

Everything You Need to Know About Managing Fatigue

Steve: [00:00:00] you're at mile 21 of the marathon, your brain is screaming at you to stop. It's saying, what in the world are you doing? Go dip into the aid station and never come back. But then if you make it through a couple miles later, all of a sudden you get this jolt of energy. It's like you were on death's doorstep, but somehow you're picking up the pace.

Somehow you're finishing strong. How in the world does that happen? Well, it's in our brain. And today we're gonna talk about fatigue and how it applies not just to the marathon, but any activity that requires you to endure. This is excellence. Actually. I'm Steve Magnus, joined as always by Clay Skipper and Brad Stolberg.

Brad: The concept of enduring feels particularly timely. Let me take you back just a little over two weeks ago. It's the Ironman World Championships on the big island of [00:01:00] Hawaii at mile 17 of the race, the leading athlete is a British woman named Lucy Charles Barclay at the time, she's got a lead of about a minute now, a minute lead at that level that deep into the race.

Mile 17 of the marathon, only 10 miles left to go, not even nine and a half. It's a pretty good lead. Lucy Charles Barclay dropped out of the race. It's not often that you get a leader dropping out of a race. Why? Because the heat, the conditions of Kona, how hard she'd been pushing herself. She succumbed to fatigue. Fast forward to mile 24 of the race, less than two miles remaining. Taylor Nib was now on the lead by over a minute. Taylor Nib is an American. She's a phenomenal cyclist. She's been working on her run. It looks like she is going to be the first American woman to claim the world championship since Chelsea Sed. This is a huge deal. A lead of over one minute for a world championship, that caliber athlete in a marathon should be untouchable. [00:02:00] And then Taylor gets to the aid station shortly after mile 24 and you see her start to swerve and the next thing you know she is on the opposite side of the road from the aid station sitting down.

Not sure how she got there. Taylor Nib drops out of the race at mile 24 with over a one minute lead gives up the world championship. So we had two leaders, two of the best athletes in the entire world at long course and endurance racing drop out of a race due to their fatigue. So we often think that fatigue is

simple, that it's easy to manage, but it's not. There are layers and layers and sometimes it creeps up and gets even the best of us.

Clay: Yeah, I wanna hop in and add just a little bit more context here. 'cause I think we can think of this as having two sides to it. So I think on the one hand, people who are maybe new to endurance or sports that involve what a fatigue. They aren't as familiar with the, the nuances of fatigue. This is something Steve, you talk about a lot, right?

You have to get to learn to know your fatigue so you can know [00:03:00] when you hear that fatigue alarm, whether or not you need to listen to it, sort of regulate it or, uh, ignore it entirely, right? And when you, the, the way to make this concrete is like if you get off the couch and you go try to run a 5K, you sort of have being on the couch and running and so your alarm goes off and it's like, oh my God, what am I doing?

What am I doing? I gotta shut down. And as you run more and you get more familiar with what it feels like when you get tired, then you can sort of like navigate that fatigue. And that's, that's awesome. 'cause that's how you get to a place of mastering, learning more about your body and learning more about your craft.

On the flip side of the spectrum, I think this triathlon is a great example of it. You can. Basically go full, send and go too hard and not know when to listen to your fatigue. Or maybe you've gotten so good at, at, um, navigating your fatigue that you push the accelerator of the gas a little too hard and then you burn out, you're exhausted, you're injured, right?

So it's like how do we figure out how to make friends with our fatigue but not do it so much that we overdo it?

Steve: Let's go into some science and nerd out and explain some topics real quick. So [00:04:00] when it comes to fatigue, we often think of it like exercise scientists did for almost a century where we said, oh, we run out of gas. Our muscles run out of carbohydrates. We shut down. We can't do anything. We build up too many acidic byproducts.

Our muscles say, Hey, I can't function anymore. We shut down. We can't do anything. We used to think fatigue was like a brick wall. Gas tank is empty.

You're done. it's not that simple. Our current understanding is this, is that essentially our brain is protective. And what I mean by that is it is assessing where we are and utilizing those signals to say, Hey. We might not be able to keep this pace and keep going. It's almost like the, the, the fuel light on in your car that comes on and [00:05:00] says like, Hey, you've got 30 miles till empty, 20 miles to empty, 10 miles to empty. And then you get to zero when you're not actually at empty because the car manufacturers realize you're an idiot and they build in a buffer. We have the same, we have a buffer. The problem is we have no idea where that buffer is and like when we're actually close to empty, I'm gonna give you a quick history lesson on how we understood this. Back in the 1990s, Tim Noakes came up with the central Governor theory, he took individuals, had them go to the absolute well until they were falling apart and looked like they had nothing left, and they shocked their muscle. And guess what? It still worked. They still had fuel. Left. What nos came up with is essentially our brain is protecting us from being stupid. It's saying, if we keep going, you're going to cause damage. Depending on that activity, it could be damaged to your heart, it [00:06:00] could be damaged to the muscle, and it's saying, I'm going to shut you down before you do something stupid. In the triathlon example we gave us is those athletes were pushing so close to the well that eventually their brain goes, no, no. If you keep going, we're in serious trouble. We're gonna make you fall to the ground so that you recover, hopefully get some sugar and fuel and cannot damage yourself.

Brad: The biggest, most important takeaway from that theory for you, the listener, the viewer, is that fatigue is not peripheral fatigue does not happen in the muscle.

Fatigue happens in the brain. It's the brain getting messages from the muscle. It's protecting the body. Now, what's fascinating is that. Since NOS came up with that theory, another wonderful physiology researcher, an Italian named Samueli Marcora said that it's not so simple. It's not just that we have a governor, it's that that governor is constantly weighing how hard something feels versus our [00:07:00] motivation to do it. So in science term, it's called RPE, or rate of perceived exertion against motivation. So for example, if I am sprinting barefoot across my neighborhood to go get a penny on the ground, I'm going to slow down when it starts to hurt my feet and when I get tired. However, if. A bear is attacking my daughter down the street and I am sprinting barefoot in my neighborhood.

I am not going to slow down. I have the same sensations in my body, but when I'm chasing the penny, my motivation to get it is very low. It's just a penny. If my daughter is being attacked by a bear, my motivation is extreme. This sounds extreme, this sounds a little bit crazy, but it explains what physiology researchers call acts of superhuman strength or acts of superhuman endurance. These are stories and they're very well documented. When somebody gets stuck under a car or someone gets jammed in between two logs and a person, generally a friend, a parent, someone that is related to them, [00:08:00] comes over and is able to lift the car to dislodge the limb or undo the log jam. Why? Because the motivation to save someone that they love is so astronomically high that whatever switch in their brain would normally tell them, you are going to hurt yourself and throw out your back.

Stop. It goes off, it goes black, and they can do this act of superhuman strength.

Steve: So what we have here is this understanding that we always do have more in this sense, David Goggins is correct. You have more to give. There is more in that muscle to give, but we have a sophisticated brain that essentially at first kind of nudges and begs you to slow down and then if you don't listen, eventually it says, Hey. It's not listening, let's just shut 'em down, shut those muscles down from moving. Because the brain's like, forget it, you're done. You're not listening to me. You're not hearing [00:09:00] the warnings. The good news for us who are listening is this, is that we get to modulate or modify how close we get to fatigue. As clay mentioned at the at the start, we can train that alarm. We can understand those signals better to say, Hey. You might seem like you're screaming now, but this is really like a nudge because I still have a long way to go. We can shift our expectations and see how we apply meaning to the fatigue or the discomfort or the motions that come with it, how that impacts our brains kind of calculus. We can say, Hey, this might hurt a little bit, but it's not a dire warning sign. This is just a little bit of discomfort. This isn't signaling an injury.

This isn't signaling death. I can work through this, and as you just heard [00:10:00] from Brad, we can also change the calculus by increasing our drive or motivation.

Clay: I wanna drill into a few of these concepts quickly before we, before we move on, and then we can start talking about how people can use these ideas

and this intellectual understanding to begin to navigate their own fatigue. So, to go back to the central governor theory, Steve, that you were talking about, would it be fair to, to say that we should almost treat.

Fatigue is like an emotion or, or something like hunger where it's like, yeah, okay, you can be not hungry or hungry, but there's so many gradations in between of like kind of hungry and I need a, I need a snack, or I'm empty and I need a lot more nourishment. Like is that sort of a useful heuristic for thinking through how we should be navigating fatigue as well?

Steve: That's the exact heuristic that they came to. And I think the 2010s where they said exercise scientists said fatigue can be thought of as an emotion and. [00:11:00] We can take that a step further and say that your perception of effort in how you feel can be thought of similarly, where again, it's essentially your brain saying, I need to communicate this to me, the person, right?

Just like when we get hunger, some stuff happens. Maybe your blood sugar drops, you haven't fed, been fed for a while, and your brain goes like, Hey, I need to remind this idiot to drink or eat something. In the same way we're getting reminded, Hey, we're doing something hard, and based on the current calculus, this could put us in a bad place.

So I'm gonna at first gently remind you, it's like that little pang of hunger you get. And then eventually like scream when your stomach just feels like, oh, I need to eat anything. And what do you do in those situations? You go on a desperate search for whatever quick hit, often candy or whatever is in the cabinet to fill that, [00:12:00] that um, that hunger.

Pang. It's the same with fatigue. When that effort increases, what happens? You get that sensation of like, oh, I should really slow down, or, at the extreme end, I should really stop. Or if you don't listen, I'm just gonna, I just need to lie down. And, and that's what it is. It is just like hunger in that regard.

Brad: I also think the

other way, it's like hunger, is you talk to people who are engaging in a fast and, um, there's often this self-report that the first 16 hours are like super hard, but then by day two or day three, it's actually like not that hard. And then it gets

really hard again at the end. And, and you know, you hopefully have medical supervision and whatnot.

And I think similar to fatigue, you're running a marathon or an ultra marathon and like there's almost always this report, and I've certainly experienced it in my endurance sports days of like the first wave of fatigue that hits. And then if you just like work through that first wave, then like, Hey, this isn't that bad [00:13:00] again. And then if you keep pushing, you get a second wave and the second wave's a little bit more serious. And in the case of Taylor Nib and Lucy Charles Barclay, for all we know, they were on their 20th wave. And then the brain just said, all right, like, we're done. You're cooked.

Steve: I, I think

that's a great, point, Brad, because I think the other part of it that maybe we talked about but glossed over it a little bit is your brain is smart and it's running a kind of calculation and part of that is a prediction. So it's this kind of combined effect of the actual feedback coming in, all the signals, the effort, the pain, the discomfort, plus this kind of forward looking of how much do I have to go, how certain am I? What's the drive and motivation? And we're talking about races, right?

Where there is certainty, you know, at mile 20 you have 6.2 miles left. If there's a high level of uncertainty, a race that you have no idea when it ends, well guess what? Your brain can't make perfect predictions. So then it's gonna be like, screw this. Like let's give more and more [00:14:00] of this sensation or these hunger pangs to get this person to be more cautious because we don't know when it's gonna end.

Clay: So this might be a good place to bring in a concept or a framework that I think will help conceptualize some of these ideas. Put a casing around, give language to what we've been talking about, which is the. Concept of interoception, which people have maybe heard of before. But it is basically just your ability to, to read and understand and comprehend the signals you're getting from your body, whether that's internal temperature, whether that's a level of fullness, it's heat, all these things, just your ability to read your body signals.

But the way it can come in handy, for instance, to, to make it, to use an example for my own life is I'm a runner and it probably took me like three or four marathons. I probably could have used a coach. This is an argument for having a coach, but to realize that some of the pain I was feeling in my legs was, had nothing to do with strength or endurance, but had to do with a lack of fuel fueling, right?

And so once I learned that, once I had better interception and understood that the certain [00:15:00] type of pain mine shows up in my quads was about needing more calories, then I can be like, oh, this isn't, I need to slow down, or I'm not strong enough. This is, I need to. Update my fueling. I need to get more calories in.

And so it's this way of getting started to be more in conversation with your body and with the signals you're getting from your body so that you can then have the most constructive response, um, to those signals.

Brad: Another fascinating point on that, clay, um, that really backs up what you're saying, particularly as it relates to nourishment in food, is there is all sorts of research that shows that if somebody is in an endurance race, this is particularly done in cyclist and they're feeling nine out of 10. Fatigue.

Nine and a half, 10 out of 10 fatigue. And you give them Coca-Cola and they don't even swallow it. The minute that it hits their gums and their mouth, they start to feel better. Why? Because the brain is predicting that those calories that just hit their mouth are about to hit their liver, and therefore it opens up the gauntlet and says, all right, some food's on the way.

Now what's even [00:16:00] more fascinating is that researchers repeated this with Diet Coke. They didn't get the same reaction, which just shows how freaking complex this is. So we've got these sensors somewhere in our our, or our oral cavity in our mouth that can sense not only taste sweet, but sense. This is the real deal. This is an aspartame, there's glucose coming. And then just by knowing that there's glucose coming, the brain says, all right, I'm gonna give this cyclist a little bit more to go.

There's food on the way. This is why in a marathon you take a gel, it takes that gel, I don't know, at least 15, 20 minutes to metabolize to get that glucose on

board, but every single runner knows that feeling of I got that gel and I immediately felt better.

Steve: And this is why you often see elite marathoners fuel at like mile 25. If you know the physiology that fuel ain't hitting them until they're done, but they know, and I've read this study, or the coaches have that say, Hey, this is gonna make me feel a little bit better. So take the fuel, drink it, or spit it out, doesn't [00:17:00] matter.

Just like trick your brain. And I think this is one of the interesting and fascinating points we're getting at is this really freaking complex. But to your point, you know, clay is if we can learn to read those signals better. Often what it does is it allows us to not freak out and not panic, and it allows us to say, okay, I have an answer or a solution to this signal, right?

For your case, it's not, oh, my legs were done. They're, they're, they're exhausted. No, it's just get, get a little bit of fuel, go to the next aid station, drink some more Gatorade or take a gel and I'll be all right and I'll feel better in a minute or two. And just that understanding that you're gonna feel better and get through that bad wave often is enough to sustain that pace versus if you can't read those signals.

Right. And I think the thing to, to realize here is how do we do this? A you should probably [00:18:00] not be like clay, and you should get a coach who has some experience to tell you these things, but B, you've gotta spend enough time doing the thing so that. As if we're getting in a new car and we have all this feedback and buttons and we don't know what it is because they're all complicated to hell with technology. If you spend time in that car, you're like, oh, I know what that light means. I know what this button does. It's the same when we're taking on any other activity, is we've gotta be able to read those signals. But the, the one thing I'll say here that adds some nuance to it, and I would say this applies to the Iron Man triathletes, is that some point, those signals sometimes get in the way where every alarm in the cockpit is going off, right?

It's like a danger situation. And as a pilot you've got 50 billion signals and you're just like, screw it man. Like let's race, ignore everything and focus on the person ahead of me or [00:19:00] the finish line ahead of me, or getting to the next mile. And that can some, sometimes work and get through. But it can also

sometimes have you ignore a disastrous signal that maybe had a solution because, you know, you become like the triathletes and bonk on the side of the road where maybe you should have slowed down a little bit or stopped but that's, that's the game we play because sometimes I'm gonna tell you, when everything's screaming at you to stop, you just say, screw it. Put my head down. And that is one of the best tools to keep going as long as you've got the fuel and underlying, you know, stuff to convince your brain to not shut you down.

Brad: The motivation I think is really important. Um, 'cause it is, you were talking about long course triathlon and we can talk about David Goggins. I was thinking about another heroic act of endurance. Um, and that is a woman in labor giving birth to a child, and the motivation there is probably the highest it could possibly be, right?

Delivering this, this healthy kid that presumably you [00:20:00] want and you've thought about for so long, and that you feel so connected to and, and on and on. Um, and there's, there's a reason that childbirth is so dangerous prior to modern, modern medical care. Because a lot of people ignore all the warning signs because that motivation is so high in when you're giving birth to a child and you're not in a hospital.

I mean, there's a whole bunch of other stuff that goes wrong with bleeding and infection. But the point is like you push through, but you do it in an environment, a hospital, a birthing center, where there are opportunities where if you ignore, ignore the alarm, then there's medical help right there. And that's to some extent what does happen in a triathlete, Taylor Nib and Lucy Charles Barclay, it's not like they just got into their, their partner's pickups and went to McDonald's.

They went directly to a medical tent where they were hooked up to IVs. That kind of brought them back to life. So they were only able to push that hard because somewhere their brain knew that if shit hits the fan, a medic's gonna carry me off and I'm gonna be okay. And I think that's really fascinating too, that we can often push harder if we're in a situation where we know that there's some out and we're not [00:21:00] actually gonna die because our brain knows that.

Steve: Yeah, there's, there's something fascinating about having the security and, and I would argue not just the medical knowledge that we're not gonna die,

but I would also say the people around you. And this gets to motivation to know that like, Hey, if I blow up and like have to slow down, my coach isn't gonna yell at me.

My parent isn't gonna abandon me, my friends aren't gonna ignore me because I went for it. Because often if we have that coach who's gonna light into us, if we screw up, what happens is in our brain, both consciously and subconsciously, our governor kind of goes like. Uh, do we really wanna push into the danger zone and risk blowing up and instead we'll kind of say it, we'll stay in this like kind of good space where we're running kind of to our potential, but not quite because we don't wanna risk the so-called negative consequence.

Meanwhile, if you have support and love [00:22:00] and care and coaching around you that says like, Hey, you're trying to explore your limits. Sometimes we're gonna get it wrong. Sometimes that means we blow up, but sometimes that also gives us the security to risk blowing up and seeing that we actually had it in us to do it.

Brad: It's also important to note that a lot of the examples that we've given are on very acute timeframes, right? Delivering a baby, finishing an Iron Ironman marathon, doing a hundred mile road race, whatever it might be. If you constantly fight fatigue chronically, over and over again, your performance deteriorates. And that's a very separate issue. This is like the hustle culture, bro or sister thing of just like push, push, push. Every day is an all out effort. Never rest. I mean, it happens in the marathon, right? Performance deteriorates, you end up slowing down, takes a month to recover, sometimes more than a month to recover. So I think it's also important to separate like rhythm in [00:23:00] sustained effort over days, weeks, and months, which is maybe more of the type of endurance required for knowledge or creative work versus the acute bout of I am going to try to win an Iron Man world championship, or I'm gonna try to finish my first marathon. Um, where you know that it's time bound and you're okay with performance deteriorating towards the end.

Clay: I think there's, to give people one more tool that is maybe useful. I mean, some of the stuff you can only, you sort of learn to navigate your red line by being at your red line, right? And that's, that is sometimes hard to recreate, obviously. Like being at mile 19, 20, 21 in a marathon, that's you, you can recreate it obviously.

I'm sure Steve, you know, from coaching people like you probably try to put people on tired legs and, and simulate that condition as much as you can. But there's, there is something to be said about you just have to do it so many times. And so there can probably be some frustration of like, how do I, how do I recreate these sort of conditions of difficulty and fatigue so that I can work with them.

One way I like to do it to, for train the, the mental side [00:24:00] of things I'm a pretty regular meditator and so I'm often trying to like focus on my breathing and see if I can sit with physical difficulty or emotional difficulty for one more breath. But I make that really physical sometimes in my sort of movement practice by doing planks or hollow holds or wall sits or something where you're in an isometric hold and you can feel some physical difficulty pretty quickly and then you just are like, okay, can I do one more breath?

Can I do two more breaths? Can I do three more breaths? It's not an exact translation obviously, but it gives you a sense of like, okay, what is it like to just try to stay for one more in breath and out breath when I'm like at the very tip of what I can do? And it's not gonna be the same feeling when you're running into mile 19 or 20 or 21 marathon, but it gives you a sense of like, okay, what does it feel like to try to breathe some relaxation or ease or openness into this difficulty, um, in a way that you can re recreate in like a minute of doing a wall sit rather than having to go out and run three, three hours.

Right?

Brad: It's the benefit of the cold plunge. It's the benefit of

the cold plunge for all that we rag upon the cold plunge and the brown fat and all this [00:25:00] bullshit. That is not true. The one truth of the cold plunge, it is very uncomfortable and it is practice being uncomfortable in sustaining it.

And what you said is also very true that people mess up is it's somewhat generalizable, but it's very different kind of discomfort riding your threshold in a one mile race than it is being in a cold plunge.

So if you have zero experience with discomfort, getting in a cold plunge is gonna get you from zero to a hundred.

However. The discomfort that you face when you're in a challenging relationship or when you have a toddler

melting down, or when you're riding the line in a running race or when you're deadlifting 550 pounds is a different flavor of the discomfort in the cold plunge. And I think this is where sometimes the cold plunge stuff goes too far. It's like getting, how do I say this? Getting into a cold plunge. If you have very little, um, experience with being discomfort is a great jumpstart. But then once you've mastered that, you just get good at getting in a cold plunge. Like I'm really good at enduring discomfort in the gym, but I would not be great at enduring discomfort on a [00:26:00] rowing ERG or running because I don't practice that. It's a specific kind of discomfort.

Steve: Think of it like this is the cold plunge, the planks, the wall sits are your introduction where you get to test new tools and you can kind of get comfortable with them. As Clay said, you can try them out, you can experience that. That could be breathing, that could be self-talk, that could be what you're paying attention to.

It could be reading your signals, but at some point we have to take, okay, I've tried these tools, I've experimented with them to the specific task. And that's what Brad's getting at. And that's also what research shows us is there is a generalizable kind of dealing with this uncomfortable things. But if you take a um, Navy Seal and stick them in something that they've never done before, guess what? They might have a little bit more tools, [00:27:00] but their alarm still goes off earlier than the runner or rower or swimmer or whatever they are who has use to that task. And in fact, the, uh, researchers discovered this by looking at, um, skydiving and training people to do that. They thought at first like, oh, these people are tough.

They've done all this crazy stuff. They'll be okay. Guess what? When they looked at their biological reactions to skydiving at first with no training, it was pretty dang close to beginner in terms of freak out and stress hormones and all that stuff because the brain is going, yeah, yeah, I've sat in a cold lunch for a really long time, but this is jumping out of a plane. I've never done that. And when our brain doesn't know what to expect, that uncertainty alarm goes off and it blares just like the first time you run a marathon. That uncertainty goes off, and it can lead to panic, where if it's your fifth, sixth, seventh, eighth [00:28:00]

time, you're like, eh, you know, hi friend. I know you're trying to shut me down. But you have that conversation and you navigate it as best you can.

Brad: I'm gonna attempt to unify some of this in, I think what is hopefully a really practical and powerful way. So there is this principle called said specific adaptations to impose demands. And it essentially says that the way that your body gets stronger is you stress it in a very specific way, and then your body adapts to the demands of that stressor. You wanna get better at squatting, you have to squat, you wanna get better at running, you have to run. However, there is also this competing theory of general fitness, which just says there is such a thing as being generally fit. And when you're generally fit, you can go about life and you can get a lot done.

You can function really well, but if you wanna get good at something specific, you have to expose yourself to that specific thing. I think that fatigue and endurance probably works the same way. You can have a good general relationship with fatigue and discomfort. You could get it from cold plunging, you [00:29:00] could get it from hiking, you could get it from parenting a toddler.

There's different ways to get it, and that gets you a place where, again, you function really well. But then if you wanna get good at enduring in a specific thing, you've gotta expose yourself to that specific kind of fatigue. Because my guess is that I could push harder than 99.999% of people in certain domains, but not nearly as hard as people in other domains, just because I haven't had experience, I haven't had practice with them.

Clay: So we spent most of this episode talking about, I think, sort of about the, the central governor theory of fatigue in terms of, you know, there's no substitute for experience. We need to get to know our fatigues, that we can navigate it better. Let's shift briefly into Mark Ho's motto of fatigue, which, if you remember Brad summed up as the ability to endure or withstand fatigue is, a combination of our perception of effort. How hard is it versus our motivation? How bad do we want it?

So to me it seems like the, the two, the two tiles, you can obviously turn up here or turn down our [00:30:00] perception of effort and motivation, right? So you can increase your motivation. I really want this, um, that goes back to the

examples Brad gave about parents with superhuman strength. Or you somehow figure out a way to turn down perception of effort.

How do I make this seem easier than maybe it's, so maybe we can go into some tools for, for how to do that now.

Brad: Well, the easiest way to turn down perception of effort is to train. Um, and you, you, you, you get better and it feels easier. I mean, the first time you run a mile, it feels really hard just to complete. And then if you train, you gain fitness. It, the perception of effort gets, uh, gets easier at any given pace, at any given distance.

So, um, that, that's the first thing is just to train appropriately and to gain more fitness. And then the perception of effort goes down. Of course, there are other tools when you're in the moment and you've got the fitness that you've got,

and then it's like, what kind of mindset games can you play to turn down perception of effort.

Steve: Yeah, I think a couple other things that come to mind is actually, this is where the research on, uh, caffeine actually [00:31:00] shows that we can shift our perception of effort a little bit because caffeine's a central nervous system stimulant, which changes those signals a little bit. Uh, this is why in the marathon you have to often time your caffeine to be during the suckiest part where it comes. Um, but one of my favorite ways to look at this is I think often we think of perception of effort of like, oh, this is just how hard it is and it's fixed, but. Our perception is tied to our expectations. So think of it like this. Before we start the marathon, our brain has kind of a model of what to expect.

It says, Hey, you know, mile 10, I'm gonna feel this way. At mile 15, I'm gonna feel this way. Mile 20, I'm gonna feel this way. And what research tends to show us is that which way we go in terms of is, do we hit the expectation or are we surprised, pleasantly or negatively will impact that calculation. So if you [00:32:00] tell your brain, Hey, I'm gonna feel great at mile 10, and all of a sudden it feels way harder than you expect it to do. Your perception of effort goes through the roof because your brain goes, Hey, this was supposed to be easy. It feels difficult, so I'm gonna hit the panic button now and sound the alarm and then mess up that calculus. And your motivation drive is gonna drop as well. So a lot of it is at the beginning is setting those appropriate

expectations. Here's how I expect to feel. Here's how hard it will be. Here's how my legs are breathing or whatever have you are gonna be at these different points. And sometimes you set yourself up for being pleasantly surprised, but most of the time you want to be kinda like cautiously, not pessimistic, but a little bit where it's like, this is reality. It's going to hurt at some point. I need to expect it. And the last thing I'll say on this is sometimes people go too far. So they say, this is going to be the worst experience of [00:33:00] my life.

And then what are you doing? You're setting your alarm to say. Yo hold back a lot. Like don't even come close, because this is going to be absolute miserable. So if you set your expectation too high in terms of effort and how diff how difficult it's gonna be, you're telling your brain, Hey, that governor, like, make it hypersensitive so that we never reach our potential.

Clay: Another way to deal with the motivation factor. I think, um, thinking specifically of track here, but I think this will be pretty easy to extrapolate out, is, is chunking, right? If you're on, if you're on the second lap of a mile lap is four miles. For anyone who doesn't know that, uh, and you're thinking about having to run three more laps, that's gonna be your motivation's going to be, uh, less high than if you're like, okay, lemme get to the next 200, right?

And then I'll focus on the next maybe 400, and then after that, the next 200. And so you just kind of chunk so that you can, you can get yourself to the next chunk rather than having to think about it, um, in huge [00:34:00] portions which can dim your motivation. Steve, I have a question for you. Is this a specific, uh, specific from my.

Track coaching days. But I think it's a funny question and I think it's actually a good case study in some ways here. So we had this kid who's, uh, had a great kick. Uh, he was a miler, two miler, and he, um, a kick again for people who are, sorry, not initiated in track world, it's like, you know, in the last 300 meters you can often get a surge of motivation 'cause you're close to finish and you all of a sudden are sprinting after feeling like you were dead.

And this guy was not dogging it. He was one, he was a strong runner. He was finish every race, either basically driving or throwing up. He was young and he would start like experimenting with his kick earlier. So instead of kicking at 200 meters, he would start running faster at 300 meters and then 400 meters.

And he eventually coached me and was like, coach, like I just. I just need to start my kick, like at the beginning of the race. Like I just need to make the whole race the kick. And I'm like, yeah. I mean, I get it. It's, it's a, it's a great point. It's a great thought, but [00:35:00] like you have to really override again that central governor.

But I'm curious what you, what you'd say to a guy like that, Steve. I know it's like probably a tough one to answer, but um, I'm just so curious 'cause it does sort of get at everything we're talking about in a fun way.

Steve: I would reframe it. I would say, Hey man, you always have a kick. You always have a killer kick. So let's, let's see if we can take yourself to the, well, in the early part of it. To see if that kick is still gonna be there, because it's always there. So I'd say, Hey, the first three laps get to 1200 meters. I don't know what it, let's track nerd it out.

If he's coming through at, uh, three 15, normally for, for 20 mile, I'd say, Hey, let's try and go out at, uh, 3 11, 3 10, something like ludicrous. And often what happens is they blow up that first time, but they realize like, Hey, wait a minute. Like I can go out at that point and not completely fall apart. And then [00:36:00] what you have is this like meeting together of where you take the first pace down a little bit, but it's still faster than you thought. And you have this trust and belief where it's like, oh, I just need to get to 300 to go. Well now you've shortened the race mentally. Because like, you know, 300 go, I can go. So that means I can risk it a little bit more from 800 to whatever, uh, you know, uh, 1300 to go and you don't ease off as much. So all of it is like a little expectations games and playing with this kind of, um, you know, this governor to deal with.

And the other example I'll give is if you luck, if you watch professional races, what happens in the mile when you're going for a world record or a new personal best, they're almost all dead, even, right? It's like, you know, when I ran mile, mile best, what was it? 60 point. 60 point. 60 point for four laps.

Okay? If you watch high school races, what happens? [00:37:00] It's like fast, a little ease up. That third lap is the most ease up, and then the last lap they come burning back with that kick, right? The reason is because they haven't. Learn to negotiate that governor, that blend of motivation and effort because the brain goes like, oh crap, I don't know if I can make it.

So I'm gonna ease up just a little bit on this third lap so that I know I have that finish spurt once I can feel or taste the finish line. And a lot of it is with experienced professionals is just, you've been in that situation so much, you know how to ride that line and know that you're going to be okay.

Clay: So what's the, I know it won't be one-to-one or nearly as neat as, uh, I'd like it to be, but what's the, let's extrapolate that lesson out for people who are not runners. What's the, like, what can they take from that? Like they should go see God every so often so they know where their limits are. Like what's the, how do we make that applicable to a broad range of [00:38:00] people?

Steve: yeah.

I, I, I, I mean, I, I think it is to a degree, like, so here's what I think in other endeavors outside of the sporting arena, right? Too often we play it safe, we stay within our capabilities. Um, if you're a writer, we write what we know. You write the Instagram posts or the Twitter, you know, threads on stuff.

We're like, yeah, this is gonna hit, this is gonna get me some likes. Every once in a while you need to go, you know what, screw it. Let's try something different. Let's try something new. Let's rant on this subject that I don't normally need to. Let's try this different format. And what that allows you to do similar to just going for it in a race, is to recalibrate and say, you know what? Maybe I didn't hit that pr. Maybe I didn't get all the followers and likes that I wanted. But it gives you some kind of information back. And when we're looking at dealing with fatigue or effort, all it is is like an [00:39:00] information game of how am I taking this in? How am I interpreting. Interpreting it. How am I utilizing this so that next go around I can be in a good spot to be able to show up when it matters.

Brad: Only thing that I'd add is that you're always playing these two games and anything that you do, we talk about this often, the finite game and the infinite game and the finite game. There's a winner and a loser. There's a start and an end. A marathon is a finite game. A triathlon is a finite game. The infinite game, the whole point is just to keep playing, learning, and growing. And that is a career that is a lifetime. And every time you succeed or fail in a finite game, you are gaining lessons for the infinite game. And your relationship with endurance and performance and fatigue is going to be a matter of making sure that you encode every success and failure in your finite games, and then updating your

heuristic, updating your own model of what you're capable of for the infinite game.

And this is why, as Steve said, there is no better [00:40:00] teacher than putting yourself out there and experience. And once you get over the obsession with needing to be the best and win every single finite game, and you give your yourself permission to send it, what you get in the infinite game is so much self discovery is so much value if it's gonna help you in the future. That's why Taylor Nib, a badass elite performer, said she doesn't regret it one bit. And I believe her, she's playing the infinite game, is a person and is an athlete, and she's going to learn so much from this experience of going to the well and going too deep into the well in the future.

Steve: It is. It's just like the ice bath, right? It can be a great teacher early on, but pretty soon you're just sitting in an ice bath for Instagram, right? You're not learning and growing. And I think that answer that Brad just gave there is that when we take on discomfort, when we take on fatigue, when we take on and navigate those doubts and uncertainties and insecurities, it allows us to eventually accumulate it more information. [00:41:00] Learn and grow, not only in that endeavor, but also outside of it. I think far too often outside of sport, but also within it, we get used to a certain kind of discomfort. You become that person who's in the workplace and says, oh, I'm grind at everything and I'm just gonna be one of those grind boys. Right? And then you don't actually grow because you're like the dude sitting in the ice bath on Instagram. You learn something the first half dozen times, but the 25th time, you're just smiling in there for the camera. And I think for all of us, it's a reminder and we have to practice what we preach here and said, I probably don't learn and grow as much when I go out and do a tempo run or a running session because I've done 50,000 of them. But I learn and grow when I try a new skill, when I take on a new hobby, when I try something different in my writing. All of those push bounds where I'm like, Hey, I haven't been [00:42:00] here before. And I think that's where the magic is. And that's where you discover not only how to navigate things, but you also discover something about yourself.

Brad: This is where Steve announces that he is officially transitioning to power lifting where he will try to catch my deadlift over the next 10 years. I will be going down in distance and running a four minute mile. I need the supers of super shoes. I need roller blade super shoes. If they make such a thing with

Clay: Healy Healy baby, bring back the Healy.

Brad: they do make such a thing.

Clay: I love that though. Seriously, it's like you're either winning or you're learning. I forget which corny TV show I took that from, but honestly, I think about that phrase a lot in the back of my mind. So. This was great. Thank you fellas. Uh, for people who want to go deeper into this, I believe I brought this episode last week too, but I really do think it's one of our finer episodes.

We did a whole episode on tools for navigating discomfort and difficulty, and that's sort of just quick hits of best practices, best techniques we've found for, uh, moments of physical and emotional [00:43:00] difficulty. So I think that's one to check out if you haven't, or one to revisit. Maybe if you haven't listened to it in a while.

If you enjoyed today's show, we would love if you'd share it with someone who you think might also find it useful. I think there was a, a lot to learn in here and a lot that you can use and hopefully someone else will be able to learn and from it and use those tools as well. I would also encourage you to check out, we sort of revamped our Instagram and our YouTube page and there's a lot of, we take, we try to take some of the most useful stuff, uh, practical tools and tips from these episodes and put them there in much short form version.

So that's another great place if you want to go. Sort of review, almost study guide style, or find things to share with your friends. Highly encourage you to do that too. But thank you for joining us on this episode and, uh, being in our community, listening to our show. We really appreciate it. We're very grateful for it.

We'll be back next week with another episode. Till then, take care of yourselves and be excellent to each other.