

[00:00:00] Welcome back to the Flex Diet Podcast, where we talk all about things to increase lean body mass or muscle performance, better body composition, and all in a flexible approach without destroying your health in the process. Today is just a solo cast with me, Dr. Mike T. Nelson. And we're gonna talk about my experience going on coming up closer to three years now with cold water immersion and how that is related to your gains, adding muscle things to watch out for.

[00:00:44] And when you should consider doing this. This podcast is brought to you by the Physiologic Flexibility Certification, which when you're listening to this, if you're listening to this, when the podcast first came out is open now until Monday at midnight, September 12th, 2022. So today is the Monday before that. So labor day here in the us.

[00:01:16] And you can go to physiologicflexibility.com to get all the information for it. If you're listening to this outside of that time, you can still go to physiologicflexibility.com and you'll be able to get on the wait list for the next time that it opens. But if you're listening to this, when it first came you can go to physiologicflexibility.com for all of the information there. The Physiologic Flexibility Certification is the level two to the Flex Diet cCertification. So the Flex Diet Certification is the level one, and that focuses primarily on nutrition and recovery in the flex diets, everything from your macros, such as protein fats, carbohydrates, neat, intermittent fasting, sleep micronutrition and more. And once you've got those basics of nutrition, And basic exercise I'd say covered to around, 80%, maybe 90%, if you really wanna push it, then the benefits to the Physiologic Flexibility Certification is it will increase your body's ability to recover.

[00:02:28] To be more resilient anti-fragile and you'll be able to bounce back from other stressors in life, much faster. And in my biased opinion, I think it's a true way of increasing actual longevity, which is based more on a function. So we know the top three things for longevity that we have solid data. Your grip strength, lower body strength slash muscle mass and VO2 max, your aerobic capacity and other than really the grip strength those are all covered in the physiologic flexibility certification.

[00:03:08] In that cert, we also talk all about how to increase your body's ability to be more resilient via the four pillars of homeostatic regulation. Your body wants to maintain homeostasis or its normal baseline. However, we can go into other environments with different temperatures such as cold and heat.

[00:03:30] Be talking about cold coming up here. We can try to change the pH of our body. Again, it likes to operate just a little bit above seven, but if you get on the old concept, two rower, let's say you do some repeated 500 meter rows, as hard as you can. Your muscles are literally dumping acid into the environment.

[00:03:54] A lot of times you'll hear this referred to as lactic acid. I put that in air quotes. Lactic acid is immediately dissociated into lactate and hydrogen ions. It turns out lactate is actually a really good fuel, but the hydrogen ions. Are literally an acid that gets dumped into the muscle and then your body must respond over time by building up the capacity to buffer those hydrogen ions, because we can't have your pH getting all wacky.

[00:04:26] And pH is the second pillar. The third would be fuel systems in here. We expand that in the metabolic flexibility, cert the flex diet cert. We talk about mainly fats and carbohydrates. Here, we're talking a more expanded view all the way from a ketogenic approach on one end which I do think has some data to be useful for most people, but there's a whole bunch of caveats and gotchas to watch out for.

[00:04:53] All the way to possibly using lactate and carbohydrates on the other side. So again, we've expanded the capacity and sort of the range of metabolic flexibility. And the fourth pillar is breathing. How your body regulate oxygen and carbon dioxide. And if you get better at that, you're going to increase performance.

[00:05:16] And just your day to day, life is gonna be a lot easier that could involve some form of exercise. It could involve breathwork could involve breath, holds hyperventilation. We go over all of that. go to physiologic, flexibility.com. It is open now until Monday, September 12th at midnight Pacific standard time.

[00:05:36] If you have any questions feel free to hit me up. And before I talk about my experience here with cold water immersion, also wanna let you know that I've got a special bonus podcast. That'll be out later this week of the very special guest. He's working to be the first person to do a solo unassisted crossing of Antarctica.

[00:05:59] And we'll be talking with him about lessons. You can apply to doing hard things because something like cold water immersion, it's not really fun, but I think there's some benefits to it. I think there is benefits to doing hard things on occasion. Again, I don't think you need to. Go to the extreme.

[00:06:23] Some people have on the internet where you want to avoid comfort at all costs. I like hanging out in my air conditioning. I like sleeping in my nice bed at night. So I don't think you need to shun air conditioning all the time. Just walk around in a pool of sweat and sleep on the hardwood floor. But I do think there is benefit to doing hard things on occasion and it will improve your physiology, your health, your ability to recover much faster.

[00:06:54] So related to that, I'm gonna talk about my experience with cold water immersion. Now, again, if you don't have the capacity to do this, you can still get some of the benefits from turning your shower to cold at the end of the day. But for the sake of argument here, I'm gonna talk about doing more of a full body exposure.

[00:07:15] So how I got into this, I started reading the research on it, man, quite a while ago. And. As I was finishing up the physiologic flexibility certification, I spent almost probably three years reading as much of the literature on it, as I could find, I think to date, I've read probably all of the literature on it.

[00:07:35] Although I just found two pieces the other day that I had somehow missed. I'm sure there's a few pieces here and there that I've missed. I tried to correlate all of that and make it into something that's actually accurate and actionable that I put into the certification. I also wanted to try using it with some clients which I've done.

[00:07:55] And I wanted to experience it myself because it's easier to run experiments on myself. So what I did in around November of let's see 2019 because this happened right before the lockdown in March of 2020, I got a large freezer. I picked up a 15.6 cubic inch freezer. Since I'm a taller human I'm about six, four, and I wanted something that I could fit all the way. the hard part was I didn't have a vehicle big enough to put it in. So I had to rent a truck. went to, I think I ended up getting one from Menards. And if you want to get some really crazy looking expressions from people go to a store like Menards or Home Depot or whatever. And when no one's looking try to sit instead freezer in the store.

[00:08:48] be careful that you don't get kicked out. But I wanted to make sure I actually fit. So it turns out they frown upon you doing that. Because once I got one home, I realized that the inside of it is usually a very thin, I think it's some type of aluminum and it dense real easy. So in the process of setting up my freezer at home and seal the inside with silicone and doing everything I needed to fill it full of water I put some dents in the bottom of the freezer by standing in it.

[00:09:14] So FYI if you wanna learn about how to create your own freezer, which they are definitely not recommended to do and not made to do that. But if you wanna do a DIY version at your own risk I'll stick a opt in here below where you can get all the details and learn from all my mistake. The short version is make sure you seal everything really well.

[00:09:36] I used a silicone sealant. There's a couple caveats to doing that, and I ended up using ozone for it and another specific pond filter that I stuck in there that helps. So to this day I still have it literally just used it two days ago and it's still working. I've had to change the water about once every four to six months.

[00:09:58] I'd say the water quality has generally held up quite well. So I started doing this right as the lockdown. I had the freezer, I got super busy with everything going on. We had a whole bunch of travel that year beforehand. I was teaching in Australia down there for my buddy, Luke Lehman's wedding.

[00:10:15] And we were in Costa Rica down at Dr. Ben house's place. We did the fire and ice retreat here in Minnesota. And then I think I was somewhere else. We in Costa Rica again in January. Yeah, I think we were, but it's all kind of a blur beforehand. I didn't really have any time to get everything set up until after the lockdown occurred.

[00:10:35] And I figured this is the perfect time to do. I've got plenty of time at home. All my travel was obviously canceled. So speaking gigs, teaching all that stuff in person was on hold. So I figured, Hey, this is a good time. I'll run an aerobic base cycle in the morning, which I was needing to do anyway, cuz I had deteriorated with travel and everything else.

[00:10:57] And I'll keep doing cold water immersion. Every day and I'll just see what happened. The biggest lessons I think I learned from it was more on the psychological side than actually the physiology side. If you look into the research on this other people have talked about this online also. Yes, there is some research that shows it may blunt, hypertrophy or muscle building.

[00:11:21] To what extent I would say is still up in the air. Again, there's a few caveats with that other people will say you should wait 2 hours after your hypertrophy training in order to do cold water immersion. And just for clarification, when we're saying cold water immersion here, we're saying getting into cold water, generally 50 degrees or cooler, and as much of your body into the cold water, as you can.

[00:11:50] some people have theorized that if you wait two hours, you'll be okay. And in terms of an educated hypothesis, I think that's probably fair. Although I can't find any data. That's looked at that from an actual study, so I'm not really sure what the two hour time point is based on, but probably better than doing it immediately after again, the caveat is.

[00:12:15] If your goal is to 100% maximize everything you can for hypertrophy. And also what I talked about in the Phys Flex Course. is I go through some of the main studies that look at the effects of hypertrophy. And one of the big takeaways is we have to look at the methods that was done to assess that most of the studies, again, there's a full research review in the course are done for longer periods of time and relatively cold. If you are just getting into cold water immersion for 60 seconds, I'm not really that worried. I don't think it's gonna, hypothetically or even magically blunt, all your hypertrophy response. Now, again, even in the research, it's not gonna blunt all of your response to hypertrophy, so it's not gonna completely nix any of the training that you did.

[00:13:06] However, if you're really trying to maximize every last ounce of muscle. Yeah, you think you can make an argument that waiting is a good idea. Mechanistic. Why? I don't really think it's inflammation. I know that goes against a lot of popular views on the L internet. There is some markers of inflammation that do change a little bit.

[00:13:29] But when I reviewed most of the literature, I could find on it. I'm not convinced that's the primary mechanism. The best study was done from a Dr. Van loon's lab out of the Netherlands. And they did show a direct downturn in muscle protein synthesis with cold water immersion. So muscle protein synthesis is the fancy word for the process.

[00:13:50] Of taking amino acids primarily from diet and jamming them into muscle tissue to make it bigger and stronger and help your recovery. So it does appear that cold water immersion. Again, we have to verify at what temperature for what length of time, how much of your body is covered. Was that cold water immersion.

[00:14:11] Were you just sitting there stagnant? Was the water moving? All those things probably weigh into it. But there is data to show that it does turn down that muscle protein synthetic response. Now, again, these are, as of now only acute studies. . And so we're guessing a little bit there in terms of other markers of performance, it's a mixed bag.

[00:14:34] I would say if you are a professional athlete and let's say you're in major league baseball or NHL or something where you have a fair amount of games that you need to be ready for in quite short succession then. Yeah. I think some benefit of cold water immersion makes sense to me. What I've seen on an individual level, on a handful of people that I've had do this.

[00:14:57] It's probably more variable than what we realize. And again, I'm just making that educated anecdotal guess based on limited data performance and looking at heart rate variability and other things. Also in the course, I talk about O other cases, should you be doing this post aerobic training? What about dissipating heat between different exercise bouts?

[00:15:19] So there's many different ways you can use cold water immersion. What I was surprised in terms of what I found, and I've seen this in other clients and other people too, is I thought it would get substantially easier over time. The first thing was even now like I said, two days ago I crawled into the tub full of cold water.

[00:15:43] Right now I have it set at about 47 degrees Fahrenheit. And I stayed in for three minutes. So not real long. And even just before I got in and I've been doing this semi, daily, most of the time when I'm home, I've had stretches where I've taken a few weeks off due to travel and we haven't been home.

[00:16:02] It was still difficult. I still found the hesitation because getting into the cold water still sucks. I thought it would get easier and it on one hand has gotten easier. But I would've thought when I started doing this almost three years ago, that hesitation I had right before I got in would pretty much be minimal.

[00:16:25] And there's still that. which I was surprised at. I think this is because on some level, your body is wired to not want to be cold and not wanna be too hot. It's a legitimate thing that you can die from hypothermia. Granted, you would have to stay in pretty cold water for a fair period of time.

[00:16:47] So the safety margin with cold water immersion is quite good. however, your brain still registers that, Hey, we're cold. We don't really know how long we're gonna be in here. And the thought of going into cold water, that hard wired earlier part of your brain. Sometimes they call it the reptilian part of your brain or lizard brain of amygdala.

[00:17:10] There's all sorts of different words for it. Tells you that Hey, cold water immersion. This is a really bad idea. Worst case scenario we could die. So

don't opt to do this. This is a stupid idea. However, we can use the bigger part of our newer brain or what's called the professor part, the prefrontal cortex and override, the sort of lizard limbic part of our and we can think about the benefits you would get from cold water immersion. Similar to exercise, you can think about the benefits, how much better you'll feel once you're done doing it. And you can use the newer part of your brain to talk your lizard brain into doing it. So Dr. Andrew Huberman calls this limbic friction.

[00:17:57] So I like that term. I thought that's pretty useful and I found that this limbic friction. Never goes to zero. I would've expected it to be very minimal. But in my experience it's still always present and it does get easier. But it's still there. And so I think one of the big benefits of cold water immersion.

[00:18:17] is literally the decision process. You must go through each time to decide to do something that is difficult, that the hardwired old part of your brain does not want to do and talk yourself into it each time. I do think that probably transfers to other aspects of your life, whether that's taking the stairs instead of the escalator.

[00:18:40] Making different food choices, opting to stop watching Netflix, go to bed earlier. All those decisions that at the time can be a little bit difficult. So I think doing something hard. that you can do on a daily basis. And if you do it in an intelligent manner you will not see any real negatives from it.

[00:19:00] You'll only see positives. You can only do so much hard exercise every day before it's going to catch up to you. So I believe that the exercise of using the newer kind of prefrontal cortex professor, part of your brain to override your lizard limbic part of your brain, that those neural pathways are most likely plastic.

[00:19:22] And that they can be changed and that you can practice doing that on a daily basis. And my bias is that will transfer to other aspects of your life. Therefore making those other decisions just a little bit easier. . So that is my number one lesson I've learned from doing cold water immersion.

[00:19:45] Again, I think there's a whole bunch of other potential benefits. There's some downsides to it also, and if you want more information on. Cold water, immersion and everything else. You can check out the Physiologic Flexibility Certification. It is open., now if you're listening to this right after the podcast came out until Monday, September 12th at midnight, 2022.

[00:20:11] So go to physiologicflexibility.com for all of the information. If you're listening to this outside of that time period. You can still go to the same link, which you'll find here below, and you'll be able to get on the wait list for the next time that it opens. So in it, we do cover cold water immersion.

[00:20:31] We cover benefits of sauna, high intensity interval training ketogenic diets, breath work, and a whole bunch of other things. The goal is to train the four pillars of homeostatic regulation to make your body more robust and even anti fragile. So you'll have more energy during the day and you'll be able to recover much faster from different stressors.

[00:20:58] Thank you so much for listening. We'll talk to you again very soon.

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