you care if it's in the same day? How do you think about putting those pieces together? Assuming most people are doing a combination, right? Let's take away your professional golfer and all that stuff, is a very sport-specific thing.

Dan Garner

Mm-hmm.

Dr. Andy Galpin

The average person who's trying to be well-rounded in their fitness, what are your thoughts on kind of balancing in the schedule two somewhat opposing stimuli?

Dan Garner

Maximization of stimulus within the day matters. If you're somebody who is more of a jack of all trades, more a type of longevity focused, more functional fitness focused, I think stacking sessions together is actually appropriate for what they want to do, what they want to accomplish. In the world of cosmetics, I do like doing single stimulus days.

Dr. Andy Galpin

Yeah.

Dan Garner

So we are going to do hypertrophy today. You're going to do cardio the next day. You're going to do hypertrophy the next day. And after that, I think that's just the principle of directed adaptation. We are going to direct a specific stimulus to get a directed adaptation, and we are not going to disrupt any molecular signaling along the way, especially since the way this question was phrased to me, it's just this person going, they're not the professional golfer, they're not whatever. This person just needs as much direct stimulus as they can in order to get this done. I like one session per day. I don't care when it is, so long as it happens at the time that they can

be consistent to, and that they prioritize either their weak link or what they want strong first in the session. And not just large muscle groups to smaller muscle groups. That stuff doesn't matter in aesthetics. If you want to train arms first, do it.

Dan Garner

If you have small delts and you want them to develop, and you squat that day, I don't care. You're going to do lateral raises before you squat. That is just a prioritization of your goal. We're going to be results oriented towards driving progressive overload in that. And then as an example weekly structure that someone can follow, I think a great split, you would have chest and back, and then legs, and then shoulders and arms. And then you've got the whole body with those three. Now that'd be like Monday, Tuesday, Wednesday off, Thursday. Day one, chest and back, day two, legs, Wednesday off, Thursday, shoulders, arms. Everything's been hit, and now that's three days per week, and everything's already been hit. That fourth day now can be dedicated to what you want to develop and bring back up.

Dr. Andy Galpin

Got it.

Dan Garner

So that's the flexibility that I like to have when working in physique enhancement. Everything's been hit, and you can hit something and maintain it way easier than you think. But growing something is very difficult, and typically, I like to dedicate a day to what that person wants to accomplish within, I work in eight-week blocks, within that eight-week block. So if you want, and people would cringe at it or whatever, if you want to do an arms only day, then you should, because bodybuilders know that freaking works.

Dr. Andy Galpin

Yeah.

Dan Garner

Okay? And then you would also hit it, they're going to get hit indirectly here, or also directly with the shoulders and arms day. But you reserve that fourth day for the weak link or what you want to bring up, which is usually a weak link, unless you just want a dominating crazy body part, which your goals are your goals. I don't care.

Dr. Andy Galpin

Yeah.

Dan Garner

I'll program appropriately.

Dr. Andy Galpin

I want the largest forearms ever. All right. Forearm day.

Dan Garner

And that brings you to Friday, right? So just full recap now, because this is important, because it's a rotation, it's not a weekly split. So-

Dr. Andy Galpin

I was going to, that was going to be my next question, actually.

Dan Garner

Yeah. So this is how you keep, because frequency matters, too. It's what makes it not just a bro split. So Monday, chest and back, Tuesday, legs, Wednesday, recover, Thursday, shoulders, arm, Friday, whatever you need for that eight-week block. Saturday off, Sunday, chest, back. So instead of doing chest, back on Monday like you did previously, we're going to do it a day early, still after a recovery day, so you're in a great spot, but you're getting each muscle group twice per week now.

Dr. Andy Galpin

So what you're actually doing is you're running five workouts over six days. Because then, and you're just going to continue to run in that cycle regardless of weeks. You're ignoring the idea of a seven-day week, basically.

Dan Garner

Yes.

Dr. Andy Galpin

Who cares?

Dan Garner

And prioritizing recoverable volume.

Dr. Andy Galpin

Exactly, right.

Dan Garner

Which people can do. If you train chest on Monday, your chest isn't sore on Sunday.

Dr. Andy Galpin

Right.

Dan Garner

We can train it. I want that extra frequency in.

Dr. Andy Galpin

To clarify, double wearing down, you said Monday in this example would be chest and back.

Dan Garner

Chest, back.

Dr. Andy Galpin

And then you do chest and back again on Sunday.

Dan Garner

Sunday.

Dr. Andy Galpin

And then the next week it would be on presumably Saturday.

Dan Garner

Saturday.

Dr. Andy Galpin

And it just keeps moving. This actually allows you to get one more training day in per week.

Dan Garner

Yes.

Dr. Andy Galpin

Which is a rolling thing. So then across your eight weeks, you can start to do the math there.

You're going to slide two to three more sessions in per Body category.

Dan Garner

Yeah.

Dr. Andy Galpin

Which is going to hit you there.

Dan Garner

Yeah. Everything gets hit twice every six days.

Dr. Andy Galpin

Yeah.

Dan Garner

So even the things you're not prioritizing. And then your prioritizing volume is you have a whole day you can do that.

Dr. Andy Galpin

You get three. Yeah.

Dan Garner

Exactly. So that, each muscle group getting hit twice every six days, plus an actual recoverable volume approach to prioritizing a body part, that split, that's a great place for people to start, a really great place.

Dr. Andy Galpin

What's wonderful is that gives you also a buffer to X factor.

Dan Garner

Mm-hmm.

Dr. Andy Galpin

Where it gives you the buffer of not going, "Hey, Monday is my chest and back day," but then all of a sudden, my plane got delayed-

Dan Garner

Mm-hmm

Dr. Andy Galpin

... and I miss Monday. Now what do I do? Do I push the whole week back one day? Or do I just skip chest and back that day?

Dan Garner

You push it.

Dr. Andy Galpin

Right.

Dan Garner

Yeah.

Dr. Andy Galpin

So now, well, because your system's built to that.

Dan Garner

Yeah.

Dr. Andy Galpin

It's not built for Monday is back day-

Dan Garner

No

Dr. Andy Galpin

... or Monday is leg day.

Dan Garner

No.

Dr. Andy Galpin

It is the next workout up, and if that workout is three days from now, then that's when it is.

Dan Garner

Mm-hmm.

Dr. Andy Galpin

If it's tomorrow, great.

Dan Garner

Yep.

Dr. Andy Galpin

Do you ever find yourself or your clients having to take an extra day of recovery of just going like, "Too sore here. I'm going to take two days"?

Dan Garner

Sometimes clients are in a quantitative stage-

Dr. Andy Galpin

Mm

Dan Garner

... to go back to the beginning of the pod, where quantitative is, "I know what you need to do, so you need to listen to me."

Dr. Andy Galpin

Yeah.

Dan Garner

They kind of need to graduate to qualitative.

Dr. Andy Galpin

Yeah.

Dan Garner

Because sometimes people actually don't know their own body type. They don't really know their own body. They don't know what they're capable of. So if they're in a stage where they're like, "I need a couple of days off," and it's like Sean O'Malley, for example, I believe you.

Dr. Andy Galpin

Yeah.

Dan Garner

Yeah, dude.

Dr. Andy Galpin

Yeah.

Dan Garner

These people know their body unbelievably well. It's like to their detriment, where they won't take days off.

Dr. Andy Galpin

Right.

Dan Garner

And not Sean. Sean's good at that. But there's a lot of people who are just, they think it's a mental toughness exercise to go to the gym with an HRV of negative five.

Dr. Andy Galpin

Yeah.

Dan Garner

You know?

Dr. Andy Galpin

Right.

Dan Garner

Yeah, so like-

Dr. Andy Galpin

And that's when you have to have metrics like that.

Dan Garner

Yeah.

Dr. Andy Galpin

Because you have to be able to see that, and you can't rely on how you feel.

Dan Garner

Right.

Dr. Andy Galpin

Because you're just going to push through it.

Dan Garner

Exactly. Yeah. So, but sometimes you do need to take reactive days off, and that's fine. That's going to happen. In the world, though, of things that you see in the real world, that sometimes a pure science-based, evidence-based approach won't always follow is, I briefly, like I said, quickly, I work in eight-week blocks. I don't deload after four weeks. There's a lot of people who deload after four weeks.

Dr. Andy Galpin

Tell me more.

Dan Garner

I just don't think people fatigue that fast. I just don't. And I think if you do fatigue after four weeks, your diet is probably off.

Dr. Andy Galpin

Yeah.

Dan Garner

Your stress is probably off. Your sleep is probably off. There is a constraint in your blood that you don't know about. And maybe it's selection bias. I work with people who are pretty, well, they're workhorses. I simply do not see people running into a wall after four weeks if they are healthy people. I run people to eight weeks. So I do something unique in that world, too. So when I do deload, I don't just reduce volume and intensity of the current plan that they're on, which is what a lot of people do, and I also don't just take a week off. What I do for people is I do one week at 50% reduced volume of your next training phase.

Dr. Andy Galpin

Oh, interesting.

Dan Garner

Yeah.

Dr. Andy Galpin

Lock them into it a little bit.

Dan Garner

Yeah. So one of the things that creates the largest amount of unnecessary damage with no further adaptation is novel stimulus.

Dr. Andy Galpin

Correct. Yeah.

Dan Garner

So you're going to go in there with a novel stimulus-

Dr. Andy Galpin

Clever

Dan Garner

... and you actually do that at 50% less volume, so you're not totally destroyed, and you're actually effectively doing the deload.

Dr. Andy Galpin

Yeah.

Dan Garner

And then also, one of the big parts of getting results in anything, but especially cosmetics, well, I guess especially everything, is skill acquisition and technique. Sometimes it takes a week to get into the groove. Even me, if I haven't done front squats in eight weeks, my first week back, I'm probably not Mr. Clean-

Dr. Andy Galpin

Right

Dan Garner

... on front squats. So like that first week back, I'm reducing the unnecessary muscle damage from the novel stimulus by reducing volume by 50%. I'm improving my skill execution by having one week to prepare before I actually go into the 100% prescribed volume, and I did it all while effectively doing a deload.

Dr. Andy Galpin

That's really clever because I do a similar thing intuitively, but not as effectively. Because the first week of my new programs, and I typically get them about every eight to 10 weeks as well, I get a new-

Dan Garner

Yeah

Dr. Andy Galpin

... one, and week one, I will always do that myself because I don't want to wake up the next day obliterated-

Dan Garner

Yeah

Dr. Andy Galpin

... and now have to take two or three extra days of rest off the first week of the cycle.

Dan Garner

Mm.

Dr. Andy Galpin

You can't get into it. I actually feel bad to my coach. I'm like, "Sorry, it took me 12 days to get through your first week because I didn't know this movement exactly." I don't do very traditional exercise movements.

Dan Garner

Mm-hmm.

Dr. Andy Galpin

So I don't know. A lot of the times, I'm doing a movement I've never done-

Dan Garner

Mm

Dr. Andy Galpin

... in my life. So I'm like, "I don't know how to load this thing. I don't know how heavy to go here." And I don't want to wake up the next day being like, "Oh my God"

Dan Garner

Yeah.

Dr. Andy Galpin

Just annihilated, right?

Dan Garner

Yeah.

Dr. Andy Galpin

The second thing is, because of that, and I'm so technically concerned, and there's so many details and notes with every exercise that I get, the first time through a new workout, it takes me two hours. Not because it's that long of a workout, because it takes me 20 minutes to just tinker through it. So if I go heavy on top of that and I need to rest and recover, the workout is going to take so long, and I'm like, "I don't have that kind of time."

Dan Garner

Yeah.

Dr. Andy Galpin

So I go light, so I can go through it fast. I undercut it on purpose, and I go, "Okay, great," like nothing blew up on me, and then the next week, I hammer it. But I don't do that proactively.

Dan Garner

Yeah.

Dr. Andy Galpin

I do that reactionally.

Dan Garner

Yeah.

Dr. Andy Galpin

As opposed to, I'm generally maybe even taking a little bit of rest before that, but I should just make that the rest week.

Dan Garner

Yeah.

Dr. Andy Galpin

The deload week. That's super smart.

Dan Garner

Your instincts are there.

Dr. Andy Galpin

Yeah.

Dan Garner

You just add a little bit of structure to that, and then that's bolted right into your plan.

Dr. Andy Galpin

That's really smart. I would agree. I don't ever see general population people, for the most part, needing that much of a deload.

Dan Garner

Yeah.

Dr. Andy Galpin

I actually handle it personally. I let schedule dictate it.

Dan Garner

Deloads probably just happen to me.

Dr. Andy Galpin

You're going to get them.

Dan Garner

Yeah.

Dr. Andy Galpin

You're going to travel, you're going to do something else or whatever, kid's going to have this extra thing-

Dan Garner

Yeah

Dr. Andy Galpin

... and you're like, "All right." It's kind of just baked in.

Dan Garner

Yeah.

Dr. Andy Galpin

For the most part. So yeah, I don't really don't follow that, with the exception of really structured, really focused, and consistent people then, and endurance.

Dan Garner

Mm-hmm.

Dr. Andy Galpin

In our world, we're generally talking about strength training-related things.

Dan Garner

Yep.

Dr. Andy Galpin

It is different if you're running 100 miles a week. Very, very different story here.

Dan Garner

Don't compare apples to oranges.

Dr. Andy Galpin

Yeah.

Dan Garner

Yeah.

Dr. Andy Galpin

Not even close to the same thing.

Dan Garner

Yeah.

Dr. Andy Galpin

You mentioned lagging body parts.

Dan Garner

Mm.

Dr. Andy Galpin

Particular places that people want to focus on. Two-part question. First, what are those that have popped up most commonly to you? What are the areas people have really either struggled to develop or just wanted the most? My presumption is that-- Actually, I remember when Brett Contreras was sitting in that chair, he was like, "Look, guys want bigger arms, girls want bigger butts."

Dan Garner

Yeah.

Dr. Andy Galpin

Okay. Probably checks out for large part of it.

Dan Garner

Yeah, I don't think I need population-wide data on that.

Dr. Andy Galpin

No.

Dr. Andy Galpin

But what are the ones people have the most difficult time progressing? And then how have you solved that, either from an exercise selection or an exercise technique or programming?

Dan Garner

Mm-hmm.

Dr. Andy Galpin

What are the ones that have come up to you most commonly for like the fourth time I've asked the same question now?

Dan Garner

That's okay.

Dr. Andy Galpin

You get it.

Dan Garner

Yeah. So it's so different. The way people are structured, it changes how they recruit and execute an exercise properly. They fall in similar buckets. You're going to get a guy who's very torso dominant, and because he's so torso dominant, there's these small arms to this guy. He can really grow. He's got excellent activation of his back when doing back movements. He's got excellent activation of his chest when he's doing chest movements. Every time he's pressing, it's like all chest, all anterior delt, and it's minimum recruitment on triceps relative to other people. And then same with the back. The mind-muscle connection with the back is so fantastic that he doesn't actually need his biceps as much when rowing. And then you have the reverse. You have people who are very arm dominant. You have someone who rows, and then they're like, the biceps are the fatigue.

Dr. Andy Galpin

Yeah.

Dan Garner

Because their connection to the row actually pulling them back is very poor, and they're very arm dominant. And same when they're pressing. They're very, very tricep dominant, and their chest doesn't grow. So that person who is very torso dominant, there's the guy who kind of needs the arm day. They need that arm day that I was talking about. If you're torso dominant, you got great chest and back, that isolated arm day will do wonders for you because your arms aren't growing like other people's arms are when doing compound movements. The recruitment is not there. Now, if you're somebody with huge arms and you've got crappy lats, that's when you have to take the arms out of the process. So something like a straight arm rope pull down or dumbbell pull over, a machine pullover. You are isolating the lat purely by itself with no arm whatsoever, and you're also going to have a greater response from executing proper chest flies as opposed to relying on presses for chest development.

Dan Garner

So isolating it and doing your best to keep the arms right out of the movement.

Dr. Andy Galpin

Calves.

Dan Garner

Mostly genetic, man. There's a lot of things and strategies that people have in order to increase

calves, and sometimes it works, and most of the time it doesn't. And then a lot of the people with big calves will tell you that they don't do anything for them.

Dr. Andy Galpin

I'm going to be real honest with you. I'm probably on the nine out of 10 scale in terms of what people desire for calves.

Dan Garner

Yeah.

Dr. Andy Galpin

I've just really never done anything for them outside of athletic movements. I certainly do some feet-related training and things like that-

Dan Garner

Mm-hmm

Dr. Andy Galpin

... but I've really never been like, "I'm trying to grow my calves."

Dan Garner

Yeah.

Dr. Andy Galpin

And people are often like, "Oh my God."

Dan Garner

Mm-hmm.

Dr. Andy Galpin

I'm in that bucket of hate. So are you really telling me those people that are envious of me, they have no hope? They have nowhere to go with those calves?

Dan Garner

Yeah.

Dr. Andy Galpin

It's a tough one, right?

Dan Garner

There's more to it, okay? So it's a muscle. It will respond well. Generally speaking, from a fiber perspective, standing calf raises are going to attack the gastroc more effectively.

Dr. Andy Galpin

Right.

Dan Garner

Seated are going to attack the soleus more effectively. So these are the different parts of calf development. Gastroc is going to respond very well, in my experience, to heavier loading, so anywhere from five to seven reps, and then your soleus responding better to lighter loading. And then the biggest thing with that is like, okay, lower reps for standing, higher reps for seated. Two big things that are more important than training both muscles. People who have bad calves, they almost always, like everyone does, do it at the end of their workout.

Dr. Andy Galpin

Uh-huh. Of course.

Dan Garner

So it's on leg day, and it's at the end. So they've done squats, they've done deads, they've done leg press, they've done their extensions, they've done their curls, and then with whatever neurological firing they have left, they just start bouncing on their calves-

Dr. Andy Galpin

Yeah. Yep

Dan Garner

... and calling it a workout.

Dr. Andy Galpin

Yep.

Dan Garner

So like, you are complaining about-- You're in complaining category. You're complaining about your calves, but on paper, you're deprioritizing them. They're at the end of your session when you're at your most fatigue. If you actually want to grow your calf, it should be at the front of the session. So understanding the reps to hit, putting it at the front of the session, and then lastly, taking the bounce out of it. So you should actually just do one second. You're all the way down in stretch, one second, rep. All the way down in stretch, controlled, take the elastic out of the movement, rep. So it's annoying, but there's so much elasticity in calves.

Dr. Andy Galpin

Yeah.

Dan Garner

Take that out, do lower reps for standing, higher reps for seated, and put it at the front of your workout. And then do that three days per week. And if that doesn't grow your calves, probably nothing will.

Dr. Andy Galpin

And those pieces of advice were under the umbrella of we're trying to maximize or improve muscle size. This is not what you're recommending for a hockey player-

Dan Garner

No

Dr. Andy Galpin

... or anyone else, right?

Dan Garner

No.

Dr. Andy Galpin

Always really clear that, right?

Dan Garner

Purely aesthetics, yeah.

Dr. Andy Galpin

If we're going for aesthetics. I could ask you a million more questions-

Dan Garner

Yeah

Dr. Andy Galpin

... on this one, but we're probably more than a few hours in at this point.

Dan Garner

Well, can I cut in real quick?

Dr. Andy Galpin

Oh, please do.

Dan Garner

Okay. There's a method that I like for developing a muscle group Okay? And it's hypertrophy clusters. So with a hypertrophy cluster, and everybody should try this. It's phenomenal. I've been in the game 15 years, this works. Pick a weight that you can do for approximately 12 reps, and then do six sets of six with 10 seconds in between. That is a hypertrophy cluster. Your first couple sets, they're not going to be too bad. It's going to start to get harder around set three, going to get harder on four, and then five and six are brutal, but you're going to get them done. And in one cluster, you completed 36 reps of something you would've only have been able to perform 12 of in a row. This is an incredible hypertrophic training stimulus. It's ridiculously time efficient. You are done that quickly, and your muscle group is trashed. Also, since it's 12 RM, it's

a very joint-friendly way to approach prioritization.

Dan Garner

Sometimes prioritizing a muscle means you're trashing it and kind of messing up your joints at the same time.

Dr. Andy Galpin

Yeah.

Dan Garner

But you have a light load, so it's joint-friendly. You are getting 36 reps of something where you would've previously only been able to get 12 of. It's incredibly time efficient for all of the people who are very busy out there, and it's a method that I know works, period. And do you remember when I ran you through it for calves?

Dr. Andy Galpin

Oh, yeah.

Dan Garner

Yeah?

Dr. Andy Galpin

Yeah.

Dan Garner

Yeah.

Dr. Andy Galpin

I do.

Dan Garner

How'd your calves feel?

Dr. Andy Galpin

Oh, yeah. They were destroyed. Yeah.

Dan Garner

It works, man.

Dr. Andy Galpin

Going back to the point of I rarely exclusively train my calves.

Dan Garner

Yeah.

Dr. Andy Galpin

So that didn't work.

Dan Garner

And then I just took you right into a hypertrophy cluster.

Dr. Andy Galpin

Yeah, 100%.

Dan Garner

We're just easing into it .

Dr. Andy Galpin

Yeah.

Dan Garner

A great way to ease into novel stimulus, eh?

Dr. Andy Galpin

100%.

Dr. Andy Galpin

You and I have done that more than a few times.

Dan Garner

I'm a huge fan. I think that that hypertrophy cluster work for a body part that you want to prioritize, it just works.

Dr. Andy Galpin

Yeah.

Dan Garner

And it's something that we can talk about, that's a method that people can use, instead of just maybe these amount of reps and this amount of intensity, and this amount of-- The textbook stuff's important to know, but a method I can write down and go to the gym with, and then measure and adjust accordingly is how you understand something and apply it properly.

Dr. Andy Galpin

I've never done a deep dive, but I actually don't know if there's any papers on that method specifically. But we care not-

Dan Garner

Yeah

Dr. Andy Galpin

... at this point.

Dan Garner

There's a lot of papers on cluster training for strength.

Dr. Andy Galpin

Of course.

Dan Garner

Yeah. Of course. I'm not telling you that.

Dr. Andy Galpin

Yeah.

Dan Garner

But the two reps, 30 seconds, two reps, 30 seconds, two.

Dr. Andy Galpin

Well, no-

Dan Garner

Great for strength

Dr. Andy Galpin

... there's actually more and more papers on clusters for hypertrophy.

Dan Garner

Okay.

Dr. Andy Galpin

And it turns out it's damn near as good as anything else.

Dan Garner

Yeah.

Dr. Andy Galpin

But this is a cluster in which you actually do an extended break, not a condensed break. So your cluster you described is like a 10-second break.

Dan Garner

Yes.

Dr. Andy Galpin

These are when you do a set of 10.

Dan Garner

Mm-hmm.

Dr. Andy Galpin

You do one rep, take a 20-second break, one rep, take a 20-second break.

Dan Garner

Oh, that kind.

Dr. Andy Galpin

So each individual-

Dan Garner

Yeah

Dr. Andy Galpin

... repetition allows you to load heavier.

Dan Garner

Yeah. I got you.

Dr. Andy Galpin

So you can lift way more weight.

Dan Garner

Yeah.

Dr. Andy Galpin

And so mechanical tension can be way higher.

Dan Garner

Yeah.

Dr. Andy Galpin

But you can still hit volume because you're taking a break in between.

Dan Garner

Yeah.

Dr. Andy Galpin

That has only come on board, though, the last maybe two to three years.

Dan Garner

Yeah.

Dr. Andy Galpin

So you're talking about a great example of you would not have found a study on that three years ago, and it would've been called bro science, and non-evidence based.

Dan Garner

Yep.

Dr. Andy Galpin

And now all of a sudden it is.

Dan Garner

Yeah.

Dr. Andy Galpin

And it was not because people had studied it and shown it doesn't work.

Dan Garner

Mm-hmm.

Dr. Andy Galpin

It was simply just hadn't been looked at yet.

Dan Garner

Yeah, and stuff like that exists. A lot of it.

Dr. Andy Galpin

I have to imagine yours would be the exact same. I would believe every part of me that if you put that in a well-designed, controlled study-

Dan Garner

Mm-hmm

Dr. Andy Galpin

... you would find positive outcomes.

Dan Garner

Oh, yeah.

Dr. Andy Galpin

It just hasn't been done yet.

Dan Garner

Yeah. Oh, it works, man. Yeah.

Dr. Andy Galpin

I know. We've done it.

Dan Garner

Yeah . Yeah. And I've fixed people with lagging body parts. It's a hard thing to do.

Dr. Andy Galpin

Yeah.

Dan Garner

People, it's very difficult to change how someone looks if their genetics don't want to move in that direction.

Dr. Andy Galpin

Yeah.

Dan Garner

And this is a method that I've found does that consistently.

Dr. Andy Galpin

You said a term, destroy or trash the body part. So there's no misinterpretation there. What you mean is you got a good pump, you felt really good, you train really hard, not that you're like, "Ah, my knee hurts tomorrow." That's not the kind of trash, the positive trashing.

Dan Garner

No, joint-friendly load.

Dr. Andy Galpin

Yeah, joint-friendly load.

Dan Garner

Yeah, it's 12 RM. We like that.

Dr. Andy Galpin

Where do you stand on proximity to complete failure? So there's the research-

Dan Garner

Mm

Dr. Andy Galpin

... and it's quite popular now with-- And the research is believable, that if you get within one to two repetitions-

Dan Garner

Yeah

Dr. Andy Galpin

... of failure, it's good enough.

Dan Garner

Mm-hmm.

Dr. Andy Galpin

You'll get equal muscle growth. And then you have the bodybuilding side of the equation, which is max effort all the time.

Dan Garner

Mm-hmm.

Dr. Andy Galpin

Balance that with your personal-- I would never want to go into a training session and go, "I'm going to stop two reps."

Dan Garner

Yeah.

Dr. Andy Galpin

I don't feel-

Dan Garner

Yeah

Dr. Andy Galpin

... like I want to do that.

Dan Garner

Mm-hmm.

Dr. Andy Galpin

I know the science. I trust it.

Dan Garner

Mm.

Dr. Andy Galpin

It's from good scientists in multiple laboratories. It's been replicated a bunch of times-

Dan Garner

Mm-hmm

Dr. Andy Galpin

... with different population groups. I totally believe it.

Dan Garner

Mm-hmm.

Dr. Andy Galpin

And I never want to do it.

Dan Garner

Yeah.

Dr. Andy Galpin

I always want to go to the very last possible repetition.

Dan Garner

And you're not alone.

Dr. Andy Galpin

Where do you stand on that, and how do you actually program it?

Dan Garner

You get one bad rep.

Dr. Andy Galpin

Interesting.

Dan Garner

That's the whole approach. You get one bad rep. So yes, one to two reps in reserve. You're going to get a similar hypertrophy stimulus to if you went to failure.

Dr. Andy Galpin

Yeah.

Dan Garner

But going to failure can be deleterious to tissue structures beyond just providing an actual clean hypertrophy stimulus. It can hurt some joint structures. People who change their body the best, they aren't the people who train the hardest. They're the people who can string together the most amount of quality workouts without getting injured. That correlation to getting what you want and not getting injured, especially in the hypertrophy world, if you can string together the most amount of quality sessions and not get hurt, that's the person who's getting to the finish line with the best body. You get one bad rep. And I would say that to athletes, and they get it. So I'm not talking RIR, I'm not talking RPE.

Dr. Andy Galpin

No.

Dan Garner

I'm not talking one to two. I'm not saying like, "Oh, did he actually have four left, or did he have one left?" Who cares? You get one bad rep. And then that's when you're done. And that's you're close, and you don't want to go further into poor technique because now you're just like if you start your bicep and you're nice and clean, and then you start swinging, well, we're not adding any more directed stimulus for hypertrophy, and I'm now just moving my low back and my hips to try and keep going. Our quality of stimulus is gone. So you get one of those. Because I actually think that one can be beneficial, by the way.

Dr. Andy Galpin

Yeah.

Dan Garner

I do. I think that one bad rep is actually enough of a stimulus to allow the body to go, "Oh, shit," like this is a new thing.

Dr. Andy Galpin

You have to also know where the failure wall is.

Dan Garner

Exactly.

Dr. Andy Galpin

You have to know what that actually looked like.

Dan Garner

Yeah, your last rep can't look like your first.

Dr. Andy Galpin

Yeah.

Dan Garner

It's just not going to. If it does, you got a stimulus, but you didn't maximize that stimulus. And I think the approach you get one bad rep is a phenomenal philosophy to follow to maximize stimulus and minimize injury.

Dr. Andy Galpin

I have to get your take on a handful of supplement questions. Sticking with this broader theme, we want to be evidence-based, et cetera, but then where have you seen this differing? So the first question is, outside of the basics, creatine, caffeine, vitamin D, omega-3s, you mentioned

already, are there any other supplements that come to the top of your list of you've seen them work particularly well?

Dan Garner

Hmm.

Dr. Andy Galpin

Maybe that's in agreement with the research or maybe it's not.

Dan Garner

Mm-hmm.

Dr. Andy Galpin

But just what have you found in your experience, some other supplements that-- You mentioned ashwagandha.

Dan Garner

Yeah.

Dr. Andy Galpin

Any other ones that popped up?

Dan Garner

Yeah. I think that theanine and apigenin both work very well for sleep. I think that 200 to 400 milligrams-

Dr. Andy Galpin

Very apropos in this room to say that.

Dan Garner

Yeah. I mean, whatever.

Dr. Andy Galpin

Yeah.

Dan Garner

But the 200 to 400 milligrams of theanine and 50 milligrams of apigenin work. They just do. They're not the bludgeon hammer like having melatonin. They're just putting your body in a calm state to reduce anxiety, and it feels like it reduces, I just call it chatter. If you're someone who's a nighttime thinker, nighttime chatter, nighttime anxiety, these things just kind of help you go, "Okay, what's the 60-second review of my day?"

Dr. Andy Galpin

Yeah.

Dan Garner

Right? You allow you to calm down, truly analyze that. I think that those work well. I think that three grams of glycine is a worthwhile addition to somebody's pre-sleep stack, and it works differently. It's not upregulating melatonin or serotonin or any of that. It's actually effectively helps the body reduce its core temperature. So a lot of people don't know that. It reduces the body's core temperature by increasing blood flow from the central to the periphery. And as you obviously know, one of the things that really supports sleep quality is being a little bit colder, and glycine does that. So that's a way to improve sleep quality without trying to sedate you or also trying to just knock you out with melatonin or do something too aggressive to your circadian rhythm. So I think theanine, glycine, and apigenin all in the sleep window are worth everybody's time.

Dr. Andy Galpin

What about from energy and recovery? In those two broad categories.

Dan Garner

Mm-hmm.

Dr. Andy Galpin

And if nothing pops out, that's an equally effective answer here.

Dan Garner

Yeah, because if you do the basics well, like I talked previously-

Dr. Andy Galpin

Yeah

Dan Garner

... if you have good magnesium status or you have a good omega-3 status, your homocysteine is representing the fact that your B vitamin status is pretty well. It's a blood marker. And then if you are hugging the workout in good hydration practice and carbohydrate availability, these things are considered basic, but I also consider them well-rooted in evidence. Like they're just good to do. If you asked me, I might have a different answer another time, but the ones I want to hang my hat on right now are glycine, theanine, and apigenin.

Dr. Andy Galpin

Okay. Let's fight.

Dan Garner

Okay.

Dr. Andy Galpin

Stimulants and pre-workouts.

Dan Garner

Okay.

Dr. Andy Galpin

Give me some guidelines there.

Dan Garner

Yeah.

Dr. Andy Galpin

Which ones-- Caffeine is the obvious starter there, but there's plenty of things past that. Which ones do you feel comfortable recommending?

Dan Garner

Mm-hmm.

Dr. Andy Galpin

There's a difference here between what you will take personally-

Dan Garner

Yeah

Dr. Andy Galpin

... and what you would recommend for somebody.

Dan Garner

Normal people.

Dr. Andy Galpin

For normal people.

Dan Garner

Yeah.

Dr. Andy Galpin

So what are the rules around stimulants and pre-workouts that people should try to adhere to? And by rules, I mean the stimulant itself-

Dan Garner

Mm-hmm

Dr. Andy Galpin

... the dosage, the practices, the packaging, the combinations. Just give us your download on best practices for these things.

Dan Garner

Yeah. Okay. So first of all, caffeine works for everything. It works-

Dr. Andy Galpin

Everything.

Dan Garner

Yeah.

Dr. Andy Galpin

Cancer, pregnancy-

Dan Garner

Exactly

Dr. Andy Galpin

... fixes all of it.

Dan Garner

I mean, dude, you look at endurance, you look at strength-

Dr. Andy Galpin

Yeah

Dan Garner

... you look at power-

Dr. Andy Galpin

Right

Dan Garner

... you look at anaerobic lactic work, you look at reduced pain sensitivity. It's caffeine. It's just disclaimer, it works for everything. From a coaching perspective, I don't like a lot of it before leg day. So a lot of people, they'll do 300 milligrams-

Dr. Andy Galpin

Whoa. What?

Dan Garner

Yeah.

Dr. Andy Galpin

Really?

Dan Garner
Blasphemy, right?

Dr. Andy Galpin
Did you say that wrong?

Dan Garner
No.

Dr. Andy Galpin
You clearly said that the opposite.

Dan Garner
Yeah.

Dr. Andy Galpin
No.

Dan Garner
I think a lot of people reduce training quality that way. I really do. If you can have, say, 200, 300 milligrams of caffeine, whatever your sensitivity is, I don't care. It's not about the dose. You could do that for chest and back, shoulders, arms, this kind of thing, and the nature of those muscle groups doesn't increase your heart rate that high. But when you train legs, your heart rate goes really high, and I actually have felt, and I tell my clients, do not take a lot of caffeine before leg day because it can reduce performance because your perceived rate of exertion is way too high because of how high your heart rate is from training legs with that much caffeine.

Dr. Andy Galpin
It's throw-up city for me.

Dan Garner
Yeah.

Dr. Andy Galpin
It's 100% guarantee I will throw up.

Dan Garner
Yep. And people just, they're tired sooner.

Dr. Andy Galpin
Yeah.

Dan Garner
And that's the thing. That'll happen, man. Like lots of times, if you are squatting, there's a lot of

times where your cardiovascular system is why you're failing and not your quads-

Dr. Andy Galpin

Yeah

Dan Garner

... or your glutes.

Dr. Andy Galpin

Yeah.

Dan Garner

Like you're tired.

Dr. Andy Galpin

I can't not throw up. That's what it is.

Dan Garner

And a lot of it is da, da, da, da, da. I don't like a lot of caffeine before leg day. You're going to centrally fatigue before your muscles fatigue.

Dr. Andy Galpin

Yeah.

Dan Garner

So the stimulus actually has nothing to do with your legs now, even though it's leg day.

Dr. Andy Galpin

You're going to overcook.

Dan Garner

Yeah.

Dr. Andy Galpin

And you won't realize it until it's too late.

Dan Garner

Yeah.

Dr. Andy Galpin

You're a toddler who doesn't realize you're super hungry and hot.

Dan Garner

Yeah.

Dr. Andy Galpin

And then it's too late.

Dan Garner

And then-

Dr. Andy Galpin

Yeah

Dan Garner

... the cycle of that is like, "Oh, I didn't perform well again. I should take more next time. I should take more next time." And that's actually the reason why you're not performing well.

Dr. Andy Galpin

And that's why you get 1,000 milligrams of a hit before you go next time.

Dan Garner

Yeah.

Dr. Andy Galpin

And-

Dan Garner

And your legs aren't growing. So.

Dr. Andy Galpin

Okay. That was really helpful. I don't know if I've ever heard anybody say that. What about different types? Which ones do you like, again?

Dan Garner

For caffeine?

Dr. Andy Galpin

No, even past caffeine.

Dan Garner

Oh, yeah.

Dr. Andy Galpin

Other things in a pre-workout.

Dan Garner

Well, I think it's important to think back to concepts, because for an ingredient to be considered a pre-workout ingredient, it needs to be active and efficacious within the pre-workout window. So, you'll see creatine monohydrate, phenomenal supplement. It is considered a foundational, I think

a lot of people should be on it. It's not a pre-workout ingredient. It's not. The benefits from creatine come from muscle saturation of creatine increasing phosphocreatine storage and availability for when you want to use it. It's not effective in the pre-workout window. That comes from long-term saturation. So that's not a pre-workout ingredient. Beta-alanine, exact same thing. Beta-alanine increases carnosine storage, which helps improve your ability to handle metabolic byproducts. Doesn't do that in a pre-workout window. That is another storage and saturation type of thing. So you'll see creatine and beta-alanine in a lot of pre-workout products that make your pre-workout more expensive, but it's not actually efficacious in the pre-workout window.

Dr. Andy Galpin

In the case of beta-alanine, you will feel something.

Dan Garner

Yeah.

Dr. Andy Galpin

Which is a big part of the marketing ploy. Like we all want to feel something.

Dan Garner

You'll feel it. Yeah.

Dr. Andy Galpin

Yeah.

Dan Garner

You'll feel it, but it's not actually mechanistically effective in that time.

Dr. Andy Galpin

Which is not to say it is harmful or bad to take pre-workout, but the point you're making is it's not independently beneficial taking it pre-workout.

Dan Garner

Correct.

Dr. Andy Galpin

You could've taken it at any point.

Dan Garner

Yes.

Dr. Andy Galpin

And it wouldn't have mattered.

Dan Garner

But citrulline is. So citrulline is something that increases blood flow in the pre-workout window. Six to eight grams of citrulline with your caffeine in the pre-workout window, those are both effective. And I know I said theanine before bed last time, but theanine helps offset a lot of the overstimulation from caffeine. So people who do get too stimulated from it but want the benefits of it can stack theanine at like a two to one ratio. So if you're going to have 100 milligrams of caffeine, have 200 milligrams of theanine. If you-

Dr. Andy Galpin

Oh, two to one that way.

Dan Garner

Yes. Yeah. Go up that. I like it the opposite. I know some people say in the other direction. I don't. I think that kind of leads you to a path where you're going to be having too much, and the balance just doesn't seem to work in my practice. But I like theanine, I like caffeine, I like citrulline, all in the pre-workout window. A lot of people don't know, there's something called capsaicin, which-

Dr. Andy Galpin

Oh, sure.

Dan Garner

Yeah.

Dr. Andy Galpin

Yeah.

Dan Garner

That's effective in a pre-workout window.

Dr. Andy Galpin

Yeah. That actually makes sense.

Dan Garner

And it's effective in reducing pain perception.

Dr. Andy Galpin

Yeah.

Dan Garner

Yeah. So your ability to perceive pain is reduced, so therefore, you can go further in your training.

Dr. Andy Galpin

Yeah.

Dan Garner

So it's like a weird stack, but everybody else is throwing in a lot of things in there that either, A, don't have a lot of evidence, or B, aren't actually pre-workout ingredients. And if you were just well-fed and your glycogen was stored, and then you get some increased blood flow and some increased cognitive and neurological benefits from the caffeine and theanine, some reduced pain perception from the wild capsaicin, that actually has meta-analysis data on it, then you're in a good spot.

Dr. Andy Galpin

Nootropics? Into that cocktail at all?

Dan Garner

Nootropics based on your own experiments and your own internal, like a N equals one feedback, because you have, there's some research on pre-workout caffeine, and it connected to growth hormone and stuff. But I think that a lot of that is just silly. It's just within a physiological range to act like that's going to mean something in the end is, I think, crazy. But it does make a lot of people feel more focused. So I'll actually use alpha-GPC in the pre-workout window if someone lacks mind-muscle connection. That's when it makes more sense. So we're not going to do it for your running workout, but if you have a real hard time connecting with your delts, I think 300 to 900 milligrams of alpha GPC, which is a lot, but-

Dr. Andy Galpin

Yeah

Dan Garner

... typically what I've seen in practice, another thing you won't find in research, 900's typically the ceiling, and 1,200 sends people to the bathroom.

Dr. Andy Galpin

Yeah. Oh, yeah.

Dan Garner

But you could work with your dose, three, six, nine is typically where you're going to roll, and that's great to improve cognition and mind-muscle connection in that window.

Dr. Andy Galpin

Are you altering the citrulline, caffeine, or beta-alanine, or anything else based upon the type of training? Outside of the obvious, if you're going to do a 30-minute recovery cycle, my assumption is you're not taking anything.

Dan Garner

Nah, nothing. Yeah, nothing.

Dr. Andy Galpin

But do you like to tinker with those things, based upon what you're trying to get out of the session? Or for the most part, do you find outside of the one also example you gave of like, "Hey, don't maybe ceiling these things on a leg day"?

Dan Garner

Yeah.

Dr. Andy Galpin

Is there any other-

Dan Garner

Nah. It's pretty applicable.

Dr. Andy Galpin

Yeah.

Dan Garner

It's pretty applicable to if it's going to be endurance, blood flow, and some mild stimulation's going to help. I think the one I would remove is the nootropic side of things.

Dr. Andy Galpin

Yeah.

Dan Garner

The nootropic is the one that I probably would remove. It's fun sometimes to have a nootropic before cardio, if you want to listen to podcasts and be dialed in. That's just a for-fun one. That's just not what you're going to read in any type of study or something like that. But yeah, I think that they're pretty applicable stimulus wide. You said before, recovery session. I actually want to get something out.

Dan Garner

One thing that I do to improve the recovery of my clients is I give them a recovery menu instead of a recovery prescription. So, as since adherence is the number one thing that drives results, and nobody gets results unless they recover, then you need to be adherent to your recovery protocol. But people usually treat recovery as separate from the program, but I want recovery as part of the program. Your recovery session is as important as your chest and back day. Your recovery session is as important as your leg day. These are a part of the program, and skipping your recovery is skipping a day in the gym. You need to treat it like that. And most people skip recovery. So the way in which I like to program for recovery is I give them a menu, and then they

can choose which modality they want to do that day. So on that menu will be a mobility session, it will be meditation, it will be go for a walk in nature, it will be do breathwork.

Dan Garner

And what I've found is people are way more adherent to the recovery side of the equation because they're not doing something that they don't want to do. And you don't get recovery from doing something you don't want to do anyways.

Dr. Andy Galpin

Yeah.

Dan Garner

Because if I'm sitting there and I'm trying to meditate, and I'm like, "I don't want to meditate right now. This is ridiculous." You're not recovering.

Dr. Andy Galpin

No.

Dan Garner

You're not. You're mad. You sat down and got mad for 15 minutes and wanted to get back to work. But if you have something to choose from that you want to do that will get you in a parasympathetic state, that menu way enhances recovery because it's adherable.

Dr. Andy Galpin

Are you prescribing one of those per session? So I want one recovery session every day we train or is it less?

Dan Garner

Way less. In my world, I'll just do one on your non-training days.

Dr. Andy Galpin

Okay.

Dan Garner

Just way less, yeah.

Dr. Andy Galpin

Yeah. One thing you're asking for.

Dan Garner

Yeah. I get adjacent recovery sort of by doing step counts. So I get people moving, I get blood flow, I get them not sitting for long periods of time. So on training days or non-training days, you're hitting your step count. So even on the training days, there's something happening there, but I really just want you to get your training done and leave, do your directed adaptation, and

then on the non-training days, pick one on the recovery menu.

Dr. Andy Galpin

Great.

Dan Garner

If I try to do more than that, people just don't really do it.

Dr. Andy Galpin

Yeah. It's a tough one.

Dan Garner

Yeah.

Dr. Andy Galpin

Yeah. I guess in that example, one is better than zero.

Dan Garner

Yes.

Dr. Andy Galpin

Because if you don't, you're just going to get none.

Dan Garner

Yep.

Dr. Andy Galpin

So unrealistic. You've been really kind here sharing your thoughts on things that are potentially outside of the evidence-based window, right? Both as a practitioner and just tinkering with what works and all that stuff.

Dan Garner

Yeah.

Dr. Andy Galpin

Can I push you a little further?

Dan Garner

Let's do it.

Dr. Andy Galpin

All right. I won't hold you to the scientific evidence here, but peptides, these are encroaching on the performance world, right?

Dan Garner

Oh, yeah.

Dr. Andy Galpin

Everyone is aware.

Dr. Andy Galpin

If you're a professional athlete or under any sort of testing like that, most likely the common classic peptides that we hear of are a no-go for us.

Dan Garner

Mm-hmm.

Dr. Andy Galpin

Legally.

Dan Garner

Mm-hmm.

Dr. Andy Galpin

Theoretically. Outside of that, there's a whole different ballgame.

Dan Garner

Yeah.

Dr. Andy Galpin

So how are you currently thinking about some of these classic peptides? And we'll start maybe in the professional realm and then venture into the where you can use them.

Dan Garner

Mm-hmm.

Dr. Andy Galpin

I won't call that legally, but we'll say it's not against the sports rules because they're not playing a sport-

Dan Garner

Yeah

Dr. Andy Galpin

... over there. I assume your athletes are asking you about peptides, and my assumption is that's the actual question. Like, "Yo, man, what's with these peptides?"

Dan Garner

"What about this? What about that?" And it's not just athletes, it's everybody.

Dr. Andy Galpin

What kind of questions are you being asked, and how are you handling those?

Dan Garner

It is open-ended, like, "Peptides, heard about this on a podcast. What you think?" And it's from people, like my dad has asked me that.

Dr. Andy Galpin

Yeah.

Dan Garner

Dude, it's not just athletes.

Dr. Andy Galpin

Yeah.

Dan Garner

Everybody knows about peptides now. So I think it's actually prudent of a coach to learn about them because as much as you think it's malpractice to prescribe them, which it is, I think it's also malpractice to blindfold yourself and ignore your client if they're choosing to do it. There's some sort of surveillance process that has to take place and some sort of knowledge that is you are behooved to learn more about this stuff because it's coming to you from the people you care about. We've been in areas like this before where a new thing is hitting the industry and it's very powerful and a lot of people are screwing themselves up. There's about 15, no longer, at least 15 years ago when prohormones hit the market. And a prohormone isn't an actual hormone from a molecular perspective, so then it wasn't technically illegal to sell. So you were having real prohormones on the shelves of supplement stores that teenagers could buy, that anybody could buy.

Dr. Andy Galpin

My friend at 15 was buying Andro.

Dan Garner

Yeah.

Dr. Andy Galpin

He had no idea. It's just like, "I bought creatine, then I got this other thing, androstenedione, something," and I'm like-

Dan Garner

Yeah. Androstenedione.

Dr. Andy Galpin

How would we know? We had no way to know that. GMC just straight up got it.

Dan Garner

Yeah. M1T, methyl-1-testosterone.

Dr. Andy Galpin

Yeah.

Dan Garner

So what a prohormone is for the listeners that don't know is it's not molecularly a hormone in the bottle, but then it converts to one in your body.

Dr. Andy Galpin

Yep.

Dan Garner

So that means it's legal to sell because they never wrote down that it's illegal to sell something that is the thing, but then it converts to the thing in your body. These were very liver toxic. They were very powerful. They're selling them to anybody.

Dr. Andy Galpin

You can still do this.

Dan Garner

Yeah.

Dr. Andy Galpin

There are ones in the market right now.

Dan Garner

Yeah.

Dr. Andy Galpin

For the most part, you can buy DHEA.

Dan Garner

Yeah. Well, you can get... Oh, DHEA.

Dr. Andy Galpin

DHEA.

Dan Garner

DHEA. Yeah.

Dr. Andy Galpin

Okay.

Dan Garner

You can get DHEA. Oh, that's a good point.

Dr. Andy Galpin

Right. Like, did you just-

Dan Garner

DHEA is powerful

Dr. Andy Galpin

... that's a pro hormone right now that you do not need an RX for.

Dan Garner

Yeah.

Dr. Andy Galpin

Like, it's right there.

Dan Garner

You can just get it.

Dr. Andy Galpin

Yeah.

Dan Garner

Yeah.

Dr. Andy Galpin

Okay, great. Go ahead.

Dan Garner

Yeah, it is powerful.

Dr. Andy Galpin

Yeah.

Dan Garner

But yeah, dude, so we need to learn from the past. That happened in our lifespan. A lot of people had medical emergencies, and a lot of changes, and a lot of regulations came into play, and now almost all of them are gone.

Dr. Andy Galpin

Yeah.

Dan Garner

Those ones that are extremely, they're gone. They're still available in the underground, but they are gone from the overground. And so learning from them, like, yo, if there's one thing we should probably learn from this phase of time, it's patience. Let's just see what happens. Let's be patient. A lot of these things aren't controlled. They're clearly powerful, but we don't know what's happening with them in a lot of ways. So me as a coach, I need to learn about this stuff, A, to see if it's safe, or B, if it's worth doing. Depending on the situation and the context, and that client's risk assessment-

Dr. Andy Galpin

Yeah

Dan Garner

... maybe they don't care at all, then you should know these things. But knowing them kind of unfolds concepts. You should, A, understand mechanism, and B, measure and adjust accordingly.

Dr. Andy Galpin

Yeah.

Dan Garner

Like, mechanistic language and being able to measure what's happening inside the body are the two things that need to be at the front of your mind. And I think the compound called SS-31 is a good example of something that sounds amazing that probably isn't. So SS-31, and it sounds amazing because it has real clinical data in humans and a known mechanism. Dude, if you want to really excite a biohacker, tell them it's got real human clinical data, it has a known mechanism, and then just whisper the word mitochondria.

Dan Garner

Mitochondria. And they're like, "Oh, what?"

Dr. Andy Galpin

Yeah. Yeah.

Dan Garner

Dude, nothing gets them more pumped up than something about mitochondria that is human data. What the... Yo, that's all I need to know.

Dr. Andy Galpin

People already just stopped and they're buying.

Dan Garner
Dude. Yeah.

Dr. Andy Galpin
Like, I don't care what this dude's about to say, I'm in.

Dan Garner
Oh, yeah.

Dr. Andy Galpin
Yeah.

Dan Garner
But here's the deal. You go into this research, and it's medically approved, so it's like, whoa. And what's it medically approved for? Barth syndrome and mitochondrial myopathy. So what SS-31 does, SS-31 stabilizes something called cardiolipin inside of mitochondria. And this stuff really matters. There's not just mitochondria in your body. The size matters, the membrane health matters, the stability of the electron transport chain matters. These things all really matter. And cardiolipin plays a really important role in the stability of the electron transport chain. That cardiolipin and the stability of the electron transport chain becomes completely destabilized if you have Barth syndrome. Barth syndrome is a genetic mutation in something called TAZ. You have a TAZ mutation that destabilizes your mitochondria. SS-31 goes in there and legitimately stabilizes it.

Dr. Andy Galpin
Yeah.

Dan Garner
That's precision medicine, okay?

Dr. Andy Galpin
So the human research is in those medical conditions.

Dan Garner
It's in medical conditions. And then if you look at the rat research on it, there's actually performance improvement. Now, it's funny, if you look at the rat research, this is awesome. So the rat research, there's fatigue resistance benefits. There's all-out endurance benefits. You're getting these real benefits in rats, and then even when you read the rat research, it was only beneficial for older rats, but not in young muscle.

Dr. Andy Galpin
Interesting.

Dan Garner

So those things that are quoted, it had no effect in young muscle, even of rats. And then you bring it into the human world, and it's very effective at improving mitochondrial stability, ATP production in people with Barth syndrome.

Dr. Andy Galpin

That's great.

Dan Garner

But that's different than saying, will a healthy, active person improve endurance from this, improve VO2 max? That's a completely different question. And in the human world, there is zero performance data. Not even one. We have human clinical data, we have a known mechanism, and we have a thing that's really sexy to talk about with absolutely zero performance data outputs from it. So we don't have this endurance bump. We don't have this VO2. We don't have these things that you can connect mitochondria to if you just stay in the world of the mechanism. One of the scariest things in this industry is a charismatic mechanism guy. Man, that is someone who's pretty dangerous in a lot of ways because he'll talk all about the mechanism, but then when it comes to peptide, you're like, "Okay, it does this mitochondrial effect. For who? At what dose? What does that mean? And relative to what?" Because something else that improves mitochondrial health is aerobic exercise, anaerobic exercise, substrate availability.

Dr. Andy Galpin

Totally.

Dan Garner

The boring stuff that does this, but it's not an amazing cardiolipin stabilizer with this known mechanism. So then I'm looking at this, and I see this mechanism, and I see this data, and then I'm like, how am I watching a 60-second Instagram video of a guy going bananas about this stuff?

Dr. Andy Galpin

Yeah.

Dan Garner

That's crazy to me. And I think all the way back, too, like, okay, this guy came to me with an endurance goal.

Dan Garner

Was his constraint destabilized cardiolipin? Or did he need to sleep better, reduce his stress, improve substrate availability, improve training quality? It's almost certain that he didn't go to the gym that day and went, "Ugh, cardiolipin's messed up today." "Man, I just wish there was a solution." It's just not there.

Dr. Andy Galpin

Yeah.

Dan Garner

Okay? So understanding a mechanism and then understanding where it applies is so important to understand concepts. The concept overhead is understand the mechanism, and then if that person's going to do it anyway, you should know about it. But we're going to know about it by doing blood work.

Dr. Andy Galpin

Yeah.

Dan Garner

So that is- Surveillance. I want to measure what's happening to keep you safe. If you're going to do this no matter what, and hey, I want to measure this if something cool happens.

Dr. Andy Galpin

Yeah. Totally.

Dan Garner

Maybe something cool happens in the end.

Dr. Andy Galpin

Yeah, you signed a waiver. Go ahead. Yeah. I'm in.

Dan Garner

Yeah, exactly. You made this decision, dude.

Dr. Andy Galpin

Yeah.

Dan Garner

I just want to make sure that we know what's happening.

Dr. Andy Galpin

Yeah.

Dan Garner

So it's just one example of a framework for people to have, and it's not to say all peptides are bad. There's some out there that actually I've seen work well in the scene. But that is one where I think acts as a good teaching tool for a framework that people can use moving forward.

Dr. Andy Galpin

As far as I understand, we have very limited health and safety data on SS-31 as well. We don't

even know.

Dan Garner

Yeah.

Dr. Andy Galpin

So it could be totally fine. Could be inert. We have no idea.

Dan Garner

Yeah.

Dr. Andy Galpin

That's the risk you're running there. As comfortable as you are behind the scenes-

Dan Garner

Mm-hmm

Dr. Andy Galpin

... from the industry, not you per se, but from the industry-

Dan Garner

Yeah

Dr. Andy Galpin

... what other ones have you been hearing, seeing, that you're more optimistic about, that maybe don't have... Because for the most part, people know the status of peptides. They know the lack of research.

Dan Garner

Yes.

Dr. Andy Galpin

Great. Got it.

Dan Garner

Okay. Yeah.

Dr. Andy Galpin

But just what are you hearing? Which ones are you like, "Hmm, maybe there's something here." People are tend to talking about it more, it seems all anecdotal data-

Dan Garner

Mm-hmm

Dr. Andy Galpin

... which is not how we do science.

Dan Garner

Yeah.

Dr. Andy Galpin

But that said.

Dan Garner

Thank you for all of the disclaimers. Some people will still not take those into consideration.

Dr. Andy Galpin

Understood. And we'll still get in trouble for this, but go ahead.

Dan Garner

Yeah. Well, let's do it. MOTS-c. I have seen people get a positive benefit from that without a reduction in their blood work, from a health perspective. And what's happening with MOTS-c is, again, you're back into the mitochondria, you're back into the electron transport chain, and I think that there's probably else something valuable to learn here. So for the users that aren't familiar, because Andy is familiar with the electron transport chain, you've got this tube that looks something like this, and then this tube produces ATP, produces energy out this side of it. Now, a lot of cool stuff happens in here, okay? We want to drive fatty acid substrates into here and metabolize into here in order to get ATP and get energy out on that end. Now, I'm going to explain the mechanism here because it's really important to teach a couple of things in the end. All right? So electron transport chain, substrates coming in.

Dan Garner

NAD⁺, which a lot of people take-

Dr. Andy Galpin

Yep

Dan Garner

... NAD⁺ is like this fuel injector that kicks this process off. That's where it lives and exists. In order for this process to happen effectively, we need vitamin B3, B6, B9, and B12, and we also need iron and magnesium. Okay? So now we've got our substrates, we've got NAD⁺ kicking this process off. We need B3, 6, 9, 12, magnesium, and iron for something to smoothly go through here, and the vehicle that's going to take this process through is CoQ10. So a lot of people are familiar with CoQ10, with the B vitamins, magnesium, iron, with NAD⁺. They're familiar with these things. This is where they're going to live in the electron transport chain. Okay? On top of this is this master switch called AMPK. You're going to turn AMPK on and you're going to

activate this electron transport chain. You're going to activate this process. MOTS-c activates AMPK. So that's where that lives. With MOTS-c, you are turning on this AMPK.

Dan Garner

This AMPK then is going to shuttle more substrates than they otherwise would have. NAD is going to process this fuel injection thing to go through. B3, 6, 9, 12, iron, magnesium, going out the other end, more energy, more substrate use, and improved blood sugar control, improved performance. A lot of these things are happening in the underground world of it. But something to learn from that is number one, if you hear people talk about MOTS-c, they'll say, "Take pre-workout. It's dope." Okay. There's the worst advice in the peptide world.

Dr. Andy Galpin

Yeah.

Dan Garner

It's like, and then you'd be like, "Oh, what does it do?" "Oh, it increases your energy." "But how?" "Yeah. Just really increases your energy. Try it."

Dr. Andy Galpin

Yeah.

Dan Garner

"Dude, try it."

Dr. Andy Galpin

Yeah.

Dan Garner

You don't even know what it does.

Dr. Andy Galpin

Yeah.

Dan Garner

Dude.

Dr. Andy Galpin

Yeah.

Dan Garner

Lord, help me. So you get crazy advice, but that is the mechanism at which this thing actually flows through. But then it also, that is a good, clean example of why you talk to one person, "I tried this peptide and it didn't do anything for me."

Dr. Andy Galpin

Mm.

Dan Garner

You talk to another person-

Dr. Andy Galpin

Yeah

Dan Garner

... and it worked wonders. Well, this MOTS-c was actually one step. You still needed B3, 6, 9, and 12.

Dr. Andy Galpin

Right.

Dan Garner

You still needed iron, magnesium. You still needed all these. So if one thing works a little bit better for one person than another, and it's because you can't out-peptide a bad diet.

Dr. Andy Galpin

Yeah.

Dan Garner

You can't out-hormone a bad diet. You're never going to cheat physiology. Physiology gives away no free lunches. We know this. Okay? So these things need to be present in order to actually optimize the thing that you're doing.

Dr. Andy Galpin

Yeah. This is very similar to the story of things like carnitine-

Dan Garner

Mm-hmm

Dr. Andy Galpin

... as a supplement.

Dan Garner

Mm-hmm.

Dr. Andy Galpin

So in theory, carnitine is a rate-limiting step towards fat oxidation.

Dan Garner

Mm-hmm.

Dr. Andy Galpin

That said, if you're trying to ramp up fat oxidation via any other mechanism, but you're always consistently gated by carnitine-

Dan Garner

Yeah

Dr. Andy Galpin

... then those things will, but then that same pre-workout or whatever fat mobilization strategy you have in somebody who's not limited in their carnitine will see a huge effect.

Dan Garner

Mm-hmm.

Dr. Andy Galpin

Same exact scenario here, right? Where if that is actually not the rate-limiting step, then you'll see this mix of results because there's some people who have that or who don't, will see benefit or not, right? AMPK being a master energy regulation switch-

Dan Garner

Mm-hmm

Dr. Andy Galpin

...

Dr. Andy Galpin

easily ramped up with any form of exercise.

Dan Garner

Mm-hmm.

Dr. Andy Galpin

Easily ramped up with a thousand other things.

Dan Garner

You don't need peptides to do these things.

Dr. Andy Galpin

Nutrition, it's what it's paying attention. It's literally trying to adjust energy regulation. That's the thing it does and pays attention to. So- Another example of something we could probably do an entire set of podcasts on.

Dan Garner

Yeah. Retatrutide is out there. There's a lot of-

Dr. Andy Galpin

All right. Okay, I can't. Give me some thoughts on Retta.

Dan Garner

That's the one that's coming in hot-

Dr. Andy Galpin

Yeah

Dan Garner

... and it's coming in with the data that you want to see on it.

Dr. Andy Galpin

Yeah.

Dan Garner

There's history to it. Like, you first came out with GLP-1, glucagon-like peptide 1, and that's Ozempic.

Dr. Andy Galpin

Yeah.

Dan Garner

So that was the one that's just hammering appetite suppression, hammering it. And then the progression from that was your GLP-2, which is your tirzepatide, and now you're getting your GLP and your GIP. So you're attacking appetite suppression through two different ways now. You're talking to the hypothalamus to increase satiation, but then you're also reducing rate of gastric clearance. So food's actually just sitting there longer, which signals satiation.

Dr. Andy Galpin

Yeah.

Dan Garner

So you get these two, this is the progression. And now GLP-3, which is retatrutide, that is the latest evolution of this, where now it's glucagon has been added.

Dr. Andy Galpin

Yeah.

Dan Garner

And glucagon, that's the only one now that actually increases energy expenditure.

Dr. Andy Galpin

It's like the inverse of insulin.

Dan Garner

Yes.

Dr. Andy Galpin

It's like the exact opposite, virtually.

Dan Garner

So you're increasing energy expenditure, and in human data, it's been demonstrated to reduce liver fat up to 83%.

Dr. Andy Galpin

Right.

Dan Garner

So this is one where, that's the sleeping giant right now that's going to be approved and regulated, and that's the one. But like the history from GLP-1, GLP-2, to GLP-3 and Retta, that's what you want to see. It's not like some more underground, less proven stuff that-

Dr. Andy Galpin

Montse.

Dan Garner

Yeah. Exactly.

Dr. Andy Galpin

Yeah.

Dan Garner

So I've just been seeing that in the scene work for a lot of people, and I think a lot of people will be interested in the Montse thing. The Retta, where I see it going is a little bit, dare I say, more obvious. I think that one, the data is moving in the direction that people want to see done, actual trials that people want to see done, and it's probably something we'll see more heavily regulated in the very near future, and not just on random pharmacies online.

Dr. Andy Galpin

There's a non-zero chance that thing really explodes.

Dan Garner

Yeah.

Dr. Andy Galpin

Like, as a very standard form of care-

Dan Garner

Yeah

Dr. Andy Galpin

... even in the evidence-based conservative crowd, that's reasonable. We're not there-

Dan Garner

Yeah

Dr. Andy Galpin

... yet. The real risk of all this is that it has negative side effects on things you can't quantify.

Dan Garner

Yes.

Dr. Andy Galpin

That's the problem. So the worst scenario is you just take it and see. A better approach is take it, at least measure something. Measure your resting heart rate, measure blood work.

Dan Garner

Mm-hmm.

Dr. Andy Galpin

Past that, though, is we still have to acknowledge the things we don't even know to measure.

Dan Garner

Right. Just because one mechanism happens here, it doesn't mean another mechanism doesn't happen over here.

Dr. Andy Galpin

And we don't know. Like, if you don't know to measure it, we don't know. And that's the reality of most of these things. We actually don't know where the side effects will go.

Dan Garner

Mm-hmm.

Dr. Andy Galpin

Therefore, we don't even know what to watch-

Dan Garner

Right

Dr. Andy Galpin

... or measure. And that has to be acknowledged as a genuine risk.

Dan Garner

Mm.

Dr. Andy Galpin

And if we pay any attention to human history, it's a guarantee one of these will land with a really big risk.

Dan Garner

Yeah.

Dr. Andy Galpin

It's going to be there.

Dan Garner

Yep.

Dr. Andy Galpin

It's always happened.

Dan Garner

Yep.

Dr. Andy Galpin

We just don't know which one and where that's going to be.

Dan Garner

Nope.

Dr. Andy Galpin

Buyer beware.

Dan Garner

That's your own risk. I recommend learning the mechanisms.

Dr. Andy Galpin

Yeah.

Dan Garner

I recommend learning the doses. I recommend measuring every step of the way, everything that you can. But ultimately, I'm glad you said all that, because the risk onus is on someone else. So I'm just trying to educate people on what I think are modern and popular topics that probably need a little bit of more conceptual knowledge added to it, instead of people just saying to go get it.

Dr. Andy Galpin

Well, people are talking, so you have to have a discussion, or else we're all living in the dark, which is worse.

Dan Garner

Yeah.

Dr. Andy Galpin

Because then the people are forced to make decisions with less information.

Dan Garner

Mm-hmm.

Dr. Andy Galpin

So I think sunlight is the best disinfectant-

Dan Garner

Yeah

Dr. Andy Galpin

... in that particular case. So, man, you've been incredibly gracious. We covered a lot of stuff. I pulled you in tons of directions, which is a difficult thing to do, to cover this many topics in one sitting, at a both a really science and evidence-based level, as well as just so many practical take-home tips and strategies and useful information. I can't thank you enough for coming all the way out here, for sitting in the chair. Long overdue.

Dan Garner

Yeah.

Dr. Andy Galpin

And it's just so great to have you here.

Dan Garner

Thank you, brother. This is a blast.

Dr. Andy Galpin

Thank you for joining for today's episode. My goal, as always, is to share exciting scientific insights that help you perform at your best. If the show resonates with you and you want to help ensure this information remains free and accessible to anyone in the world, there are a few ways that you can support. First, you can subscribe to the show on YouTube, Spotify, and Apple. And on Apple and Spotify, you can leave us up to a five-star review. Subscribing and leaving a review really does help us a lot. Also, please check out our sponsors. The show would not exist without them and their exceptional products and services. Finally, you can share today's episode with a

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Dr. Andy Galpin

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