

# Episode 50 Phys Flex open

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## SUMMARY KEYWORDS

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## SPEAKERS

Michael Nelson



Michael Nelson 00:01

Hey, it's Dr. Micha Nelson here back with another podcast on the flex diet podcast. And today we're going to be talking about physiologic flexibility. And everything that involves that I'm also going to give you two tips, and how you can improve your physiologic flexibility. And both of them don't require any really super specialized equipment per se either. Thank you, everyone, I got to hang out and chat and meet at the International Society of sports nutrition conference, this past weekend in Florida. Big thanks to Dr. Lenny Lowery and his students for doing really well presenting science as undergrads, we presented a poster that I was a part of also on heart rate variability and the coffee. The takeaway is that heart rate variability does not automatically acutely drop with consumption of coffee. In some cases, it actually looked like it even went up a little bit, ie becoming a little bit more para sympathetic. So it's kind of a surprise. So big thanks to them for doing all the work on that and even won an award for undergrad student presentation. Today, we're talking about physiologic flexibility. And one of those is going to be training for Ph. So pH is any change from around a neutral and the blood pH is a homeostatic regulator, as we've talked about in the past, why we're targeting those with the physiologic flexibility system. And we want it to be relatively neutral. However, we can train it acutely to have these insults. So for example, for training for pH, one of the ways you can do it, is by doing high power output, but shorter duration work are sometimes called HIIT. Training, high intensity interval training. And when you do this, you're running through a bunch of glycogen as fuel, actually using a bunch of lactate in addition to producing lactate. And these hydrogen ions are produced at the same time as the lactate,

sometimes classically called lactic acid and my little air quotes here, because lactic acid immediately dissociates into lactate, plus hydrogen ions. So it's the hydrogen ions that are changing the acidity locally in the muscle, you're adding more hydrogen groups to it, therefore, you are making it more acidic. And the body has to kick in its counter regulatory measures to buffer this Ph. So remember, one of the things homeostatic regulator is it doesn't really change that much. But we're still challenging the buffering system of the pH and in this case, by doing some high intensity interval training. So how you would do that is warm up completely. I like doing the rower, you can do an assault bike. If you're biomechanically good enough, you can run. There's different ways of doing cardiovascular training, but some that are like that. thing I like about the rower is it's a full body movement, and you automatically get watts displayed to you both peak and average. So you can't really run from the data. Literally, if you're just running unless you have a watch or something to measure which is pretty common. Now. It's much harder to determine quality. So in a warm up completely, get on the rower and do an all out interval for around 15 to 60 seconds. If you are less experienced with this, I would go shorter. So start at 15 seconds. If you're pretty experienced, your conditioning is pretty good, you can probably get away at 60 seconds. Ideally, you want to keep your watts as high as you can this entire time. What I see with high intensity interval training is that the quality of work tends to drop really fast. And you can still get better by doing that. But I find paradoxically, resting more completely, especially when you start a program with it and then coming back again and trying to get within five to 10% of the wattage you got before so we are allowing a little bit of a drop you are going to have some fatigue, but we want to keep this to a minimum and keep the high quality of work going. And you can then do this for two to 10 to even more rounds. You can make it like my buddy or Coach Cal Dietz says a biomed Trick type method, once you are taking too long to recover, the set would be terminated or you can't compete that high output wattage again, then it would be done. Or you can get fancy and use heart rate. Again, the key with that is keeping the output as high as you possibly can. When you're doing that, you know, you're creating a lot of lactate and hydrogen ions, which is causing your body to then buffer via the pH system. So that would be one system to train which should be your homeostatic regulator. One way of doing that is by doing high intensity, but yet high quality work in your system, and an example would be temperature, your humans are homeo therms, we want to stay around 98.6. It's actually 97.7 in the literature, but close enough. And we can't tolerate a huge temperature differences either up or down. But yeah, we can train our system, you've seen stuff like cold, cold water immersion on one side, and even sauna on the other side. So I like to have people start with cold, it's usually a little bit more accessible, it's faster, it's something that people just tend to avoid a lot. So since your system is most likely not trained to well in it, then you don't need a lot of time. But what you can do is at the end of your shower, you're going to turn it to as cold as it will possibly go and count backwards from 10. So you want to do it for at least 10 seconds. Now, this isn't enough to

get a massive physiologic change, you will feel a little bit better, though, once it's done, does feel kind of achy for those 10 minutes. But I do like the sensation once you're done. Again, 10 seconds is not long enough to really get a massive physiologic shift. But you are winning on the psychology side. When you're using the newer portion of your brain, that prefrontal cortex area to override the limbic or the reptile part of your brain, you are picking the hard thing to do even for 10 seconds. And then you are training, the ability of the prefrontal cortex to override the limbic kind of the reptilian portion of your brain. So those are two tips on how to make physiologic flexibility more actionable. So in the certification, we have it broken down into the four areas, and then each side of the area. So for example, temperature would be one homeostatic regulator, one part would be getting in very cold one, the other part would be getting into various warm environments. And for each one of the areas, then we've got a list of five to 10 action items. So we've already translated it into things that you can actually do or have your clients to do. So you'll learn the big picture, you'll learn the theory of each area based on lots of research, but we explained it to you. And then you also have very explicit action items to know exactly what to do for yourself for your clients. And then that is done in this system, where I show you how to determine which one of the action items is going to be best for your client. So that is the physiologic flexibility, certification, and in practice and includes everything from different styles of breathing techniques, cold exposure, hot exposure, some items around blood glucose, both high and low ketogenic diet and much more. So find out more go to [physiologicflexibility.com](https://physiologicflexibility.com). It is now open until June 21 2021 at midnight, central time. So it is open for a limited amount of time, go to [physiologicflexibility.com](https://physiologicflexibility.com). If you're listening to this outside the time that it's open, you can still go there and you'll still be able to get on to the waitlist for the next time that it opens. Thank you so much as always for listening. I really appreciate it. I'm working on a bunch of really cool guests coming up here in the near future. And if there are anyone else, or any interviews, people you'd want me to talk to send me an email, you can reach me through the website, [flexdiet.com](https://flexdiet.com) Thank you so much. Talk to you all soon.