[00:00:00] **Dr Mike T Nelson:** welcome back to the Flex Diet Podcast. I'm your host, Dr. Mike T. Nelson. On this podcast, we talk all about all things to increase strength, add muscle via hypertrophy, improve body composition, and do all of it without destroying your health within a flexible framework. Today on the podcast is just me yakking to you.

[00:00:25] About some core concepts in the Physiologic Flexibility Certification. Also wanted to mention the sponsor from LMNT. I'm actually drinking a Grapefruit LMNT Electrolyte Supplement right now. I do really like the grapefruit ones. I'm not a big grapefruit flavor overall. But right now I've been digging the grapefruit ones and the raspberry.

[00:00:49] Those are my two favorites. And the wizards over at LMNT surprisingly made salty water taste really good. You're probably wondering why you would include more sodium. One of the big sort of face plant moments I had, probably going back to three and a half years ago now, was, for many years I didn't realize that a lot of my clients were actually not getting enough sodium.

[00:01:16] Which I know sounds strange. But when you eat mostly single ingredient whole foods for most of your nutrition, again, this doesn't mean you have to eschew donuts and cookies all of the time. But when most of your food and nutrition is whole foods, you don't really get a lot of sodium. Magnesium, depending upon your source of vegetables, can be low.

[00:01:37] And potassium, again, depending upon vegetable and fruit sources, can be a little bit low too. But the main one I noticed people were low in was sodium. Potassium. And, shocker, once we increased their sodium amounts, their performance got better, and they felt better, and their energy level was more consistent.

[00:01:56] And, I wish I would have realized that a lot sooner. I was so used to, in the past looking at nutrition logs from, general population clients, and they definitely don't need any more sodium. They have the inverse problem. But with clients that were already doing pretty darn good, most of my online clients now about 70 percent are trainers, then adding more sodium was great.

[00:02:21] The downside was trying to get people to drink salty water. Compliance wasn't very good. And once I figured this out, I wasn't doing it either. So fast forward to the wizards at LMNT who created water that is high in sodium that actually tastes really good. And I've also noticed that I drink a lot more fluids now.

[00:02:42] and just feel better consistently day in and day out. So much so that even today I realized I was a little bit more tired than I thought and realized I hadn't had any water and electrolytes and was already noon, which is not a typical day for me. So if you want to check out one of the podcast sponsors, it is LMNT, which is LMNT.

[00:03:04] Go to the link below, which is drinklmnt. com forward slash Mike Nelson. And you will get a sampler pack for free. They also have an amazing guarantee where if you don't like the product for any reason, you can actually keep it and they will give you a full refund. So don't have a thing to lose.

[00:03:24] Check out LMNT below. It's my favorite electrolyte drink and enjoy today on the podcast. As I mentioned, talking about the physiologic flexibility certification and some core concepts involved in it. The Physiologic Flexibility Certification is open now, depending upon when you listen to this, Monday, March 18th, 2024.

[00:03:51] It will be open for exactly one week until March 25th, 2024. Go to the link below with all of the details there. But I wanted to discuss what exactly is Physiologic Flexibility real briefly and the course of the structure of it. One of the confusing things, I think, is that in the world of fitness for recovery and trying to be more anti fragile, there's many options, which is great, but I don't really see many people trying to pull them together in an actual system that tells you what is useful when.

[00:04:33] So for example, when should you do zone 2 training? When should you do high intensity training? What about cold water immersion? What about sauna? What about all the breath techniques now? Should I be doing a ketogenic diet? Should I be going higher carbohydrates? Actually, as much as all these concepts seem to be quite different from each other, they are all covered in the Physiologic Flexibility Certification.

[00:04:57] So at its core, the Flex Diet Certification, you can consider that the level one. Which talks primarily about nutrition for recovery. We also do cover things like NEAT, which is walking and moving around, exercise, sleep etc. You can think of this as the official level 2. So once you're pretty good with nutrition and exercise and sleep, what do you do next?

[00:05:22] What are your goals? What are you trying to accomplish? My bias is you should be focusing on your recovery capacity and how to become more resilient and even anti fragile. Anti fragile is a word coined by Nassim Taleb.

It's a great book, pretty dense, but I read it many years ago and it really changed how I thought about different things.

[00:05:48] So if I have something that is fragile, like a ceramic vase, If I drop it on a cement floor, it's going to shatter into many pieces. Therefore, it's fragile, comes apart quite easily. If I have something like a Tupperware container, I can drop said Tupperware container on the floor, and it will bounce around and still stay in one piece.

[00:06:11] If I have something that is anti fragile, In theory, when I apply more stress to it, not only is it robust and resilient, it will stay the same shape such as our Tupperware container dropped on a cement floor. It will actually physiologically get better. The reason I said physiologically is because this almost exclusively so far to date applies to living systems.

[00:06:37] If I go to the gym and intelligently exercise my right bicep. Over time, my right bicep will get a little bit bigger. It will be better able to handle that stress insult of doing bicep curls, chin ups, whatever it is I was doing. So living systems, if they are applied and exposed to stressors correctly, they actually get a little bit better.

[00:07:04] So therefore they are able to handle a slightly bigger stressor next time. My Tupperware container, no matter how many times I drop it on the floor, It's not going to get any better and in theory it may get just a tiny bit worse over time. So once you're good with your basic nutrition, exercise, and recovery, sleep, my bias is you should focus your energy on how to make your body and you as a physiologic organism more anti fragile.

[00:07:37] And it turns out, just like the lifting example, we can expand our idea of exposure to other stressors. And once we build up and get a little bit better to these stressors, we are more anti fragile. We've gone beyond just being more robust. The next logical question then is Okay, what stressors should I be exposing my body to?

[00:08:07] Again, my bias here is you want to pick ones that are known as homeostatic regulators. So the body has this process of homeostasis. This is you can think of as your baseline that your body wants to get back to. So you may do different things and apply different stressors that move you off of baseline.

[00:08:28] And then your body works to get back to that baseline. So you can use maybe the word recovery. So to me, recovery is the process of actively getting back away from baseline. And recovery is getting back to baseline or

homeostasis. A simple example is temperature. Humans are what they call homeotherms.

[00:08:52] Where we want to keep around 98. 6, it's actually about 97. 7 degrees Fahrenheit. And we have regulatory systems in our body that will try as hard as possible to keep our core temperature within a few degrees of that mark. If it goes a little bit too hot or too cold, Then a whole bunch of horrible, bad things happen.

[00:09:15] And even in a worst case scenario, death, but we have a ton of intrinsic processes that are working to try to regulate our temperature, whether we're running a little bit too high or a little bit too cold, it turns out humans are probably one of the best mammals at temperature regulation period. This allows them to regulate, especially in hotter climates.

[00:09:40] Much better than most mammals. So that process of homeostasis is trying to hold body temperature around 97. 7. But we have different adaptation mechanisms. For example, we know that you can become better adapted at being in the heat. So heat adaptation, if you look at the research, takes about two weeks to get most of the heat adaptation.

[00:10:06] Not 100%, but relatively close to it. So these processes can be trained again, just like doing curls for your bicep. Your bicep gets a little bit bigger and stronger when you stress the body with say sauna or exercise in the heat and humidity. And you do it in an intelligent way. You don't just throw yourself into something that's too extreme.

[00:10:31] Your body gets a little bit better to handle that stressor, that heat. Once again, and my bias is the main stressors to focus on are the stressors, these homeostatic regulators, that the parameter your body has to hold very tight. So parameter number one is going to be temperature. Parameter number two is going to be pH.

[00:10:57] The pH of your blood can't vary that much, either up or down, more acidic or more basic. Again, we have a ton of different processes in the body. that help regulate that because pH has to be controlled very narrowly. A lot of this has to do with the enzymes that are used in the body for various processes that they only operate within a very fine pH.

[00:11:23] However, we could do some crazy high intensity exercise technique where the body uses a ton of glycogen or stored carbohydrates produces something for a split second called lactic acid. Lactic acid is immediately

broken up into lactate and hydrogen ions. Despite what you've heard, lactate is not a bad thing.

[00:11:48] Lactate itself can be used as a high energy fuel. It can be used by the muscle tissue, cardiac tissue, brain, etc. It turns out the cardiac tissue loves using lactate. The bugger is those pesky hydrogen ions that are produced at the same time. Hydrogen ions are literally an acid that gets dumped into the bloodstream over time.

[00:12:11] This can then potentially change the pH. So we have to have regulatory systems to make sure that doesn't get too far out of range. That was one of the reasons why if you're doing very high intensity work. You are limited a little bit by how much you can do. There's a whole bunch of different factors that go into fatigue, both central, peripheral, and a bunch of other things.

[00:12:35] But if the pH drifts a little bit too far and becomes too acidic, it can actually impair the actinomyosin cross bridges, the literally physical muscle contraction mechanism itself. The number two is pH. Number three for homeostatic regulators is your fuel system. All the cells in your body need some form of cellular fuel, which is ATP, and we can break down many different things in order to get that.

[00:13:05] That is the idea of metabolic flexibility. How well can your body use fat for fuel? How well can it use carbohydrates for fuel? So in this instance, in the Physiologic Flexibility Certification, we expand that out into how can your body use ketones? Ketones are produced primarily by the liver, When your body is running through a ton of fat.

[00:13:29] This was primarily the backup system to starvation. If you were starving, your body starts breaking down adipose or fat tissue. And it does this at a really high rate and the rate is very high. And a by product of that are these ketone bodies. There's basically three of them. And it turns out these ketone bodies are high energy fuel for Again, the muscles, the brain, the cardiac system, et cetera.

[00:13:56] So when you run a lot of fat through the system producing energy metabolism system, you buy product of this in a low insulin environment. So not many carbohydrates around is the production of ketones. So what's cool is you can use a ketogenic diet to do this with the advent of modern supplementation, you can also use ketone supplements.

[00:14:20] Primarily ketone supplements in the form of a ketone ester. So we talk a lot about that, the pros and cons of that, when you'd want to use them, and when may not be the best idea to use them. And then also running through a ton of carbohydrates, like we said, processes glycolysis, that process is going to produce lactate, in addition to hydrogen ions.

[00:14:44] It turns out lactate is also a great high energy fuel, like we just mentioned. And again, there are some very pros and cons of doing this. In practicality, this comes down to how do you effectively program true high intensity intervals. Everyone now is talking about high VO2 max, probably heard of the Tabata protocol and various other protocols, maybe the Norwegian four by four for increasing VO2 max.

[00:15:11] How do you set this up where you can program this effectively for a wide variety of clients? Is there anything we can do to mitigate some of the hydrogen ions that are produced? Turns out you can. You can biochemically try to buffer both what's called intra and extracellular production of hydrogen ions, which we talked about that in the course, and you see a performance bump with that.

[00:15:35] And then pillar number four for the homeostatic regulators is going to be CO2 and oxygen. Turns out that carbon dioxide is not necessarily a waste product, it is a byproduct. It is the primary reason that your breathing is regulated. Turns out oxygen is the backup system. Yes, all your cells need oxygen to function, but CO2 is the primary mechanism of regulating that.

[00:16:03] So CO2 and oxygen are highly linked to each other. And this gets into breathing techniques during exercise, maybe breathing techniques at rest, such as Box breathing Wim Hof breathing, or what's called Tummo breathing, so supraventatory breathing, i. e. breathing really fast in and out. When you do that type of breathing method, for example, you are actually getting rid of a ton of CO2.

[00:16:31] Now this has a slight benefit where it is slightly alkalizing to the pH. So again, all these regulators are tied and overlap with each other. However, it does have some negative effects. Again, there's some pros with it also, and that is the fourth regulator is basically breathing CO2 and oxygen. So when I was coming up with the course in reality, when I talked to marketing people, they told me I should break it down into four separate courses.

[00:17:02] Maybe I will someday, I don't know. The reason I did not is because I think all of these systems, one, are overlapping, are interrelated to each other.

Two, I think in fitness there's too much emphasis put on protocols without context and without understanding how basically these systems work together.

[00:17:27] There's no protocol that's going to cover every single question you may have for yourself or for your clients. However, if you understand the big picture, and again, this doesn't mean you have to understand exactly the movement of every electron through the Krebs cycle, or what complex one compared to complex three does in the electron transport chain, but you should have some idea of how all these systems work together, what are the intricacies of each one, and then how would you put them into practice.

[00:18:00] I believe they all four are related to each other. And that's why I've decided to do it all as one course and not split it up into four separate courses. Not saying I'll never do that, but right now that's the plan. This way you will learn everything from breathing techniques to cold water immersion sauna, meditation, fasting, keto, high carb, true high intensity work, zone two programming, all of that is included.

[00:18:30] So if you are a trainer or a fitness enthusiast. All of those things do have their place. I do think all of them are extremely valuable. But again, context with each one is also important. When you would do it, how you would do it, and why you would do it. At a basis, you need to understand those three. So in the certification, we talk about the big picture.

[00:18:55] Why are we targeting these homeostatic regulators? How can we make your body more robust and actually anti fragile? And then with each one, again, we've got the four pillars and they each have two sides. So for temperature, we'll talk about cold water immersion on one side and then sauna and exercise in the heat on the other side.

[00:19:16] Breathing, we've got carbon dioxide and oxygen. Fuels are expanded into ketones and oxygen. Lactate and so on so each one of those has two ends So that's eight separate sub modules that you'll learn all the technical details I think at the time when I created all of this i'm still updating it. I think i've pulled over read 400 references for it again, not all of those references are in there, but It's referenced as much as I possibly could.

[00:19:49] Again, a lot of those references were not actually used because they were not directly applicable to what was going on. And then part three for each one, you will have a specific protocol, i. e. the exact action items that you would do. So once you learn the big picture, you'll then learn the reason for each intervention.

[00:20:09] For example, in the cold water immersion, you'll learn all about how it may affect muscle hypertrophy. There's some really big context things you have to understand with that. And so you'll understand each one of those for each area. And then we'll have over 40 explicit action items to show you how you can actually directly apply this.

[00:20:32] So again, I wanted something that included the big picture for context, the intricacies of each one, and also included the protocol and the explicit action items. So that way you understand what you're doing, why you're doing it, and you know explicitly how. to go about doing it. Last part for this round, which I can't guarantee I'm going to do this all the time in the future, but right now for this round, you will also get a free email access to me.

[00:21:02] Again, the material here is presented as clearly as I possibly could. It is pretty detailed but we're not going down into, like I said, the learning the electrons and exactly all the movements within the electron transport chain or the Krebs cycle. So it is a little bit higher level than that. But it is, it's pretty technical stuff.

[00:21:23] These concepts are a little bit more difficult. Most people, even people who have advanced degrees some of these concepts were actually never taught. So for example, I learned a lot of the basics, but. For things such as the details of cold water immersion and sauna, I had to go back and read a whole bunch of physiology in order to figure out how to apply it.

[00:21:44] It is done in a language that's probably at an intermediate level. We have had people go through it who do not explicitly have, four year degrees in exercise, phys, or biochemistry. And they've done just fine. Again, it is not super easy material. I'd say it's probably intermediate level which is why if you have any questions on it, you can just email me directly.

[00:22:05] You'll get my private email and I will get back to you normally within 24 to 48 hours. So you can talk to other people who've gone to the course, like it is legitimately me emailing you back or sending you a voice note, or sometimes even done videos for people to make sure that they can understand the concept.

[00:22:24] Because when I designed the course, I like the teaching aspect, but I want to make sure that you understand it so that you can then apply it to yourself or to your clients. To me, it doesn't do any good if people are not able to understand it and are not able to apply it. It doesn't really help anyone overall.

[00:22:44] So that is a rough outline of the Physiologic Flexibility Certification. It is open now as of Monday. March 18th, 2024. And we'll go through until midnight PST, Monday, March 25th, 2024. We will have all the links in the area here just below. So you can get to the page that has all the details. If you have any explicit questions about it, please hit me up.

[00:23:14] You can find my contact info on the web. And I'm more than happy to answer any questions for you. So thank you so much for listening to the podcast this week. We have a kind of bonus episode coming up in a few days, so look for that. As always, thank you so much for listening, I really appreciate it. If you have any interest in the Physiologic Flexibility course, please hit me up.

[00:23:40] If you're on the newsletter list, you'll see a lot more information going out about it over this week. I'm super excited about how it turned out. I started actively thinking about these concepts and putting them into practice over actually 11 years ago now, which seems crazy. Honestly, it's been a monster pain in my ass to, to put all this into a certification.

[00:24:06] I've gone through and reworked a bunch of areas several times now and rearrange stuff and move things around. So constantly going in and adding little bonus items and updates here and there. But overall, I'm super happy with how it turned out and all the feedback so far has been much better than I imagined.

[00:24:24] So if you are interested, hit me up, check out the link below. Thank you so much. Talk to all of you very soon.

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