OneMedicine Podcast Episode 30: Lexi Loch, ND | TRANSCRIPT

Rob Lutz 00:02
Hello and welcome to the OneMedicine Podcast with Today's Practitioner. In each episode, we share the expertise of a respected thought leader, some you'll know and others you'll probably meet for the first time. We cover topics important to you, always with a focus on improving the health outcomes of the patients you treat while expanding your understanding of the many healing modalities being used today.

Rob Lutz 00:25
Welcome to the OneMedicine Podcast. I'm your host and editorial director at Today's Practitioner. Our conversation will focus on an integrative approach to reclaiming metabolic health. And just a quick thank you to Euromedica for sponsoring this episode. And we will include some links in the show notes, so you can check them out as well. Our guest is Dr. Lexi Loch, a licensed naturopathic doctor and a previous guest. So, welcome back to the podcast, Dr. Lexi. Before we dive into the topic, would you mind just sharing a little bit more about your background and any context related to the topic today?

Lexi Loch 00:59
Absolutely. Well, thank you, Rob, and Today's Practitioner for having me here today. I graduated from NUNM, which is the naturopathic university here in Portland, Oregon. They recently got a new campus, which I am kind of jealous about, so I might have to go back and visit at some point. I've had my own private practice out here in Oregon and Washington since 2021. In addition to my clinical practice, I also am a medical writer, editor, researcher, and I have been in the natural products industry for over 12 years now. I do work as medical educator for EuroPharma, which is the parent company to the EuroMedica brand. But today I'll just be talking about science and ingredients. Now, in in my spare time, I am still a pretty competitive athlete. I'm getting ready for snowboarding season, which hopefully we get some snow soon. So, snowboarding in the winter time definitely keeps my metabolism in tip-top shape. And then I also play pretty competitive volleyball. And another key component to my metabolic health is definitely having four dogs. I work in clinical practice with quite a few people who are dealing with some metabolism challenges, and I think there's many reasons for that. So it's probably a good segue into our discussion.

Rob Lutz 02:13
Yeah, it's a great topic, and I think you're right. I mean, a lot of people are dealing with metabolic health issues or the results of those issues, and maybe not even really knowing that they have it themselves, I can count myself in that category. I'm also very active, but my most recent blood work showed that I was creeping into that pre-diabetic range, and all the impacts that can have. So, I do think it's a much more common issue than people think about, so I'm excited to just dive into it with you.

Lexi Loch 02:44
Yeah, so I think kind of from the get go is just maybe a little bit of a review of what metabolism is, because I think in our patients' mind, metabolism really just means one thing, and that's weight. What that number on the scale, they're like, "Oh, I have slow metabolism, so these things are happening." And I try to describe to patients that metabolism is a verb. It is an ongoing action. It is not a noun. So

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yes, our metabolism may have some challenges, but we also have tools that can help shift it. When we think about metabolism in general, it's all of the background kind of chemical reactions and machinery that is taking place every second of every day to keep us alive. It's keeping our heart beating. It's keeping our brain thinking. It's all of these kind of voluntary but then involuntary processes that are happening, and that takes a ton of energy. And so, when our metabolism is what I consider kind of like healthy metabolic function. We have consistent energy throughout the day. We are producing ATP efficiently. We have an appropriate insulin response and sensitivity. We have the ability to build and maintain lean muscle mass. We have healthy cholesterol and triglycerides. We don't have maybe some of those energy crashes or feel hangry, so these are things that I try to communicate to patients. It's like here are some of the goals we are working towards when it comes to having healthy metabolic function, and then also having what I like to call like metabolic flexibility.

Rob Lutz 04:14
Yeah, so it's like you said, it's not just looking at that number on the scale. That may be an indicator of something possibly, but that's not what you're really focused on here, right? It's really digging in a little bit deeper.

Lexi Loch 04:26
Exactly. And when we look at some of the more recent statistics on metabolic syndrome, which kind of as a defining feature here, we're looking at abdominal obesity, which is described as having a waist circumference greater than 40 inches for men, greater than 35 inches for women. There are some different metrics that I think would be more useful, and maybe we can talk about how we could potentially shift some of these metabolic syndrome diagnostic criteria. But then number two, having low HDL cholesterol, so less than 40 in men, less than 50 in women. Having elevated blood pressure, so greater than 130 over 85. Although some of the other organizations are pushing for more, like greater than 130 over 80, and then or actively being treated for high blood pressure. Number four would be high triglycerides, so greater than 150 milligrams per deciliter, and then last would be elevated fasting glucose, so over 100. Basically, metabolic syndrome is any three of those five conditions. And like you kind of mentioned, there are a lot of people walking around that may not even realize they have metabolic dysfunction. Some of the recent statistics that I've seen, there was a study looking at kind of a comparison from prevalence of metabolic syndrome from 2011 to 2012 versus I think like 2015 to 2016, it went from about 37 percent to about 41 percent of the the whole U.S. adult population having metabolic syndrome. Some of the bigger categories of increases that we saw were there was a significant increase in women, about five whole percentage points, so about 32% upwards to about 36%, and then also in younger people. One of the bigger categories was people who were 20 years old to 39 years old. There was an increase from 16% to 21%. So younger people are dealing with more of these metabolic challenges, and kind of the whole reason we're worried about metabolic health is because it does set us up for higher risk of cardiovascular disease, as much as two times, three times the risk of heart attacks or cerebrovascular accidents. So I mean, these are the things that we're kind of thinking of downstream.

Rob Lutz 06:40
Pretty serious consequences.

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Lexi Loch 06:42
Yeah, why we're trying to keep people in more of that metabolic health or metabolic flexibility kind of state.

Rob Lutz 06:48
That's great, and I think, like you said, a lot of people don't maybe realize it that because they don't step on the scale and say, "Look, I've gained a ton of weight" or anything like that. But if you look at some of the advanced lipid tests that you can do and things like that, you'll start to see. I think some of those. So, what do you, when you think of the current diagnostic criteria, where is it falling short in diagnosing metabolic syndrome?

Lexi Loch 07:13
So, I think we're actually a little late to the game when we are diagnosing metabolic syndrome. At this point, there's already active conditions going on, right? We already generally have either hypertension or pre-diabetes or type two diabetes or dyslipidemia. So, I think in my ideal world we would take more of a proactive approach, and some of that is going to tie back to looking at fasting insulin, because we typically see in insulin increasing for years, sometimes even 10 plus years, before we ever start to see that fasting blood sugar or changes in the A1C levels. So, looking at fasting insulin, I think is a really good kind of marker that we should be keeping track of and watching those trends over time, since increases in fasting insulin may tell us that there is some metabolic dysfunction happening before someone is at a greater risk for developing metabolic syndrome.

Rob Lutz 08:10
But a quick question on that: so you've got a patient and get their lab results back, and you're looking at their fasting glucose. Is it when it crosses over 100 when you start to say this is where we need to really be careful for everybody, or is it? What's your thought on that?

Lexi Loch 08:26
It's kind of dependent. I mean, sometimes people who are highly trained athletes they may run a little bit higher. So I do think that taking someone's activity level into consideration, also age, we will see fasting glucose sometimes increase with age, so I do think adding some of the patient-specific demographics are going to tie into my clinical thinking, and that's really why I think adding in the fasting insulin is going to give us a little bit more indication. Because in an ideal world, we are secreting insulin in the appropriate amount and at the appropriate time after consuming food that has carbohydrates, which gets broken down, so the insulin will rise kind of gently or appropriately, which gives us steady energy. Doesn't really have much change to our weight or body composition. So this is when we're looking at fasting insulin being less than seven. But what we tend to see in kind of this early insulin resistance is it's taking more insulin secreted from the pancreas to keep that blood sugar in what we consider a normal range, so under 100 in a fasted state. So the pancreas is really compensating here, and this is where we might see some of the visceral or abdominal adiposity start to happen, but the patient's still feeling relatively fine. But they're saying, "Hey, I'm just like holding on to a little bit more weight in the abdominal region specifically." If we were to do a fasting insulin at this time, we might see it creep up to 10 to 15 instead of less than that. Seven being relatively ideal, and then when we have the fasting insulin, we can use the fasting glucose to calculate something called HOMA IR, which is

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kind of a great assessment for looking for potential for insulin resistance as well. So getting some of those numbers again, adding in that fasting insulin, I think is a really good indicator for a lot of people.

Rob Lutz 10:21
I'm sure practitioners have heard of that before, but that's not one that I, I don't think that was tested for me. I think we looked at fasting glucose, where that was, but not insulin.

Lexi Loch 10:30
Yeah, and I think there are some practitioners who kind of think of it a little bit more as if you're going to look at glucose levels, we really should also be looking at insulin. So I do think it's becoming a little bit more commonplace, or maybe more people are considering adding it. And it's a pretty inexpensive test to do.

Rob Lutz 10:46
None of these are that expensive, right? I mean,

Lexi Loch 10:48
if we're curious about glucose, we should also be curious about insulin.

Rob Lutz 10:52
Yeah, agreed. Do you just out of curiosity, do you recommend, or do you, for many of your patients, some kind of a continuous glucose monitor or anything like that.

Lexi Loch 11:01
It's funny you bring that up because I'm actually wearing one right now. So I do think they can be helpful. However, for patients who I have that I know that this type of data can be a little bit stress invoking for them, I may just say, you know what, we may not look at that. I love people having access to data, but I don't want them to hyper fixate on it. I think a lot of these things are for evaluating trends over time, and not like, oh my gosh, I ate and my glucose spiked to 140. And it's like, okay, well, that's not necessarily problematic as long as it comes back down, and you're not having these like big energy crashes, or you're not going hypoglycemic, so I do think the CGMs can be useful, but sometimes still comparing them to like a finger stick test can be helpful, and not using it as your only measurement because there can of course be a lot of variability. People, if they sleep on them at night, it can register as falsely low readings, so I mean, there's definitely some discrepancies. But I am a fan of being able to watch in real time, like what a 10 minute walk after a meal can do for blood sugar.

Rob Lutz 12:12
Yeah, I mean, so I wore one for a while, and for all the same reasons that you just mentioned, and probably went through all the same things that you mentioned. My wife was like, "If I hear one more thing about where your glucose level's at", but it was interesting because I was looking at my metabolic health and was having a hard time just dropping weight. I'm 61, and so all the things that you're talking about, I was seeing those. So I thought it would be good to look at my glucose. But I realized when I eat something late at night, my fasting glucose was higher, and that my glucose stayed fairly high

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overnight, and so I was losing some of the benefits of the fasting levels. Also, recognized, wow, a 10-minute walk after dinner makes a huge like unbelievable difference.

Lexi Loch 12:57
Yeah, and that's where I think it can really be a motivating factor for people is when they can see some of that because you're absolutely right. Like if we ate the same meal at 8 a.m. versus 8 p.m., we're going to have a different response, and our glucose is going to stay more elevated when we have that meal at 8 p.m. Like if I ate a bowl of white rice at 8 a.m. versus 8 p.m., like it's going to register very different on my CGM, and part of the reason for that is our metabolism is also under our circadian rhythm, and ideally our insulin sensitivity is highest during the day because daytime morning kind of means like hey we need to get the metabolism up and running, and then of course in the evening it's like now it's time to kind of relax, restore, and get into those repair processes. So eating really late at night can significantly change metabolism and, like you said, keep those blood sugars elevated for longer, and then lead to disruptions in sleep. Which, of course, missing even one night of sleep is going to decrease our overall insulin sensitivity, so it's kind of a vicious cycle.

Rob Lutz 14:03
It is. It seems like all these things are kind of a feedback loop, whether it's good or bad. So if you can focus on things that will shift it in the right direction, it eventually, I think, starts to bring other things back into alignment the way they should. That was my experience looking at some of my numbers. Yeah.

Lexi Loch 14:18
Exactly. And that's what I try to tell patients too. It's like the things we're doing on a daily basis are going to impact our metabolism for better for worse. But that's why I really think establishing like the healthy foundations is one of the best things we can do for people through nutrition, through lifestyle techniques like sleep management, stress management, all of these what we consider kind of foundational approaches all positively or have the ability to positively impact our metabolism.

Rob Lutz 14:49
Yeah, no, I think that term foundational it doesn't come across as like this sexy term, but it is foundational to your health. In a lot of cases, there's simple things that you can do. May have to have a little discipline or change some of your habits, but they can have a dramatic impact on your overall health, especially around the catalog.

Lexi Loch 15:07
It's not some like prized herb from this really remote region in the world that people are like, "Oh, I'm so excited to take this." But it's like, yeah, when you get good sleep, you have better insulin sensitivity the next day. You also probably better energy. You have better mood. Like it, it impacts all of these other aspects of our overall metabolic health. Like they've done research on people who do shift work or have kind of an altered circadian rhythm, and they tend to have more issues with blood pressure, with after meal glucose, with some of these cholesterol parameters. So it's like kind of having this circadian mismatch or circadian misalignment can set us up for these metabolic issues because all of our organs are under that circadian rhythm or that kind of day-night cycle, where they have kind of this optimal schedule, which is having higher metabolism during the daytime, during the sunlight hours. So one of

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the kind of best free pieces of information I give patients is try to get outside for about 10 minutes as early as you can in the morning. Ideally, when there's at least some some sun or some lightness outside, because that tells your body, hey, it is time to kind of switch gears, get out of nighttime mode, and get ready. I tell them it kind of like burns off the sleepy chemicals. It's like let's let's set the body up for now. It's like okay, time to ramp up metabolism.

Rob Lutz 16:32
And I think you made a comment earlier about the study with young people, 25 and a little bit older, having metabolic issues. We're seeing more of that. I mean, staring at your devices late at night, staying up late, right? All the impacts that that has that you don't realize something as seem seemingly as benign as that really can make a big difference.

Lexi Loch 16:53
Oh, absolutely. I mean, look, guilty as charged. There, there are nights where I'm like, I should really be reading a book right now, or even putting like maybe one of the red light screens on the phones, or there's definitely a lot of tips and techniques that we can use. And I do find my sleep is different when I read a book versus reading like on my phone or whatever. So I definitely need to take my own advice sometimes. So I sympathize because it's it's those devices they are hard to walk away from any time of the day, especially in the evening. You're like, I need to catch up on what's going on in the world, and now you're also increasing your stress levels before you go to bed. Okay.

Rob Lutz 17:36
Okay. So that that's great. We talked a little bit about some of the risks of metabolic syndrome. Is there anything else you want to mention around that? I think did we cover what you wanted to cover with that?

Lexi Loch 17:46
Yeah, I will also say that like we tend to see higher risk of some cognitive changes as well when our metabolism shifts, only because if you think about it, like our brain is about 2% of our body weight, but uses about 20 to 25% of our glucose. So if we're having issues delivering glucose as fuel into the brain, we can also be at a higher risk for some kind of cognitive issues, whether it's mild cognitive impairment, dementia. That that also kind of ties into the overall metabolism picture.

Rob Lutz 18:18
Makes sense. Yeah. So there's a lot at risk if we don't get this right. So, any nutritional recommendations you make for people with metabolic syndrome or to avoid kind of going in that direction?

Lexi Loch 18:31
I'm going to be perfectly honest. I try to give people nutrition information that is not restrictive because I feel like there's a lot of information out there, especially trending on social media, like what the best diet is for X, Y, or Z, and it's like the best diet, or I'll just say the best nutrition recommendations are the ones that you can maintain, the ones that allow you to eat a variety of foods that you can tolerate, the ones that add the least amount of stress to your life, and really, it's I opt typically for a Mediterranean-

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like eating style because I think it allows for a lot of variety as far as nuts and seeds and whole grains and vegetables and fruits like berries and high-quality extra virgin olive oil and lean and clean proteins. There's also a lot of like wonderful resources out there for following more of a Mediterranean-like pattern. I could probably find research on almost every single dietary pattern out there, and there's going to be some impact on metabolism or metabolic syndrome. But again, like if it's not nutrition recommendations that people can follow for a long period of time, or let's say they do kind of a restrictive diet for a period of time, and then they need to come back off of that. Well, now what? Now their metabolism may shift, and it may be hard for them to stick with some of those. So I do tend to opt for more of the Mediterranean-like approach.

Rob Lutz 19:56
I like that idea because you're right. If it's a very. Restrictive diet, and if you're the one cooking, or if your partner's cooking, and all of a sudden it's like, how do we do that every night? So having a diet that you can enjoy, and still enjoy the food that you're eating, and not be so restrictive that you're just eventually going to fall off that diet.

Lexi Loch 20:18
Exactly, and I will say that, like when we're looking at people with metabolic syndrome. We do tend to see some pretty common nutrient deficiencies that ideally we're addressing through nutrition. But again, it's maybe not the coolest thing to talk about. But I do generally advocate for a lot of my patients for like a multivitamin mineral supplement because there are such big food gaps or nutrition gaps for a lot of people. Looking at things like magnesium, vitamin D, some of the carotenoids or fat-soluble vitamins, zinc, chromium, also like some of the B vitamins, like B12. Since we know metformin, which is a first-line treatment for diabetes, often depletes B12 and even folate to some extent. So I am also thinking about that when I'm giving nutrition recommendations, and just thinking like, hey, they may still need some type of multivitamin mineral supplement. And there's a lot of practitioners that may have their favorite micronutrient testing that they do. And I have seen improvements between dietary changes and then also adding in multivitamin mineral. And whether it's a powder form, whether it's capsule, tablet, I mean, there's so many options. I try to steer patients away from gummies. I mean, look, I've tried a lot of them; they taste delicious. It's fine, but I think most people still do really well with tablets, capsules, powders, etc.

Rob Lutz 21:37
Well, one thing, a little bit about the the gummies, but I think just in general, so gummies are typically kind of sweet, right? Whether it's a natural no-calorie sweetener or has maybe some kind of sugar in it. For me personally, I find if I start eating some sugar during the day, I'm going to want it throughout the day. Whereas if I don't have any sugar, I don't think of it the same way. I don't know if there's some mechanism behind that or not, or if it's just me, but if we're thinking about compliance with patients having things that are easy and foundational clients, right? You need them to continue to do all these things and make it easy for them. But yeah, with gummies, they are easy, they are tasty. But

Lexi Loch 22:15
I know it's like, and look, if you're going to have a sweet treat, would I rather you maybe have a sweet treat with a sprinkling of magnesium in it. I mean, sure, but at the end of the day, like I think from a

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nutritional perspective, it's probably easier to get a lot of those nutrients in capsule, in tablet, in powder form, and actually get absorbed.

Rob Lutz 22:34
Yeah, yeah, I love that. Okay, so we talked about some nutrition. I think we should come back to other supplements, and imagine we'll do that towards the end here. But lifestyle recommendations we talked about walking and things like that. But what other easy to maintain lifestyle recommendations do you recommend to your patients?

Lexi Loch 22:56
So we know that like our muscles are our biggest reservoir for glucose, right? So it's like we need to be using our muscles, and I know that can be very hard for people who sit or have desk or chair-based jobs. So I am actually a really big fan of some type of resistance bands because those are super easy. You can let's say someone has a lunch break and they can do a few lower body or upper body resistance band exercises after they have eaten, or ideally they take a 10 minute walk and then maybe do some resistance band exercises. But there was a really good study on postmenopausal women who did some type of resistance band exercise. I believe it was about three times a week for 12 weeks. At the end of that 12 weeks, they have lower glucose, lower insulin, lower HOMA IR, improvements in cholesterol, reductions in body fat. So I mean, again, I think when it comes to the word exercise, that carries somewhat of a negative connotation. Patients are like, I don't want to go to a gym, and I'm like, I'm not asking you to go to a gym. I'm asking you to buy these 20-dollar resistance bands from wherever you want to buy them from, and start doing some resistance training, engaging your muscles, allowing for that glucose to be taken up by the muscles rather than just kind of recirculating. So I'm a huge fan of resistance band or some form of strength training. I think strength training is does it. It's not just about having to go to a gym to use the machines. You can have like a couple weights at home. I know some people were like really into the weighted vests for a period of time, which can be a useful tool. I think as long as you're focusing on like really good posture, because you're wearing a weighted vest and you have maybe not the correct like postural alignment. You could be putting more stress on your joints. Anyway, that's a whole nother topic. But some form of resistance or strength training, I think, is absolutely a vital piece of overall metabolic health.

Rob Lutz 24:52
Yeah, and I think it can be an easier one as long as they can just commit to doing it for a couple of weeks, and then they start to feel. The difference, right? Overall, I think anyone that gets into that kind of movement, strength training, whatever it might be, it's going to be that feedback loop. You're going to feel better, and you're going to eventually. It's going to become a habit for you that's a positive one.

Lexi Loch 25:14
Like I, full disclosure, I am not naturally a morning person, so I face challenges getting up and going in the morning. I actually have one of the vibration plates, so that's one of the first things I do when I get up in the morning. Is just get on the vibration plate and just stand there. And I'm okay. Do some deep breathing. Do some maybe mantras or meditation or something. So you can kind of like combine some of these elements when you can. And I'm not saying that everyone needs a vibration play, but for me, someone who struggles with getting up and going in the morning, and after I get off that, I'm just like,

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okay, I think I have rattled my brain awake. I am ready to start the day, and I do think that it helps just with lymphatic circulation, engaging muscles right away in the morning. I wish I could get up and just immediately want to exercise, but vibration plate is about all I can handle right when I wake up. So that's what I do.

Rob Lutz 26:06
Yeah, having some kind of a morning ritual or certain things that you've strung together. Whether it's you get up and maybe you read something, you write in a journal, you meditate, and you move. If you can do some of those things, I think it's really helpful. I read someone had a quote that I really liked, and it's that early morning movement. It's like a little bit of Ritalin and a little bit of Prozac because it it does release chemicals in your body that will help you feel more awake and probably a little bit less stressed too.

Lexi Loch 26:34
Exactly. I actually recently added, so I get off of my vibration plate, and now I do a little bit of light yoga, I used to be very consistent with doing yoga, and then for whatever reason, I just kind of fell off. And now I get off the vibration plate, I do a little yoga, and I'm like, wow, I forget how good I feel, even if it's like five minutes or just doing a couple poses, feeling into your own body, helping you kind of get synced with your body, your breath, thinking about all of these things, and really trying to figure out how you can set the tone for your day, right?

Rob Lutz 27:06
As opposed to waking up and looking at your email and just all of a sudden you're right, yeah,

Lexi Loch 27:12
Yeah. I do try to ask people gently to not look at their phones. Start out for the first 30 minutes, ideally for the first hour, because it's like, look, we like you said, you know, you want to develop that morning ritual that kind of puts you in a different headspace, perhaps. And why engage your stress response right when you wake up if you don't have to? So I do try to ask people to delay looking at their phones. I know...

Rob Lutz 27:37
Replace that habit with the one you're talking about.

Lexi Loch 27:41
Exactly.

Rob Lutz 27:41
Yeah. So lifestyle recommendations. You talked about some resistance training. We talked about maybe walking after dinner or after a meal. Are there other things? Of course, the diet. That's a big part of it. But...

Lexi Loch 27:53

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Absolutely. And I do think we kind of hit on it a little bit. Is some type of stress management, if you will, mindfulness-based stress reduction. Some of the statistics I've seen were like 45% higher odds of metabolic syndrome in folks who identified as high stress versus folks who identified as like lower stress. So I do think we talk about stress a lot, and it's kind of this overarching theme, right? But I do think that, and part of that is that morning ritual that we just talked about. And so I think any way that we can kind of help to establish nervous system safety throughout, whether in the morning or throughout the day, is also going to feed into our metabolic health, kind of in general.

Rob Lutz 28:38
And that's largely because of cortisol, the cortisol levels.

Lexi Loch 28:42
Yeah, and it's funny because cortisol kind of gets this bad rap, right? But it's really when we have a regulated cortisol response, it peaks in the early hours of the morning, which actually helps sync up our kind of switching on and switching into daytime mode. Is cortisol is one of those signals that helps engage us to be alert and awake, but of course we see a lot of reasons why that cortisol rhythm becomes dysregulated, and people may have inappropriate spikes later in the day or in the evening, which is preventing..

Rob Lutz 29:13
In the morning...

Lexi Loch 29:13
Yeah, yeah, exactly. So, so we really want it to peak early in the early hours of the morning, and then drift off throughout the day, and that's kind of then where like melatonin starts to take over. So yes, absolutely thinking about cortisol regulation, kind of in the grand scheme of things.

Lexi Loch 29:28
Yeah, it's it's one of those things, like you said, it's got it's kind of a bad rap. But most of these things that are out of sync or dysfunctional, when they are in sync and functioning correctly, they're really helping us be healthy, and so if we can take some of these steps that you're talking about in the morning to set things up and have that consistently, then your cortisol is probably doing what it's supposed to do when it's supposed to do it, and it's gonna you'll sleep better. Your glucose will be more regulated. Those probably those types of things.

Lexi Loch 29:58
And kind of on that note too. Is I know there's more options now for kind of tracking body composition at home. I don't like if you've seen some of these bioelectric impedance analysis machines, which sometimes patients will ask me how I feel about that because part of their routine may be assessing their body composition at home. And I do think that they can be useful tools. However, I generally look at them more for trends over time, again, I don't want people to hyper fixate because there can sometimes be wild swings in like hydration or depending on the meal you ate or where women are in their menstrual cycle. I mean, there's all of these kind of fluctuations. So I'm usually saying, hey, let's kind of track these trends over time. Let's not fixate on a single day or a single number, and then again

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comparing that to a DEXA scan because DEXA, of course, is going to be a nice way to kind of look at fat mass and fat distribution, and then of course also bone density. So just knowing that that's probably going to be the gold standard, if you will, at the clinic that I'm at part time, we have some tools that we can use to look at body composition as well. So I do think that can be a helpful piece of the puzzle and help people keep track of the lifestyle changes over time and the impact that they are having in their body.

Rob Lutz 31:14
Yeah, and I think whether it's a glucose monitor or that type of scale that you might have in your bathroom that gives you more information about body composition, I think you're right. You don't want that to be something that you're like, oh my god, look at this one reading. But if you start to understand, yeah, see, my glucose would spike and my fasting glucose was high if I ate something late, or I had more carbs with dinner instead of lean protein, healthy fats, and vegetables. You start to know. Okay, I know I'm going out to an Italian restaurant. I'm going to have spaghetti and meatballs tonight. I know my my glucose is going to be high tomorrow, right? Exactly. But I know if I go back to what I'm supposed to be doing, what I've told myself I want to be doing, then it will track the way it's supposed to and the way that I want.

Lexi Loch 31:57
Yeah, it was interesting. I have a patient who was dealing with a pretty complicated relationship situation, and she had sent me some of her glucose data, and I was like, "Oh, can you tell me about this like really high spike? Like it was one of the highest spikes that I had seen." She's like, "Oh, that was after I was talking to my ex." And you're like, "See, so it kind of helps people bridge together all of these external inputs that are causing real physiological change in the body, and I also, when we're talking about kind of metabolism general, it's there's also of course like the genetic predispositions, right? You can absolutely have some genetic variants in hormones like adiponectin or an insulin sensitivity. There's a lot of these other factors that are largely not controllable, but again, we can alter the expression of those genes by doing all of these kind of day-to-day lifestyle pieces.

Rob Lutz 32:49
Right. So, looking at some of these data points, it kind of helps with the mystery of what's going on behind the scenes in your body, because there are things going on behind the scenes, and once you kind of know how these things work, then you can adjust your lifestyle and your diet, and because you know how it's gonna how it's gonna impact that. Any other lifestyle recommendations? Vagus nerve. What about the vagus nerve? Let's. I think it's a cool topic we spent a lot of time on. But what do you think about some of these devices that?...

Lexi Loch 33:19
I think that if people are noticing a benefit in their body, then why not? I don't think that every vagus nerve stimulator or vagus nerve technique is going to work for everyone, but so many of us are spending a disproportionate amount of time in sympathetic state of being, where the parasympathetic, the rest and digest phase is sometimes a much smaller piece of our daily existence. So anything that we, any tip or tool, like whether it's splashing cold water on the face, whether it's humming, whether it's some of the vagus nerve stimulators, like the little ear clip-ons or kind of the neck massaging ones,

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again, if people are noticing a benefit or they just enjoy doing it. Then I'm like, yeah. If it's bringing you joy throughout your day, or you're feeling a difference in your body, because sometimes it's hard for people to feel what is going on in their body. But if you're feeling a change in your emotions, then yes, I say absolutely continue with it.

Rob Lutz 34:19
Yeah. Well, I know that just slow, rhythmic breathing can increase your heart rate variability, which is, I think, a good indicator of vagal tone, and that's something anybody can do, right?

Lexi Loch 34:31
Yeah, and I actually will measure heart rate variability in folks, but interestingly enough, I did it on myself, which can be a little bit hard to measure because there's like clips and things, but when I was doing the deep breathing, I actually saw a decrease in my heart rate variability because I think it was I was fixating on it too much, right? I think I was too in my head about deep breathing, so that kind of gave me the insight to be like, okay, maybe we need to be a little bit like just more more fluid with the. The deep breathing, and not like okay, in for four, hold out for four, hold. But I think so. Kind of the the breathing recommendation that I'm giving to most people is: can you try to have your exhale be longer than your inhale? So not trying to give like super specific instructions, but trying to give like can you just exhale a little bit longer without trying to force things. Yeah.

Rob Lutz 35:23
Well, it's interesting. I've got an Apple Watch, and so when I meditate, I'll be able to track what my heart rate variability is, and it goes extremely high when I'm meditating. But if I'm sitting there watching television, it'll be like down in the 20s or something like that. So that tells me, okay, if I can be aware and mindful of my breathing throughout the day, probably my heart rate variability is better and I'm more relaxed. Would be my guess, but...

Lexi Loch 35:50
Yeah, I'm similarly. It's like when I'll watch college volleyball and I can feel my muscles tensing. It's an excited nervous, but I can still feel like actual change happening in my body, which I'm sure is impacting heart rate variability and things like that. Why am I getting so tense right now? So I'm like, okay, like we're just watching for fun. You're not playing. Like just, just try to try to enjoy it and embrace it. So it is funny when you start to notice those kind of subtle cues that your body is telling you.

Rob Lutz 36:18
Okay, so the final piece, and I'm glad we kind of left this towards the end for a few reasons. But we talked about the different ways that you would advise your patient and tests that you might be looking at. Of course, everyone wants to just be able to take a pill and feel better. But I know there are a lot of supplements and botanicals out there that can really have a strong impact and move the needle a little bit more for a patient, you want to talk about some of those.

Lexi Loch 36:42
Yeah, I mean, it probably start off with the one that most people might be familiar with, which is going to be berberine. So berberine is like a yellow compound that comes from a variety of different plant

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species. It's what gives golden seal that brilliant yellow color here in the Pacific Northwest. We have in Oregon, our state flower is Oregon grape, which is another berberine-containing plant or cork tree. There's all these different plants that you can source berberine from, and kind of one of the things that berberine does really well is it boosts up an enzyme in the body called AMPK, adenosine monophosphate-activated protein kinase, AMPK is a lot easier to say, but you can kind of think of AMPK as like a fuel sensor in the cell. When AMPK activates, it makes it easier for the cell to uptake things like glucose and fatty acids and cholesterol and burn them as fuel. So it helps kind of sense, hey, our energy levels are dropping. We need to kind of boost metabolism a little bit by taking in these fuels or taking in these inputs and then burning them as fuel. So it's interesting because it's actually one of the mechanisms through which metformin works. So sometimes people will say, oh, is berberine nature's metformin or whatever. Sometimes they'll compare it to like Ozempic or things like that, right? But so berberine is interesting. It also does have some impacts on lowering cholesterol absorption. So I do think about berberine for metabolic syndrome because it kind of has that impact on maybe helping to lower high blood sugar by burning more sugar as fuel, it has some impacts on dyslipidemia. It has some small to modest impact on blood pressure. I wouldn't consider it kind of like a shining star as far as blood pressure goes, but there have been some head-to-head trials versus metformin where it's had pretty similar efficacy. I would say one of the things is starting berberine early when we're starting to notice metabolic dysfunction because one of the more recent studies comparing berberine to metformin was in people with pre-diabetes. They weren't quite at metabolic syndrome, they weren't quite at diabetes, but again, they were heading down that road. And the earlier we can intervene, the less risk there are of some of these kind of end organ damages that we see with long term metabolic syndromes. I believe dosage was 500 milligrams twice a day. A lot of times, berberine is dosed 500 milligrams three times a day, and then versus metformin for about 12 weeks. Pretty similar decreases in fasting glucose, and then kind of similar with metformin. Sometimes people will have a little bit of GI upset when they take berberine, but there was actually less of that in the berberine group than in metformin. So again, I'm not trying to say that berberine is a replacement for, but I do think there is some good efficacy for people who are again maybe are in the earlier stages of metabolic dysfunction, driving down that road, but we're trying to prevent them from taking that road all the way there. So I do think that berberine is a useful tool.

Rob Lutz 39:52
Any impact on triglycerides?

Lexi Loch 39:54
There is some research. One small study, I think it was like 24 people. They had about a 42% reduction in triglycerides. I want to say that study was around eight to 12 weeks, so big improvements there. Which we know that high triglycerides over 150 is one of like the current diagnostic criteria for metabolic syndrome. But again, that was a relatively small study. But they did use 500 milligrams of berberine three times a day, and it was first placebo. But in that same study, they also saw about a 20% reduction in insulin resistance. So the way I kind of phrase it to patients is it helps improve insulin sensitivity because sometimes reducing insulin resistance is like trying to say a double negative. So I'm like, okay, it improves insulin sensitivity.

Rob Lutz 40:45

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Great, yeah. So I think berberine is one that we hear a lot about these days. What other supplements would you recommend other practitioners to consider?

Lexi Loch 40:54
So I do often recommend omega threes because we think about them from some of the cholesterol triglyceride standpoint, but they're also very common deficiencies. There was a recent study that came out looking at the ideal omega-3 index, which is like the percentage of omega-3s that you have in red blood cells. So it's just like a finger spot test, and kind of the goal is to be over 8%, and the majority of the United States population, like just the study sample population, was less than 4%. So about a 50% decrease in overall omega three status. So I do think omega threes are important because, of course, they help with membrane fluidity and cell receptors, things like that, but they are also precursors to some of the most anti-inflammatory compounds that we can produce. Those specialized pro-resolving mediators or SPMs, which their kind of job is to resolve inflammation. And we know when we're having metabolic dysfunction, we are in a pro-inflammatory state, so I think that adding in omega threes and there is some kind of varying research on their efficacy, but there's also a lot of options out there when it comes to omega three doses, when it comes to omega three sourcing. So I do think that some of those discrepancies have led to some of the kind of research results that can be a little bit mixed or conflicted.

Rob Lutz 42:25
Sure, yeah. So there's DHA, there's EPA. What are you looking at specifically, or is it just just get yourself on some some omegas? I mean, what do you look at?

Lexi Loch 42:35
I use an omega three from North Atlantic salmon that has the omega threes attached to phospholipids. Phospholipids are what make up our membrane phospholipid bilayer of our cells. So I think they're really easy for the body to utilize and incorporate. Phospholipids protect the omega threes a little bit more. We know that omega threes are a little bit sensitive and can become damaged. So those phospholipids provide some protection for those omega threes, so they're bioidentical DHA, EPA in that phospholipid complex. And what's nice is it's not in an oil form because I do find that not everyone tolerates the oil base or the soft gels. So this this is actually a really nice way to get those omega threes, and you don't have to worry about the rancidity issue because it's not in an oil form. Because there's always going to be some level of rancidity when we're looking at omega threes in that oil form, just because rancidity is a journey that starts as soon as that extraction process happens.

Rob Lutz 43:37
Yeah, that makes sense. Any others that kind of top of your list for ones that you're going to recommend to a patient.

Lexi Loch 43:43
I do often recommend curcumin. I know we think about it a lot on kind of like the pain and inflammation side of things, but there's actually some research on it for increasing a hormone that our fat cells produce called adiponectin. Adiponectin is actually an anti-inflammatory hormone that our fat cells produce. I think, unfortunately, like adipocytes or fat cells get a bad rap, but it's like, look, they're

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producing a variety of hormones. They are producing some that yes can promote inflammation, but can also secrete things like adiponectin. When we think about what adiponectin can do? It helps with fatty acid oxidation in the skeletal muscles. It decreases lipid content or lipid buildup in the muscles because we know as people age, we tend to see this kind of like sarcopenic obesity where their muscles end up getting replaced with kind of like this fatty tissue. So that can be one of those kind of subtypes of the lean body type, but still have metabolic dysfunction, or can even have metabolic syndrome. But adiponectin in the liver also helps boost fatty acid oxidation, decreases gluconeogenesis, which is the formation of new glucose. Between meals, so it helps us kind of stay in more of like that fed state. Also helps in reduce like oxidative stress and apoptosis of heart cells. Decreases lipid content in the liver too, so can help protect us from things like the what used to be the NAFLD now the MASLD. The new name for metabolic related changes that negatively impact the liver, which we tend to see like an accumulation of lipids, which can disrupt normal liver architecture and disrupt liver function. Again, it's not a defining feature of metabolic syndrome, but the overall trends and overall prevalence correlate very closely with the trends and prevalence in metabolic syndrome.

Rob Lutz 45:42
So is that kind of your list of when you've got a patient, or are there others?

Lexi Loch 45:46
I'm also there is some research on CoQ10, which helps kind of there was a smaller study in people with metabolic syndrome where supplementation with CoQ10, I think it was about 100 milligrams a day for eight weeks, helped to reduce fasting insulin in Homa IR. And I think when we kind of reflect on CoQ10 being depleted, of course, by some of the common drugs like statins, but kind of acting as like that mitochondrial spark plug, so helping us produce energy more efficiently. And again, that's something that we tend to see decreased ability in folks who have metabolic dysfunction or metabolic syndrome. I also like supplementation with glutathione in people with metabolic changes because, again, we're often in that kind of pro-inflammatory state. We're depleting our antioxidants. Glutathione, of course, is one of our most important endogenous antioxidants. So we. see depletions in really across a lot of chronic conditions, metabolic syndrome, aging, people who are taking acetaminophen or Tylenol. We often tend to see low levels of glutathione in people with type two diabetes, and the more depleted they are, the more microvascular complications they tend to have. So there was a human study looking at a kind of like a slow melt oral glutathione in people with metabolic syndrome versus a standard oral glutathione versus NAC, which is one of the precursors to glutathione. And the slow melt actually had the biggest improvement, and not just overall glutathione level, but in the amount of active to inactive glutathione ratio. Because we don't just want to boost glutathione the whole pool; we actually want to boost that active form of glutathione, which is the form that goes and neutralizes free radicals, acts as an antioxidant.

Rob Lutz 47:43
Wow, that's great. So I guess when a patient comes in and you're feeling they're kind of on that metabolic pathway that you want to correct, you're going to talk about diet and lifestyle, and then you're going to really give them some boost by some of these different supplements that you mentioned.

Lexi Loch 48:00

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Right, and I try to use supplements that maybe have different mechanisms of action. Right, like so, berberine. We're kind of working on that AMPK side of things. Curcumin, we're reducing some of that chronic inflammatory state, and also helping with production of adiponectin. And CoQ10, we're acting a little bit more. The mitochondria, glutathione, we're kind of acting on overall antioxidant status, and then I might have some other recommendations based on their specific case. But I would say that's kind of and yeah, a framework that I use to just kind of reflect on with patients.

Rob Lutz 48:34
Yeah. So you have a patient come in; they're talking about brain fog, and they've got some weight gain. Their energy levels aren't great. Maybe they're not sleeping great. So you do some of these tests, and you realize, hey, you're on this path. And let's say they comply with all these things: the supplements that you're giving them, the dietary changes, they're walking after dinner. When do you check back with them, and what do you typically see at those check-ins? What are you seeing?

Lexi Loch 48:58
So I usually like to give supplementation at least a couple months to work, since a lot of the studies we were kind of referencing were eight to 12 weeks, sometimes even longer than that. And then as far as reassessing maybe A1C or cholesterol, I'm usually giving it about three months. And then again, just telling them that we're watching for trends over time. Let's not get too caught up in these numbers because I'm also looking at some of the things like ApoB or the LP little A to also kind of have a little bit more comprehensive assessment of their cardiovascular disease risk. But I'm usually meeting with them maybe once a month for the first couple months when we're really trying to push these foundational changes because it's like I want to hear what obstacles you're facing, or I want to hear maybe what successes or wins you are having. And I really think that we need to establish that foundation because if we don't have that in place, like I could load you up with all of the supplements in the world, and it's not going to have as big of an impact as it could if we did the supplement in combination with. This lifestyle foundation.

Rob Lutz 50:02
Yeah, it needs to be a supplement, not the.

Lexi Loch 50:04
Yeah, exactly.

Rob Lutz 50:05
Yeah, and do you find that so your your patient comes back in after a month and after a couple of months, and they are complying? Are they feeling a difference? What are you hearing from them?

Lexi Loch 50:17
I I find from a lot of the patients that they feel really great, especially once they start to initiate that post meal walk, even if it's just 10 or 15 minutes. Like, because sometimes they'll say, "Oh, I used to have a lot of bloating after meals," or "Oh, I'd feel really tired or not not great after I ate." And then by kind of engaging some of those muscles, helping that glucose get delivered to those muscles after eating, they notice a difference. So I would say that's kind of one of the more tangible pieces that people notice

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relatively quickly. And then I do think that one of the things too is they may say, "Oh, I don't feel like my my weight is changing," but that's when we're having maybe some of those body composition tools come in because it's like, look, you're gaining more muscle, and you are losing more fat mass, which may not reflect exactly how you're looking in the mirror. But again, visceral or around the organ fat is hidden, so you may be losing some of that, but it's not maybe showing yet in the mirror. So sometimes, then using some of those body composition analysis over time can be a nice way to kind of keep them engaged and motivated, and be like, "Look, things are shifting, even if you're not outwardly seeing it quite yet."

Rob Lutz 51:30
That's great. I mean, we covered a lot of great stuff here. Is there any clinical pearl or key takeaway that you want to make sure that we're sharing with the other practitioners who are listening?

Lexi Loch 51:41
Yeah, I do. I do think it is kind of our responsibility and due diligence to try to catch some of this metabolic dysfunction faster. I want us to prevent end organ damage as much as possible, and I do think that that means often intervening earlier than what we're seeing for some of these diagnostic criteria of metabolic syndrome. So tying in some of the fasting insulin pieces, maybe assessing more on the body composition side versus just looking at overall BMI, and then also looking at some of the kind of inflammatory markers that don't get covered in like so hsCRP or looking at some of the more specialized lipid testing, the ApoB, LP little A to give us a better idea of overall metabolic health, and then of course listening to the patient and trying to assess how those metabolism changes might be registering in their body, and then seeing how their metabolic flexibility might be shifting. So I would say that that's probably my takeaway message.

Rob Lutz 52:40
Right. Well, awesome. Well, thank you so much. This was another great episode, and it was really nice to have you back on the show. And I know this was going to be very helpful to practitioners. I think we gave them a lot to think about, and I think some really good guidance on that compliance piece. I think is that's such a critical component to anything that we're going to talk about for patient care is that compliance piece. But again, thank you so much.

Lexi Loch 53:07
You're welcome. Thanks for having me. Yeah, happy to answer any questions for the folks who are listening to this after the fact.

Rob Lutz 53:13
Great, and we will include your contact info so they can reach out to you.

Lexi Loch 53:16
Okay, great. Thanks so much.

Rob Lutz 53:17
Thanks again.

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Rob Lutz 53:19
Thanks for listening to the OneMedicine Podcast. I hope you found today's episode interesting and came away with a few insights you can apply to your practice. If you're looking for the show notes, they can be found in the link below. If you want to go deeper on this topic or anything else, please visit todayspractitioner.com and consider registering for our weekly newsletter as well. Thanks again, and I hope you'll join us next time.

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