Physiologic Flexibilty Open June 14

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Hey there, welcome to the flex diet podcast. I'm your host, Dr. Mike T. Nelson, as always, thank you so much for listening here. If you are interested in a flexible approach for body composition and better performance, that is what we are talking about. Today I'm doing a very short primer is just myself talking about physiologic flexibility. And we heads up that the physiologic flexibility cert will be on sale again, coming up in June 14 2021, through June 21 2021, go to the URL, physiologic flexibility.com. I know it's kind of long, but there'll be a link in here also where you can get it. physiologic flexibility, calm. If you're listening to this podcast outside of that time, you can still go there and get on to the waitlist, which will put you on the semi daily newsletter where you can hear even more stuff from me. So the next excerpt here, and to give you a little bit of background of what exactly is physiologic flexibility, because it's a relatively new term? And what does that look like in terms of different interventions related to recovery, and being a more robust, anti fragile human being? Also, I will be at the International Society of sports nutrition, coming up this Thursday through Sunday, June 10 11th, and 12th. down in Florida, I hope to see you there. If you are there, please come up and say hi, I'll be hanging out the whole time and helping Dr. Lonnie Lowery and some of his students. were presenting a short poster on heart rate variability and caffeine effects. So hope to see you there and enjoy this little excerpt here on physiologic flexibility. A shorter blurb here on what the heck is physiologic flexibility? And why should you care, we'll talk a little bit about something called homeostatic regulators will talk about recovery work which ties in to that, then they'll give you two

action items you can do at the end, to help enhance your physiologic flexibility make you a more robust anti fragile person, organism. And they are both very short. So you do not have to add necessarily a ton of time to your busy life already, especially if you are just starting to implement some of these. So the term physiologic flexibility is kind of sort of a made up term, you can find some research on it. But I kind of coined it to reflect the thought process of once you are good with metabolism, I am biased on metabolic flexibility and actually covering the flex diet certification. What are the next levels of interventions that you should do? Everyone in their brother is reporting some crazy bio hack recovery thing? And unfortunately, some of them are, I'd say a lot of them. Not even really based on any physiology. However, you can't throw everything the baby out with the bathwater, so to speak. There are some things that are extremely helpful, but maybe only helpful in certain contexts. So physiologic flexibility is how can you be more flexible as an organism, right, can you go from one end of the spectrum to the other end. And this is going to be primarily governed by the areas of homeostatic regulators. And there's kind of four main areas there. So a homeostatic regulator is something that your body has to hold constant, or else you are going to be in a world of hurt. Our bodies like to get back to homeostasis. If you go to the gym and you start doing, for example, some bicep curls, you of course, are going to potentially injure some of the bicep in a really, really small way. And the damage some of those fibers mean your body is going to see that and it's going to increase them and make them a little bit bigger and stronger. We also of course have neurologic adaptations, soft tissue adaptations, but your body is going to respond to that stress and get a little bit bigger and better. Now of course, if you do it too much, maybe you're doing a tire flip. And you put your arms underneath it, and you can't curl the 400 or 600 pound tire and it comes crashing down, and you apply a massive amount of essentrics stress to the bicep, that is a recipe for disaster and injury. So we want to have the correct amount of stimulus so that it's within the capacity of the body to absorb that and get better from it. So an example of a homeostatic regulator is going to be temperature. Humans are homeo therms, we like to hold about 98.6 degrees Fahrenheit. Interestingly enough, I pulled up the research on that sort of closer to 97 degrees Fahrenheit, but you get the idea. However, we can go outside in warm environments, and also cold environments, even without the use of a lot of technology. So I'm recording this in Minnesota, and it's been surprisingly hot and a little bit humid the past few days. I'm not necessarily completely accustomed to it, I don't have a sauna yet. So it's taken me a few days to get used to the heat, I was much more adapted to the cold. Although ironically, when I was in South Padre Texas, I was more adapted to the heat. So I'm kind of switching back and forth here. However, we have mechanisms, right, we start sweating, we have ways that we can cool our body. And turns out that humans are the most adaptable organism in the animal kingdom. So you can look up something as a hunting technique, which is called persistence hunting. And it allows humans and tribes, especially in the past, to chase animals over long distances for very long periods of time. So they're

able to endure long distances quite well. Not necessarily a ton of fun. But the main thing that allows humans to do that is their ability to regulate heat. Other animals may be much faster, maybe bigger, maybe stronger. But the vast majority of the time, they are much more specialized. Right, you can find animals that do very well, in the Arctic, you can find animals that do very well in the desert. But humans are one of the rare animals that can go back and forth between those two environments, obviously, within certain caveats and limits. And if you add technology that can even go a lot further, we have a really great ability to increase temperature or heat ourselves. This can be initially by movement, or even later, unconsciously, even shivering as muscle contraction in order to provide more heat. Unfortunately, most humans spend vast majorities of their time almost 100%. Now in climate controlled environments. And while we're not sure exactly what is the cost of doing this, my guess is we're going to find out in the future, that it's not going to be very good, right, we know that your body responds to stress and that it needs stress to the systems in order to be happy and healthy. This is why exercise is so important. And they don't have to belabor that fact, to any of you. So we can also have stressors in the form, as I mentioned, of temperature, we can go to hot environments, we can go to colder environments, and we a climate ate to those environments, which is just an adaptation. So if you're trying to get better in the heat, it may take up to two weeks or even longer depend upon how much adaptation that you need where you started from. But within a relatively short period of time, you get a lot of those benefits just by being exposed to it. You could do a sauna for starting out at just 10 minutes a day or every other day and work your way up from there. Simple things even like exercising in the heat. Yeah, and making sure you're hydrated and that you're not pushing it too far. Because that can be an issue, just like the tire on the biceps. If you do too much of the stimulus, it definitely can harm you. And with heat. It's interesting that people who have reported massive issues in the heat, such as heat stroke, they appear to be hypersensitive to the heat from that point going forward for quite some time. It's almost like their body got too close to something that could be potentially damaging. And it becomes extremely sensitive to it that which I find interesting. On the cold side, same thing, right we get used to cold Temperatures Yeah, like I said, I live in Minnesota definitely gets colder here in the winter. So that works out quite well. You can take cold showers, you can have a freezer like I put in my garage that you can seal everything and convert into your own cold water immersion at home. Again, you have to know the limits and start at the low end. Because you do not want a massive stimulus, you want just enough to get an adaptation to other homeostatic regulators, the next one would be pH, your body has to hold pH very, very tight, or otherwise you're gonna end up in a world of hurt. But we know you can do some crazy acid bath training and doing lots of high intensity intervals. And that produces a lot of quote lactic acid, lactic acid immediately disassociates into lactate, which gets used as a fuel, and then hydrogen ions. So hydrogen ions are literally an acid that is being dumped into the muscle. And your body's has different ways of compensating for that. Another one

would be fuel systems. That'd be the third homeostatic regulator, blood glucose. And even the backup system to that and I would say is the use of a ketogenic diet or being in a state of ketosis. So we locked you in a room without any food just gave you some water for four days, you'd be very unhappy. But your body would most likely reach a state of ketosis, running a ton of fat through the system. And that particular case would be body fat. And your liver then starts to push out these ketones themselves, which can be used as an alternate fuel by the muscles and for your brain. So I think running that system every once in a while is the backup generator, I think can be useful. Of course, there's some caveats with that in terms of training and everything else. So those are three of the homeostatic regulators. The last ones would be how your body uses oxygen and carbon dioxide. So a couple of quick action items you can do. The first one would be turn your shower to cold for just 10 seconds at the end. Now, depending on where you live, this may not be super cold. But you're getting your body accustomed to doing something that is more difficult. But everyone can probably stand it for about 10 seconds. My you may not see a massive physiologic benefit to that I do think the psychological benefit of training yourself to do hard things is very useful. And then you can slowly progress a little bit more after that just by doing time, and then you can get fancier. Another one is to do some high intensity interval training. My favorite is to use the rower to do this. So warm up completely get on the rower and do all out intervals for 30 to 60 seconds per interval. Ideally, you want to keep your watts as high as you can during that entire time. So for most people, they want to start it even 15 seconds or even 30 seconds, rest completely and try to do that again and get within five to maybe 10% of that average wattage, again, keep the high power output consistently high. So you're just still doing quality work. But that is going to produce a lot of lactate and hydrogen ions. And your body will then have to buffer that. So you were then training the pH regulatory system of the homeostatic regulators. So there's two quick action items you can do to increase your body's ability to handle different types of stressors to be more robust and anti fragile, by training your homeostatic regulators via the concept of physiologic flexibility. Thank you very much. Thank you so much for listening to the flex diet podcast, really appreciate it. We would love any reviews of all kind, and you can hit the subscribe button that really, really helps us out to get this into the hands of more people. Thank you once again, the physiologic flexibility certification will be on sale open for enrollment again, June 14, which is Monday 2021 through June 21 2021, go to physiologic flexibility.com. And that will have all the details the information all about the course. I would love to see you in the course I've spent man so much time doing this course but I'm super happy with how it turned out. I've covered a lot of material in there that I just don't see covered elsewhere. And I'll give you a really good framework on all the things physiologic flexibility that we talked about in the up cert. Here, if you're looking on what to do, after you've done pretty good with your exercise and nutrition, to me, this is the next level. Everything from breathing techniques, how does your body regulate oxygen and carbon dioxide, glucose how to do a

ketogenic diet, why you might even consider doing a ketogenic diet, Ph regulation, which gets into a lot of aerobic training and high intensity interval training, and then temperature differences, both cold water immersion, and even cold water in the air to sauna and hot, how all of those things can be used. Where do you start? What do you do? What does the research say? All in a complete system, so that you can then implement it with both yourself and for your clients? Because I think that is the thing that is missing. What's super easy to grab a bunch of recovery techniques, but are they matching to the adaptation you're trying to get from exercise your client is trying to get to do hose up the adaptation that they were doing? And then with all of them that are available? How do you know where to start? They can be spending a good portion of their day just doing recovery stuff, and that may not move the needle for them. So go to physiologic flexibility calm, the fizz flexor does now open June 14 through the 21st, physiologic flexibility.com. Thank you so much for listening and greatly appreciate it. Talk to you soon. If you're at the ISSN meaning please come up and say hi