I am, for anybody who hasn't been here before, I'm Michael. I'll be your host. Today we have two guests. It's a special webinar. We have microbiologist, Kieran Krishnan, who you guys are very well familiar with, and Dr. Liz Bartman, who you've gotten to know in the hormone videos that we've been sending out over this last few weeks, which judging by the feedback we've gotten, everybody has enjoyed.

They're really, really in-depth, deep dive hormone education. So it's four parts. I broke it up that way, so your brains didn't explode. So if you guys haven't watched that yet or haven't checked that out yet, make sure to go back and check those out. They're also on the site in the education videos section, or you can go back and look at your emails. But four part video that covers a ton of education that will help you understand even more about what we're going to talk about today.

So I guess we could just jump right in. I'm curious, because I don't even know this backstory necessarily. We'll talk about what Endoaccess is in a minute, but I'm curious how this came about.

When I heard from Kieran, he just told me that this existed, and he's doing this, and this is a new project. But hormones and lab testing is a little, well, you guys had a lab test at microbiome labs, but hormones is a little bit outside of the wheelhouse where you came from with microbiome. So I'm curious how Endoaccess came about and how you found Dr. Liz to be the brain of it, which good choice, by the way.

Yeah, yeah, absolutely. Fantastic choice. So the commonality between Endo and microbiome labs is because the problem solving is really the commonality between the two. Right? So we founded microbiome labs not to get another probiotic out in the market because the market had plenty of probiotics already. But what we wanted to do was solve a problem with the way probiotics were being done. And we also wanted to start to illuminate ideas and education, innovation around the microbiome, which became a very nice therapeutic target for functional medicine, holistic health practitioners, because intuitively, they knew the gut was at the center of a lot of things.

So we needed to help educate them on how the gut was at the center of a lot of things and then what you could do about it, how you utilized it. Endoaccess was born in a similar fashion. So our third partner, Guy Citron, who's a naturopathic doctor out of California, his practice is built largely around hormones. So he was dealing with a lot of hormone imbalances. He's using the Dutch test and does use it quite a bit, which is a dry urinary metabolite test. And at the end of the day, that test tells you the most about what's happening with hormones in the body because it's looking at metabolites and it's telling you what pathways are functioning, what aren't, what are underutilized and what are overutilized and so on. So it gives you a real clear picture of what's happening better than a snapshot of just blood hormones, blood-related markers or saliva, something like that. So it's the best test on the market easily to tell you the story. But the issue with it is it's also very complicated and it's really hard to understand.

And there's a lot of data that comes along with it and a lot of dots to connect. And so Guy, being as knowledgeable as he is in hormones, he himself still has difficulty in utilizing the test to truly understand what is happening. And so what people like him tend to do or docs that have even less

experience with hormones, they call into the company that has a great team of clinical consultants. Liz was heading up that team and they would end up having a 30, 40 minute conversation with her with each test to really try to understand what the tests mean.

And what is it actually telling us? And then, of course, try to glean some understanding of how to go about addressing the problems that the test is eliminating. Now, of course, the clinical consultant can't necessarily tell you what to do about it, but they can give you an insight as to how to look at the outcome of the test. And so that's a very rate limiting step for a lot of practitioners. It takes a long period of time and you can't get as far in depth on understanding all the variables, how they connect with one another in a conversation with somebody in a 30 minute conversation with somebody when they've had seven or eight of those conversations throughout the day already versus being able to utilize all of the breadth of research that's out there in the world and being able to put that together in a different format that can be utilized under the right type of technology. So that seemed like a problem to be solved for us because what we saw was that two things, one is the understanding of the outcomes was an issue. And number two, because the understanding of the outcomes is an issue, it becomes even more difficult to figure out the right therapeutic steps.

And so we felt that hormones were probably hormone imbalances were probably one of the areas that are that's very prevalent in terms of problems that arise for people, but also was was being underserviced by the by the industry by functional doctors, holistic doctors, because of this, these gaps that we're talking about. Right. So it became a problem to solve.

So that's how the endo access started. It started with this idea that, OK, can we create something that helps understand the problem better, looking at all the variables, tapping into all the research and so on? And then, you know, can we look at the outcomes and design products around those specific outcomes so we can be as customized as possible to that individual's unique pattern and dysfunction? Right. So so that was the task at hand. And that looked to Tom and I, who liked this idea of solving big problems in the in the marketplace and providing practitioners with the best support that we can. And also then thereby their patients with the best outcomes. That was the whole goal of Microbime Labs, right, making vibrant health accessible to all for us. This was something that we had an accessibility issue. And we wanted to provide this this this type of therapeutic accessible to people in an almost customized fashion.

So then one of the things we realized is none of us knew enough about hormones to really do this and develop this technology well. And fortunately, Guy, our third partner, knew Liz from probably from consultations and other interactions. And Liz is, you know, in my view, the best one of the best experts I've ever met in the world of hormones. So we said, OK, let's take let's work with Liz, take her analytical capability of understanding hormones and all the variables and how each one connects to the other. And if this one's off, what else is off and so on with so many variables, how she would analyze it clinically and go through it, codify it and then put that in an algorithm, right? So essentially, can we create a program that is a mimic of Liz's brain of interpreting the test? And on top of that, using computational power to pull in all the research and all that as well, right?

So that was the goal at hand. And I think hopefully Liz will more than anyone else would agree with this that that I think that has been accomplished, you know? So now where you have it, I would argue that Liz is probably the best clinician and analyzing and understanding urinary metabolites and probably blood and other metabolites and markers as well. And so now everyone that does the test has Liz right there on their computer, right? And you have the the the luxury of having a full in-depth consultation with her without having to do it. And that's the that's the problem to solve. And that's the technology that we've been able to create largely from her work.

Well, I've yet to see it fully in action, but that's a pretty big feat. If you guys pulled it off, because that's a pretty pretty big brain filled with a lot of things around hormones. So I was pretty blown away when we recorded the videos, which I already told Liz.

But if you guys haven't watched them yet, definitely go back and watch them. It's like equivalent of like a thousand dollar professional training worth of content. So it's really, really good stuff. And I was one of those practitioners who realized that Dutch was the best hormone testing available. I also couldn't understand it completely. I also spent a lot of time on phone calls with consultants trying to help me understand it.

That also deterred me from using it because. Yes. I'm not getting paid to sit on the phone for now. Well, I guess I could have built that into my structure of how I worked, but I didn't. So then using the Dutch always added tons of extra work onto my time, which was already busy. But I was getting about 10% out of it, what I could on my own, because I wasn't trained in hormone metabolites. Like it's not a super straightforward results panel for someone who's not really trained in those things. And it can't be. I don't think that's why this is created. And so I understand, like I get it.

I'm sure I wasn't the only one. Like I'm sure that the doctors use it a lot less because it's this extra added step of having to get on the phone and talk to somebody. Plus I'm not going to name any names. I don't mean to throw an entire profession under the bus, but doctors don't like to be the one that doesn't know the thing. And so I think there might be a little discomfort just as a whole using the test if they don't 100% understand it right away. And so what I've seen of the sample reports and the system you guys have built and the products and everything, it is really, I was going to view didn't say it was like doing a consult with Liz on every one of the tests. That come out.

Yeah. And one thing I want to clarify, because early on there was some misconception about this where it was automatically assumed to be kind of an AI tool. And it's not. And the reason it's not an AI tool is because AI doesn't have the ability to discern nuance in the right way. Right. So so in general, AI is just a really advanced search function.

Right. It can go out, it can take a query, which is, you know, a lab result, for example, and then it can go out into the web and just pull what may seem like related results for that query and format it in a way that it thinks is intelligent. The problem with that is it's not a clinician. It doesn't have the experience. It doesn't have the nuance.

It doesn't have all the components to it. And so for us, the easiest way to do this would have been just bringing on some sort of AI tool and interpret it and pull queries from the internet. The hardest way was the way we did it, which was Liz having to go through every single variable, every single relationship between each variable to the other and codifying it starting in Excel. I'm not a big Excel person to begin with. But like when I first was looking at the Excel she was building, like he gave me headaches. It just was the most complicated thing ever.

And then translating that into computer language, into code, which, you know, we have over 100,000 lines of original code now for it. Right. So to me, the big picture, and then after this, I'll shut up because Liz will have much, much more intelligent things to say about all this. But to me, you know, where we are in our world is that we have so much research around a lot of these things, which is great. So you need to be able to tap into the research and make it accessible to people so you can utilize it.

That's what we were doing in the microbiome space, right? There's something like 8,000 to 10,000 published papers a year. Very few people can ever keep up with that. Part of our goal on the educational side is looking at the information and figuring out how you utilize that in day-to-day life with therapeutics and so on. Same thing in the world of hormones. There's a lot of research on there and all the metabolites, all the hormones, we have to be able to tap into that. That requires computational capabilities. And then we also have a degree of complexity to the issue that if you can codify it properly, can use technology to really give people amazing insights. And in fact, Liz would probably agree with this, but Liz, if you could elaborate on this, I think you going through the process of trying to codify this analytical process that you go through as a clinician looking at the test, you made discoveries that you maybe didn't even know, right? Because the number of patterns completely changed. When we first were having initial conversations before Liz really dug into it, I remember a number of around, we thought there were maybe 25, 30, 40 patterns of dysfunction among women, right?

Liz can tell you the number she discovered after going through this. So going through this kind of stuff is a huge value, but it takes a lot of time, a lot of effort, and now it provides a resource that I think is going to change the way people look at hormones.

Yeah, I think so too. I think that I think it can radically improve the value that practitioners are going to be able to give to their patients and move the needle a lot faster, more effectively, in a more customized way for patients. So ultimately saving time, saving money, saving headache, saving everything of doing the guessing game for, I don't know if there's anybody out there who can relate to being a patient and doing the guessing game with supplements and protocols and things, but this is going to reduce a lot of that guessing.

So I did link in the chat, I put the first video, so if anyone wants to click that, bookmark that, don't start watching it now, we're busy, but click it, bookmark it, you can find all the other ones from there. So thanks, Kieran, and it must be a new adjustment for you to not be the smart guy in the room during a conversation on something with health.

It's a very comfortable place for me. How about the smartest guy on the subject that we're talking about, but how's that adjustment going? You've probably been in a lot of meetings with Dr. Liz. Oh, it's been awesome. I mean, it actually is a wonderful relief to know that somebody that really knows what they're talking about is doing the things that need to get done. It's a lot of work to be the one trying to figure things out.

So it's great to be able to sit back and help support guide and things like that when you have somebody in the trenches like Liz that's getting it done. But the patterns are fascinating. If we have time to talk about it, Liz should mention the different... What is it, Liz? I think 230 different patterns in women.

We are up to 284 in women. Oh, and Lauren.

96 in men. What is it? Six? Yeah, six for men.

96. 96.

96, okay. They're still complex.

Women are still now quantifiably three times more complicated than men are.

We have the data. Scientific validation. Scientific proof. Yeah, it must be a relief. And I'm glad I never saw that Excel sheet because I think I would still be having nightmares of it. So to say I'm not an Excel person would be an understatement.

I know I get the volume of data that probably went into this, so I can't imagine it in spreadsheet form that's kind of like my own personal nightmare. So I'm sure you stayed as far away from that as possible. So all right, well, let's jump in then with Dr. Liz. I think the first thing that makes sense really... We've talked a little bit about how Endo-X has got started and Kiran talked about from his perspective why hormones and solving a problem around hormones. I guess I would like to ask you, Dr. Liz, why hormones from a practitioner standpoint, from a naturopathic medicine standpoint?

Like, why did you... I know the curriculum at naturopathic medicine, most medical schools, and there's stuff on hormones, but not to the depth and degree that you've learned it and that you've studied it and that you know it. So I'm curious what drove you to focusing and fixating on hormones as a specialty?

Absolutely. So I really came into the hormone world out of environmental medicine. I got fascinated early on in the why one person is in an environment and gets royally sick and another person can be in that same environment and be completely healthy and if not thriving. And so that kind of pulled me into the rabbit hole genomics and then environmental and epigenetic factors. And one of the, I think, biggest predictors of how those genes are functioning, right, because they're not always on. We're not always... Just because you have a SNP or a variant, a polymorphism doesn't mean it's

going to express itself. And so I always wondered, well, what can we do to know if it's expressing and how? And hormones are one tool, especially if you're looking at metabolites, to assessing, well, what are we doing genomically? What are we doing in terms of function? How are genes behaving? And they really act as kind of, in a way, a canary and yet so often they get just disregarded. We only look at the parent hormone. We only think, oh, we know high as lows, what they mean, but that's it.

They don't give the credit they're due, right? And so a lot of people are walking through this life thinking, oh, I feel crummy during my menstrual cycle. I get headaches. I get breast tenderness. I have horrible cramping. But I'm just being told it's normal because my hormones look fine on a lab test. And it's like, well, there could be more to that, right?

And so I think a lot of times the question comes up, well, why and what do we do about it? And that's really what drove me into the hormone world and specifically urinary hormone metabolites, because that's the place you can see how are those hormones being utilized? How are those enzymes expressing for better or for worse? And how could that impact someone's health? And just looking at estrogen, for example, on paper, if you just did a single blood spot on a single day during the luteal phase of the cycle, for example, and it was in normal range, what does that really mean? What is that telling you?

Right? Unless you dig deeper and actually look at, well, how is it getting utilized? What is it doing in terms of cell signaling processing?

What are its metabolites? Where did it come from? Right? That's the other question. What enzymes are involved in its production? And I think so much of that, it just becomes quite the rabbit hole of interest when you start looking at the different sex hormones. And I include an adrenal hormone, and that as well. So DHEA, cortisol, but looking at those hormones and their relationships and being able to say, okay, what tissues make this?

Where are these coming from? What environmental factors are influencing the enzymes that are creating these hormones? What does that tell us if they're high or low? And then downstream, how are they getting metabolized? What's the body doing with these hormones?

And what environmental factors are impacting and or nutrition, right, even, are impacting those enzymes that are altering the way that those hormones are getting utilized and getting excreted from the body. So it just became so fascinating to me. And so I just that really became a strong interest point. And I just dove in deep and got connected with Dr. Kerry Jones early on, started working at Dutch under her mentorship, which she's still a very close mentor colleague and friend of mine, got to work under Dr. Debbie Rice also at Dutch. And then under Dr. Jacqueline, Jacqueline Sleaton, who is also very hormonal, very fertility focused.

So I had a lot of great mentorship, had a lot of great colleagues, and even just the team in general at Dutch, they just they do a great job of being able to hire these amazing brains that they can just learn from and build from.

So yeah, did that answer the question? I think I maybe was changing a little. No, no, no, it was perfect. And I've interviewed Dr. Kerry before, and she's also brilliant with hormones and pathways and patterns. And yeah, I wasn't prepared for that. Actually, everyone warned me.

Careful, she's a smart one. And then we but my interactions with her, she's so personable and warm and friendly that I didn't, I wasn't ready. And then the interview kind of kicked my ass. I was like, wow, I wasn't fully homeworked for that one.

But she was really good. Somebody on the on the webinar says they love doing Dutch boot camp deep dives with Dr. Kerry. And there's already a couple of practitioners on their commenting that they've been waiting for this for months, and they can't wait to use it. So we got an answer and thank you for sharing all of that.

And hormone related epidemics are rampant. And we talk about it in the video. So I don't want to spend a lot of time here talking about what we talk about in the training videos.

So everybody can go back and watch those. But if you want to learn how rampant, um, balanced hormones and symptoms and conditions related to imbalanced hormones are, there are some surprising slash shocking slash frightening statistics and numbers that we share. And, um, explanations as to kind of the how and the why that's all going about. But this isn't a training video on hormones. So we have those, you can watch those.

But that really encouraged me to want to do this as well and bring this to everybody here. We haven't done a lot of stuff with hormones here at our HT. Like it's difficult.

The reason when I was, I was sitting with it a couple of weeks ago, I was like, I need to have an excuse as to why we haven't done a bunch of stuff with hormones over the years, something reasonable to convince myself, like it's like a topic, a major topic, and we've never done a ton of content around it. And to me, it's so nuanced that I find it difficult to do like a mass education and then a mass recommendation. And that's what we kind of do. We do like mass education.

And then we give recommendations or tips or whatever. And with hormones, and this is probably PTSD from the first time I tried on my own to interpret a Dutch test. It's nuanced.

Like there's skill involved in interpreting and understanding and doing all of this. So, um, I think that's what kind of deterred me is there is not, if somebody out there is selling like a one stop shop, one cookie cutter type of program, like buy this program and balance your hormones forever kind of thing. Like it's not gonna, that's not real. It doesn't, it's not going to work.

So, um, I think that's what kind of deterred us. But now like getting a better understanding and seeing that this is available. Like, I think it's really, really important for everybody to test their hormones and see where they're at, especially if they have any of the laundry list of symptoms, which we'll talk about. But, uh, so from his perspective, and O axis solves a problem of under usage

of hormone testing and confusion and complication and frustration for doctors and provides more value to patients. From the hormone nerd side of things, what does it do?

It's really helping to make advanced hormone testing accessible. I simply put it's helping put the story together of where hormones are coming from, how they're behaving in the body, and how they're being metabolized and how that can impact someone's health.

And relating that in over, you know, 300 different patterns. So it's really taking the parent hormones, looking at their story, what does that tell us? And then being able to pull out their metabolites to further elaborate on not just here's the metabolite, but rather, well, here's what's influencing that metabolite.

Here are the impacts that that has on that person's health. Here are further tests you may need to consider. Here are some other symptoms that may be associated that may be resolved by just treating this one imbalance. So it really gives clarity to unraveling very complex hormonal cases. It helps providers streamline and focus their efforts into a hormone case instead of being like, let's just shotgun approach. They have high estrogen, let's give them a dip and all these detox and gut and you're like, you just throw everything at them, right?

Well, here we're going to say, nope, they have high estrogen. Here's where it's coming from. Here's how it's metabolizing and behaving in the body.

Here are the exact enzymes that you probably need to target. And here's how. And it really just streamlines that that effort so that not only are providers seeing better results and not having to, you know, dig through the research and literature themselves, they have it all right at their fingertips, because this really is going to be, I'll show you the report, it's a tome of information if they want to dive deep into it. And it's also then going to give their patients more rapid results in a more effective, efficient way without having to take so many things because we're really, you know, simplifying those supplement strategies for them. And including the diet and lifestyle factors, too, which are so impactful.

So yeah. That's, that's a lot of value. And it's, it's a lot when, when I had my first conversation with him, and then I had the conversation, I think either with both you or just you, I was pretty blown away. And like 290, if you add to a plus 90 is about 370 different dysfunctional patterns. There's no way a practitioner in 30 minutes is going to catch that, that many, like that's impossible, even you, like if you only had 30 minutes to sit and look at a thing and think about it, like there's a, there's a, that's rate limiting, I always steal crowns word, I never knew that word before.

That stops the process. So what are the reports? I guess, do you want to, do you have a sample report that we could show? Because I guess we talked already about the, how does it do this? And if there's any tech people out there who want to learn more about that, I think Kuran's, we put Liz's brain into the software is enough explanation for most of the people. But how it works in the simplest way is you order a Dutch test, you get the Dutch test and completed at home. It goes, the results come to us or the practitioner about in this instance, if you ordered it with us, the results

come to us, we plug it into the Endo access report system, we get the report, and then a practitioner on our end, everyone's favorite, Mary Ann, who's probably on here and she's an FDN practitioner like myself, who used to interpret tons of Dutch tests for another practitioner and is really, really excited about these. You guys, I heard your call went a little long and you guys nerded out for a really long time, but Mary Ann will be making an additional video to help you interpret the Endo access report and your customized, it gives customized recommendations for supplements that you guys have formulated that are particular to certain patterns.

And also there's some a PDF guide of lifestyle recommendations related to hormones. And then we're going to throw in a little bit extra of our own two cents with some of that stuff that people will get. And I think, did I miss anything there?

Now the lifestyle, it is a section that's coming, we do have PDFs that are broad for lifestyle right now that are available, but the, we are going to be making targeted lifestyle recommendations in future renditions coming up here pretty soon. So look for that too. Even more streamlined.

Okay, so if you got the sample report, we can do a screen share and you can let everybody check that out. Absolutely.

So this is going to be the report that you would download. And you do have a print option. I am going to say the format of this is still in final designs.

There's been a lot of emphasis on increasing where education is located. And because we decided to front load the report with a more like snapshot, but educational heavy format. This will be a horizontal bar instead of a vertical bar that you'll see in just a minute, but I'm just, I'm promising that this isn't the final final. But this is going to be the overview. So you get a little bit of a, how to read this report.

What are the sections involved? I should confirm. Are you seeing this report? The purple. Cool.

Yeah. We do have our little disclaimer saying that even though this is interpretive and really taking in a lot of factors, including symptoms, including medications, including supplements, right? We're taking in a lot of variables to make sure we give you the most informative, robust report possible. That said, you're still the provider. So we still want to give you the information that you can then provide to your patient through your lens and through what you know with of your patient outside of just what the report says. So we always like to say, we are not replacing you. We are simply enhancing your, your abilities to really interpret and provide great results. And you'll get a little information about the patient itself. So this thing for this report, this was our A4M demo, but this is a 22 year old female.

She was cycling regularly. And this is the overview. So she, again, this is going to be a horizontal bar, not a vertical, but she was patterned 65.

And this is the information about that pattern. So she did have a lower than expected Luteal Range progesterone. And what we've done with our ranks, we've said, okay, this is a Postmenopausal range, or this is like, this is low for Luteal, but not absolutely critically and obulatory low, right? Or this is in Luteal Range, this is looking good, or this is high, keep in mind, or this is very high, they're either pregnant or supplementing, right? So we have these different categories for every hormone and we pull out what they are uniquely, and then how they, those hormone ranks relate to one another. So in this case, she has this lower than expected progesterone, why that may be just snapshot, right? Estrogens are within that Luteal Range.

She's not supplementing. So this is what we're thinking. Testosterone, again, within an expected age range. Remember, we know age testosterone peaks in our 20s to 30s with that steady decline. So there is an age expected kind of parameter associated with testosterone and DHEA. And then on top of that, we're looking at 15th and 90th percentiles.

Those are really the low 15th percentiles where we see a lot of imbalance or lower androgen symptoms develop that need more addressing. So that's our flag. And we talk about that when that comes up. And then also DHEA, in her case, she had elevated DHEA.

And why would that be? How does that relate, right? And then the focus for that pattern.

So it's really giving you, in a couple of paragraphs, right in that first page, a synopsis of that Dutch report. You also get your adrenals, in her case, she's pattern one. Our adrenals, we have 14 patterns.

Now that's brief. We're going to actually be pulling in a lot of other laboratory parameters to expand our adrenal profile because there's such a thyroid-adrenal interconnection that we don't want to overlook. But for right now, because we're basing it just on urinary metabolites, we're looking at the cortisol specifically and its relationship between free and metabolites and what its balance tells us. So this will get more in depth. So I don't think that adrenals are only 14 patterns.

No, it's going to be pretty big here once we get the thyroid connection in there. But for now, 14. And one is the best.

One is considered a normal cortisol. Now again, this is just relationship. So anything that's outside of the pattern relationships, but still warrants like, hey, this was a little out of balance, we flag in our finding section. So here, in her case, she had a higher five-alpha reductase pattern. She also had androgen dominant symptoms.

She was recording acne. So we call that out. We say, look, this is a metabolite associated with more androgenic symptoms in the body. She is symptomatic. She does have higher excretion. What's unique about this, and I don't have the Dutch test to show you, but her androgens on the Dutch test looked totally normal.

It was the five-alpha androscane diol, right, which is a metabolite of DHT and testosterone and DHEA. And it's on page two. It hides on the Dutch report. They don't pull it on the female reports onto page three. So it's not highlighted, but it's the end product of all of the five-alpha intracellular active androgens.

So it's a really important marker. And in this case, if you only looked at her testosterone, you would think, oh, she's fine. The acne must be something else. And yet if you overlooked that five-alpha androscane diol, you just missed that she actually has really high cellular DHT activity and androgen activity. So still needs to be addressed, right?

And that gets called out for you so you don't miss it as a provider. Her cortisol in the afternoon was a little high. So although her pattern, her free and metabolites looked pretty good, there wasn't abnormality, right? Cortisol should be high in the morning, comes down as we get ready for bed as the sun goes down. So in the afternoon, if it's high, it's like, what is the stressor there? What's going on?

Maybe you need to tap into what's happening for her during the day. So those all get highlighted for you. And if that's all you want, if that's what you want to print for your patient and how you want to proceed, that's all you need to read. But if you're like me and you want to dive deep, we have our insight section. And so this is going to expand a little bit more on those hormonal relationships. We pull out the progesterone and estrogen and we say, okay, this is how they relate to one another. We pull out the estrogen detox. You say, all right, here's her rate of clearance through phase one detox. Her preference for two hydroxy, was it low, in range or high? And what does that mean?

And then her rate of methylation, how much two hydroxy is converting over to two methoxy? And why does that matter? And how can we support it if it's low? Or what does it mean if it's high? Is that a problem?

Maybe, right? And so we call out a lot of those features and just give you little snapshots like, hey, in this case, let's see, methylation was a little high. And you have to remember, we're looking at urine. So methylation goes through then biliary and GI conjugation. So it has to excrete out into stool.

Well, we're not seeing stool clearance, right? We don't know the final end product of that estrogen. So if she's high in her methylation, it could mean really efficient methylation.

That's one option, right? And if she's struggling with low estrogen symptoms, we flag that we say, hey, she's got high methylation. She struggles with low estrogen symptoms. She may be really efficient at processing out that estrogen. Here's how you can address that. In her case, she was actually dealing with high estrogen symptoms. So we flag that we say, well, the higher estrogen, this higher methylation may actually be an issue with phase three conjugation. She may not be getting that out. And so it's building up, it's backlogging.

Look into biliary and GI support and maybe do a stool test. Right? So we call that out so that the pride can be like, oh, okay, let's, you know, we don't want to, we don't want to alter methylation, but we do want to make sure it's efficiently conjugating. And then we look at the estrogen testosterone balance and whether her five alpha metabolites are higher or not. Because that's going to tell us whether she's feeling those androgens or, if she's beta preference, she may have beautiful androgens. But she's feeling low androgens. Sometimes she's feeling low, low, beta fatigue. She's not putting on muscle if she thought she should. She's beta.

Yeah, she's not getting the androgen potential from that testosterone. What can we do about that? Right? How do we address that? So we call those out.

And again, we always pull in those symptoms as well. So it's really giving you level upon level. What was the analogy? I heard an analogy recently looking at genomics and how it's like a 3D chess game. And this is kind of like that, right? I think it was Dr. Bob Miller, who said it.

It was like a 3D chess game. And I will quote him on that one. I think I'm quoting the right person.

This is kind of the same. It's like, okay, what are the symptoms plus the hormones plus the enzymes? How do we put it all together? And then we pull off the adrenals in the same way. So we're giving you adrenal insights. If you're less clear about what adrenals mean, this is maybe where you just jump to. If you're like, oh, yeah, I'm going with hormones, just jump down to the adrenal section. And we have them all cataloged at the top of the report for you.

So if you're on a iPad or on your computer, you can quickly go through which section you want to highlight and where you want to jump to. We do call out anabolic versus catabolic or balance between DHEA and cortisol, because these are both stress hormones and they are both triggered by ACTH. So what is their behavior? Do they go up together in response to stress? Are they both really low suggesting, yeah, there's some adrenal dysfunction here, or is one favored over the other? And what can that tell us about their hormonal behavior and what that does to their body and where that could come from? In her case, DHEA is higher.

Well, this could be physical activity or could be psychological stress. We actually know DHEA goes up in people struggling with PTSD, for example. They actually did a study on med students going through their USMLE freeze and they tested their DHEA levels and they were like sky high during testing and then came right back down into normal expected range after testing, which kind of just emphasizes how impactful DHEA is in neurostereoid. It protects our neurons, right? And it's needed to get that acetylcholine going. So it makes sense.

Like, okay, yeah, they could have some mental stress there that could be really needing that brain power. But we kind of pull out just again, in a more of a snapshot version, just like your spark notes. And then if you want the medical text, you can go into the strategy and analysis. And this is where we really pull in. Where are these hormones coming from?

What does this relationship mean? What impacts low levels, high levels? What other variables may you need to consider? Are there medical conditions you may need to rule out? Are there additional labs you may want to consider? We pull out big, like, do not miss these labs in that overview section when they're applicable.

But this is really the section where we're like, okay, this is, we're going to dive deep. And for further review, you probably don't want to miss these other tests if you haven't done them already. Again, with estrogen detox, we really pull out what are these enzymes? Where do they come from? Why do we care? What are we looking at? Right? And that's how the report kind of breaks down.

So I can scroll down further if you'd like. But yeah, we just, and then why we're using, so we do use a weighted average of free cortisol and free cortisol. I think this is a topic that gets asked all the time on Dutch consultations. Everyone's like, well, what did, why, why do I care about the two graphs? Why am I only not looking at the free cortisol? And there's this enzyme called 11 beta HSD2. And it's very active in the kidney, salivary glands, sweat glands, and the colon. And when cortisol is passing through those tissues, it gets deactivated, right, to protect the tissues from the stress and damage of that cortisol. And any diurnal change that happens to cortisol, free cortisol, is essentially from the free cortisol that got deactivated.

So just flipped over. So when you're looking at free cortisol and free cortisol, you have to know how they relate to one another. And that doesn't get really like expressed on the Dutch in as much clarity as I would like in my professional opinion. And again, it gets asked a lot on consultations like, well, what does it matter? And because it's also important to remember, the free cortisol pattern doesn't necessarily mean that they favor free cortisol. It just means that we're looking at urine, that cortisol passes through the kidneys. There's a lot of that enzyme in that tissue. It's one and the same. It's like a little backpack being carried through with cortisol to safely get that cortisol through to the other side.

The metabolites really impact what the tissue actually did or really tell us the impact of that cortisol at the tissue level. It's like that's what it favored. And there can sometimes be a discrepancy. So we call that out.

We do talk about why we use that. The diurnal rhythm, talk about where free cortisol comes from and how it only reflects one to five percent of all the cortisol made that day of testing. So it doesn't like it's an important part because it's our stress signaling, but it's not our total daily impact of cortisol. That's the metabolites.

And kind of have the diurnal pattern breaks down. Why that matters. Catabolic, anabolic, why that matters. So we really, we're giving you a lot of detail. We call these our modifiers or our findings section. These are all the little features that are unique to your patient. And there's that 67 different unique findings that can populate. So they're, they just add even more nuance to those 300 plus patterns, right?

So it's like we have all these different pattern potentials. Plus we have all these findings just to give you that much more insight to your patient's hormonal story. And then from there, you get a supplement recommendation. And we have our supplements broken down into four categories. And so there, we have 27 or 26, 26 skews right now. Crazy.

I do a lot of them. And they're broken down based on whether they are female hormone specific, detox specific, adrenal specific, or male specific. So harmonizes our female wine, female specific product blends, restore is restoring our detox pathways, optimizes, optimizing our adrenal patterns, and then enhances enhancing that male, those male patterns of imbalance. So if you see harmonize, right, we say blended as a female hormone, first for your hormone.

Sorry, this is my jumping three spaces the head in my brain and my mouth can't keep up. So these are my female hormone balances are balancing blends. So this individual was given product four. And so this is what it is.

This is how you take it. And then you can view our PDF on all the ingredients, why we included them in the research backing, why we blended it the way we did. We do the same, we have our restore, this is altering any of our detox pathways. In her case, we're saying, hey, five alpha reductase may need some modification. She's pushing out more five alpha and sustained dial, she's got acne, she is symptomatic. So we probably want to include this supplement for her.

And then we have, I don't know why there's quotes there, but we do have how to take it. Again, it is a blend for males or females, females or males. And so dosing is a little different because men need a little more potent activity from Sao Palmetto women don't need as much.

So we do have the dosing instructions there and again, the PDF. Her adrenals optimizing that adrenal function, how to take it on average, you get about two to three blends. Sometimes there's going to be four if they have a lot of findings.

And if there's a lot of oxidative stress coming through, there's a fifth blend that will sometimes get added there too. But they're not all required. And we do talk about optional. So if we're saying, Hey, these are your three key hormonal blends. And here's, you know, based on the findings section, you may want to include these other ones or not.

But if you start here with these three targeted ones, those other features will probably resolve themselves. These would just be to enhance any further aspects of that hormonal case, depending on need. So it's really, you know, again, three products where, you know, when I would be on consultations, we'd be like, Well, you need this herb for this, you need this mineral for this, you need this herb for that. You know, by the end of it, you're like, Well, you know, this product kind of helps in this section, this product kind of addresses over here and probably need, you know, this other product. And, you know, by the end of it, it's like, Okay, well, now I have like eight different products being recommended to me.

What do I do with this? You know, and they don't all, you know, they don't all target what I need. They are broadly kind of covering what I need. So here we have, Okay, no, just boil it down. These are the herbs, the minerals, the things you need, the amino acids for these patterns. That is what you get. Yeah.

And then we do have a full help center being built out as well that goes in detail through every analyte. What is the low range? What is the high range?

What does it mean if they're low or high? So if you're like, I want to learn a little bit more about this, or how does this relate to a specific condition? We have a whole conditions catalog being built out. So we really want providers to be that's it. That's all we've been doing in the past year.

You know, one thing important I want to mention about the product. So this, this was another, you know, big solve for us, right? Because normally what practitioners were doing, and we talked to lots of hormone docs, and of course, Liz, a hormone doctor herself, in both in practice, and then also in working on the lab side of it. That's, you know, once you, once you think you've figured out what may be going wrong, based on the outcome of the test, then figuring out how to go about it in terms of addressing the problem becomes even more complicated, because there wasn't something that's created for that pattern, right?

So what most most docs are doing is they're piecing things together from four or five different products. Now, one of the problems with that is, you know, you're you're thinking like, okay, I need this ingredient. So I need like a sulfur, for a fame at this dose for this person. So you find a product from a brand you like that has that that ingredient at the right dose, but the likelihood of putting a few things together, and then having ingredients in there that actually aren't good for that individual's patterns, that's another problem, right?

Because our whole goal was give them everything they need and nothing they don't. Because many of the hormone like products are just made general products, right? They're like estrogen detox product, right? And it's just got a number of active ingredients in it. But there are numerous patterns that may need one or two of those ingredients, but probably shouldn't take a couple of those other ingredients, right? So that was a very deliberate part of the formulation work as well, to take that kind of guesswork out of the, you know, the realm that the practitioner still needs to do.

That way it's easy. And then finally, our big goal is, and everyone kind of participates in this, right? So if you think about the big picture here, and this is the part that really kind of excited me about all of this, the part that really excited me about all of this. One of our big goals here is to do some sort of outcome tracking, right? As the practitioners use the technology, use the products and so on, we want to be able to create a component where we can gain some sort of data, general data around the outcomes of these patients. Because ultimately what we want to do is be able to show that the holistic natural approach is more effective or at least is effective, right? One of the big difference between allopathic medicine and the approach to holistic alternative medicine is that allopathic medicine has data on their approach, right? And of course, it comes with lots of side effects, this,

that, and the other, and it may not be targeting the root cause, but they have a way of showing you like, okay, if I give this prescription to this individual, we have the data to show what should happen, right?

We don't have the data in the natural world. And this is why it remains as kind of fringe medicine. And so to me, the big picture here is that as we start using technology like this, and not only are we able to provide more customized, effective solutions for patients, we can also then track their results. Ultimately, we could start bringing this kind of approach more to the mainstream, because then we'll have the data to show that it actually is effective, right? So that's the bigger picture component to it as well.

I'm sorry, my button was stuck. That makes a lot of sense. And yeah, the, the formulations are always like 16 things in one product. And with these reports, you may find out that 12 of those things aren't going to benefit that person. And I also heard a mention somewhere in one of our conversations that you design the products to work upstream on enzymes and not exactly, you're not giving people hormones, which is a lot of people's response is take this hormone, and you're low on this hormone, take this hormone, but you guys have designed the product line to affect the upstream production of or I guess the thermostat effect in the body of like maintaining proper hormone levels and giving the body the things that needs to trigger the production of the hormones or slow the production or improve the speed of the recycling or whatever the thing is without giving them like actual hormones or stimulating certain organs, right? Exactly.

Yeah. So we're using when I was blending these products, the idea really was not on the hormone itself, but what is impacting that hormone? So what enzymes do we need to impact to enhance production or decrease production?

Right? Do we need to decrease aromatase enzyme activity? Is that overactive and pushing all of our testosterone into estrogen? Very important for men in particular, because we don't want your testosterone getting lost to estrogen, right? We don't want it all pushing into this very more pro-inflammatory hormone for men. And so there is that enzymatic connector, like that's definitely the big influence to all the formulation blends, which I think is unique to the marketplace.

I don't know that I've found it. You know, anytime I look at different formulations, I always assess, well, does this have the mineral that would work on CYP17A? Or is this going to enhance or inhibit SRD5A2? You know, that's our 5-alpha reductase.

Or what are we doing with the CIF19A1? And generally, it's like, well, yeah, that would enhance this portion of that hormonal imbalance. But that's all it's treating. It's not doing anything for methylation. It's not doing anything for biliary or GI conjugation. It's not doing anything to the upstream activity.

So when we blended this, it was like, no, we need to blend in a way that really targets the full picture there at that enzymatic level. I will put a caveat in that, especially for postmenopausal

women, when the ovaries go offline, the ovaries are your primary hormonal factory, right? And so once the hormones have gone offline and estrogen and progesterones are pretty much in the toilet, so to speak, you know, they've definitely drastically declined, what tissue takes over is adipose tissue and adrenals. And so we want to enhance the ability for those tissues in a healthy, metabolically active way, like in a healthy response to promoting our estrogen ongoing, but you're not going to have nearly as much estrogen as you did when your ovaries were active. Versus a cycling female who still has ovarian activity, we can enhance and, you know, modulate that activity through those enzymatic cascades. So it's a little trade, like, it's not that we're not saying don't use hormones, because in some cases, sometimes hormones are needed, but we are saying there are tools, tricks and ways and herbs, especially that can act on these enzymes and on all these different hormonal receptor sites in the body that will still improve symptoms and will still give you benefit long term. So, yeah, I think I'm going to change that again.

Yeah. Well, and I do want to add to that as well, because I've in, you know, at conferences in place who I talk to practitioners, that's a common question is, what if my patient's on hormone replacement therapy, right? Is this still applicable? And the answer is yes, because of course hormone replacement just puts the hormone in the body, there's still a whole metabolic process that the hormone has to go through that involve lots of enzymes and pathways and all that that may be dysfunctional, right? So we can still absolutely support somebody that is on replacement therapy by improving the efficiency and the way the hormone functions in the body. So that becomes an important point as well, because a lot of people, you know, have chosen to go that route. But it doesn't mean that that route is going to solve all their problems, because there may be things underlying in the metabolic side of it that they need to be addressed. Absolutely.

That's yeah, very much to that point. The receptor sensitivity is another one that can be impacted by the herbs, but is not impacted necessarily by the hormones. And so one that I like to discuss is actually these keg repeats that happen at the testosterone receptor sites. And in men, they've been associated with low testosterone binding affinity. And so men often require higher and higher levels of testosterone replacement to get any effect on their symptoms. Whereas if we start incorporating more androgenic potentiating herbs, we help improve that androgenic response at a tissue level, we're enhancing its metabolism and clearance, we're pushing it more favorably into its active forms, but not in a negative way.

We're enhancing its metabolism. That can really improve symptoms without having to go into these high high doses of testosterone to try to impact those receptors. And in women's same thing, we always the name of the game is if we're adding in hormone, keep it low, go up slow, right? And try to use the least amount of hormone to still mitigate symptoms. And you can maximize their response on less hormone by utilizing these herbs and nutrients and amino acids. So they're absolutely a component. Thank you.

That was one of the answers or the questions in the Q &A. So I know we're at an hour. I want to, Kieran, you can jump off if you have another thing, which you usually do. Liz, do you have a few minutes to answer a couple of questions? Yeah, absolutely. Okay, great. I'm going to share.

I will do that. I'll jump off. Thank you, everybody.

Let's go. Congratulations on the launch here. I know you guys have put a lot of work into this.

Yeah, thank you. We're super excited. Thanks for bringing this out. Thanks. Yep.

Our pleasure. We're always grateful to be the first ones to get all the cool toys. So it is, it's really, it's amazing. I don't know how that ended up happening, but for years now, everything gets announced here and launched here and our people get first dibs on some really cool stuff. So I'm going to do a screen share really quick just to walk you guys through the page I linked in the chat, which I will link again, has all the information about ordering.

And I'm going to ask you the difference between the two Dutch chess tests in a minute because we didn't talk about that really. Dr. Liz, but first there's the link. Here's the page.

You don't need to click over. I'm going to do a screen share. So there we go. And you'll link to this page tomorrow or later today. The recording of this webinar will be at the top of this page. So you'll be able to watch the recording on this page. And all the details are here about Dutch and Ando access.

Here's the simple steps. You order the Dutch kit, it comes in the mail, you complete the test, you send in your sample, and then we send you your customized report and recommendations with a professional interpretation video from Arianne. There are two options for the Dutch testing, the Dutch complete, which is the standard. This is just a urine test.

And it includes the sex hormones, adrenals, and an organic acids section. And then the Dutch plus, which I'll have Dr. Liz break down the two in a second, is more robust includes the salivary cortisol rhythm for the cortisol awakening response and looks more at your cortisol rhythm for stress hormones in a little bit more in depth way. The prices are this is the same price as a retail price of a Dutch test, you're going to get anywhere from any practitioner or any site or any doctor, if you can even get them without a doctor. The Dutch complete is 499.

The Dutch plus is 650. We are running $50 off both of the tests for this promo for this week, like just to announce the launch and give everybody a discount on the prices. And that includes the Dutch test and the interpretation report and the customized video with the recommendations and suggestions, all that kind of stuff for you. So that's a all inclusive price there for basically the same price as a Dutch test.

So it includes the endo access report, personal, well, the lifestyle recommendation PDF, the protocols, which are customized based on your patterns and imbalances, and the practitioner and video walking you through the report like she just walked us through one of those reports only would be for you. This is really important. If you live in Maryland, New York or Rhode Island, Dutch

cannot accept tests shipped back from these states, they'll ship them to you, but you'll have to come up with something clever to ship it back in. You can email Marianne at this email address if you need help with that. If you have any other questions, you can email us all and then we have some questions FAQs at the bottom that you can check out. So this link, I put there's no coupon necessary. There's a discount here for a very limited time.

We're just doing it this week to celebrate the launch. And then you don't need a coupon, you could just order here and this will initiate the process of having your Dutch test shipped to you. So Dr. Liz, if you'd like to just give the difference between the two tests and who might want to consider ordering the Dutch plus, this would be a good spot to do that.

Yeah, absolutely. So the Dutch complete really is what they start with precision analytical of the lab that's running these tests, what they started with and it's the dry deer intestine for comprehensive hormones. So it is urinary based.

It's four sample cards that you collect over a 24 hour window. And what you're getting is all of your progesterone metabolites, you get alpha and beta pregnant and dial. I shouldn't say all of them, you get those two primaries. You get your estrone, estradiol, estriol, you get your four, two, four and 16 hydroxyestrone and your two and four hydroxy estradiol. Remember, estriol is 16 hydroxy estradiol.

So that is the 16. It's metabolically and intermediate. It's not actually primary hormone, but it does have activities that we counted as one of our main. But that's why it's a weak hormone.

I digress. You do get two methoxyestrone and then you get your androgens. You're going to get your DHEAS and drostrone ediocalanolone, which are your metabolites of DHEA plus the five alpha, beta, androstane, dial and five alpha DHT. So you really get that full comprehensive breakdown of the primary metabolites and those major hormones. And then in the cortisol, you're getting urinary free cortisol, free cortisone, and the metabolites, the tetrahydra cortisol, tetrahydra cortisone, their alpha and beta tetrahydra cortisol, and then beta tetrahydra cortisone. You also get your sulfated AM melatonin, which remember in urine is an accumulation of your nighttime production excreted on that first morning void, and then you get your organic acids. Now our guide right now is not pulling in all of the organic acids.

It's only pulling in eight hydroxydoxyguanacine, which is a measure of oxidative stress that is on the Dutch report. We're going to start incorporating the rest of the metabolites as we unroll this, but we really wanted to make it as impactful on the hormone side first, and then we'll pull in those relationships. Those will be more of our findings as we continue to build out.

So this is an ever-evolving program, so very exciting there too. Again, we're pulling in serum thyroid, we're pulling in, we're actually going to be pulling in some of the polymorphisms associated with hormones and their metabolites, some additional organic acids, and possibly even maybe gut, we don't know. Like the sky's the limit, we're just building until we have a complete hormone story. The

difference between the complete and the plus, the plus you get a salivary cortisol and salivary cortisone. So cortisol in saliva is very specific to in-the-moment production within five to 10 minutes of cortisol spiking out of the adrenals.

You can measure it in the saliva. So it really enhances what is their first morning response to stress, and that's a mini stress test, right? We all have to wake up, we all have to go from this near-death sleep state to being upright, and so depending on how we respond to that stressor, that can equate to how we respond to other stress throughout the day, give or take a little surge. But that can really tell us what is our natural response to an organic healthy stress, and do we need to do things to alter that because it gives us what's called the cortisol awakening response, the car. And the car can be implicated in a lot of conditions including autoimmune risk. If you don't get enough of a rise in cortisol in that first 30 minutes, it's associated with worse outcomes. Like too low a car can have worse outcomes with mental health concerns. Too high a car can also be associated with depression.

That was after we talked about it on the videos. That was my takeaway from my interview with Dr. Kerry, was that we need to get my wife and the son first thing in the morning for 20 minutes every day, and that she had low cortisol in the mornings, and that that was worsening her autoimmune situation.

And it was part of our recovery program for like a non-negotiable, like we still do it today, like we go for a walk first thing in the morning. But I didn't mean to interrupt it, just as a real practical application.

No, it absolutely. It's giving you a lot more refined information. So it's, if you have, I would say anyone who has mental health concerns, autoimmune concerns, I would say even insomnia, because cortisol and adenosine are inverse to one another, and they actually elevate together. And so we get more adenosine production, the more active we are throughout the day, but cortisol blocks it from binding to the receptors in the brain. Adenosine makes us groggy, right? It makes us sleepy. And so we think about melatonin all the time as our sleep hormone. It's actually, it's adenosine that's really a driver for sleep. Caffeine actually blocks adenosine in the brain. That's one of the reasons why it keeps us, you know, perked up in the mid-afternoon when we need that coffee, Joel. You know, it's like, oh, but one of the reasons that we may need that coffee is because cortisol is dropping too much, and we can see that, we can see that drop. And so knowing if you're getting a surge in the morning can tell you, if you're not getting that surge, you might be either groggy or throughout the day, or you might even be at risk for insomnia if it's too high or out of balance. And even the 60-minute point, usually a car really is associating only the waking and 30-minute relationship to one another.

That's the awakening response. But that 60-minute is the recovery phase. If you keep going for an hour, like that's a huge inflammatory surge. That's massive stress.

Whereas if you tank right after 30 minutes, you don't have stamina to that cortisol. You're just, you know, and you don't see that in urine. You see the average in urine. So you're seeing free cortisol over windows of time, which is good, but it's not, I would say it's not the best.

There's no snapshot. You don't see the rhythm. So the, then the plus is really what looks at that cortisol arch through the day. That's, it's super important. Okay, I have a few questions for you. We're gonna, let's see, I can answer some of them.

So I'm just going to get those out of the way. There will be a recording available that will go out tomorrow. Is it possible to order from Europe? We're gonna look into that. We're not sure if they do. Do you know if they ship what they're not precision analytical anymore? Right? They're called something else.

No, it's through, I think, well, it depends on where you are, but there's Nordic Labs that does shipping of the Dutch.

Oh, yeah, we could order them from Nordic. And then I have an account with Nordic. Okay, Barry, and we just added some complexity to this, but the answer to the Europe is yes. My friend Graham is one of the founders over at Nordic. And do you know, do you know Graham Jones? Do you know people at Nordic?

I know him by name. I don't know him. Okay.

Yeah, yeah, yeah. We've had podcasts with him and stuff. He was one of the first people over there. So yes, we can order through Nordic. We just wouldn't order straight through Dutch. And then you would send in the results just like normal. The pricing might be different. So that would be the only thing. You wouldn't, we'd have to customize and send you like an invoice versus you ordering on the website probably because the pricing might be different.

But other than that, yes, we can do Europe. Glad you're enjoying it, Heather. Questions. And I know we're over an hour.

So that's, you can answer them short and that's totally okay because we're going to do a Q &A webinar later this month. So if we don't get to everything, would there be value in a 70 for a 73 year old woman who has not been on hormone replacement therapy to run this test?

There could be. Absolutely. So when you're in your postmenopausal years, right? And so you're quite a, you know, on average about 20 years in, right? Yes, you're not going to see the same estrogen levels, but you, we do have established postmenopausal ranges. And depending on your metabolites, 16 hydroxy E1 is actually considered more of the bone protective metabolite in our postmenopausal years. So it's good to see if you're pushing through that pathway or if that is a really low ratio, you might want to do things that alter that production. So there is still benefit to knowing your metabolites.

And even the two hydroxy to methoxy ratio can be of benefit, not necessarily to enhance your detox, because we don't want you to clear out any more of your estrogen, but more to know enzymatically what's happening because that enzyme, that COMT, is involved not just with estrogen cataclysm clearance, but also catamly, catacolamine clearance of our dipamine, norepi epi, and any cataclysm in the diet like coffee. So it's good to see that behavior. And you can still get that benefit. 5-alpha reductase, another one that we kind of want to make sure you're favoring a little more in our postmenopausal years, because that means you're getting more of the lower androgens that you have. But androgens should actually be maintained well into our 60s and 70s. So seeing where you fall, where is your age expected range?

And are you in range or not? And how can we support that? Because that is one that we can definitely target with adrenal support. Yeah. Oops, sorry, I lost you.

I was muted. Can my better, can Dutch test tell you about high cortisol over a saliva cortisol? The Dutch plus actually uses saliva cortisol. So that is in addition to the urinary hormone testing.

I will throw in the other caveat, though, that with urine, you see the metabolites. You don't get to see metabolites in saliva. And that tells you a more robust story of what's happening with that cortisol. And I see this actually fairly frequently where people will have beautiful cortisol, they feel really crubby, they're so tired, but their car looks gorgeous, you're like, what's going on?

Their metabolites are taint. They're not ultimately making a whole lot of cortisol, they just make it really well in response to stress, they have that stress signaling working their brains working. But overall, that 24 hour cortisol clearance, not looking great. So that's, you know, it still tells us, yeah, they still need help, they still need enhancement. It's a little different how we want to target that help. But it still can be a better thing. So, sorry.

No, that's great. That's good. That's good to know. Yeah, the urine shows the metabolites of the cortisol and you won't get that on a salivary test. Pathways 4 OH2 OH and 16 OH, are those looked at? Yes.

Yes, and we call them each out. We do, we're monitoring the initial comment clearance based on two hydroxy ratios. But if there's any weird abnormality in four hydroxy, if it's above 10 to 11% ideal range or 16 hydroxy is either too high or too low, we call that out to you on the reports in the findings section. So yeah, it's on the report and it's on the Dutch. Yeah. Okay.

This answer I'm sure is subjective. When I was working with clients quite a bit, I recommended hormone testing every three months when somebody was working on like a significant hormone imbalance. But there's a couple of questions about how often would one need to get retested? I'm sure that depends on the individual and the practitioner.

The individual and their response to therapy. But I would say, because urinary hormones are a little more expensive to run, the most and because lifestyle diet and supplements take longer to impact enzymatic response. Their minimum is three months, ideally six months to really let those hormones modulate in response to the interventions that you've added. So I would say every six months is a good follow up for patients that are being monitored on therapy.

And then once a year is a good screening just to make sure people if they're on maintenance, like, hey, let's just check in and make sure everything's still looking good every one, one to two years, if they're not symptomatic. Yeah. Okay.

You already answered, how can this help test the first question? How can this test help a post mental puzzle woman? You pretty much covered that in the first answer when we just did these questions. Practitioners get accounts straight through endo access, not through a third party for a couple of people answering that question. Does the patient stay on HRT while conducting the Dutch test?

There are instructions on how to test based on the HRT provided. Depending on what their route is. The answer is yes or no. With topical applications, yes, they can stay on it. Patches just test midway between application pellets and injections midway between. And then oral, there's some nuance and sublingual, there's some nuance. So read those instructions, the Dutch test goes very thoroughly. The instruction book on how to collect is I think like eight or nine pages. It goes well into how to test with different HRT.

Which Dutch test is best for post mental puzzle? I guess that would just depend on what you want to find out. If you want to look at your cortisol levels and your stress hormones and how that's all going, the plus.

Yeah, I would take the plus in general because when we, it can give us a really good insight on that cortisol response, which is connected somewhat to our DHA as well as our acetylcholine response. And when we're thinking about brain health and age and just really making sure that we stay cognitively sharp all life long, you want to know your car. You want to make sure you're getting that appropriate response in the morning.

That one's done. The report will not recommend hormones. No, to take. No.

We will, if there is like a, we don't recommend how to take it, but we will throw in a shout out if it's like, Hey, you know, they've mentioned they want to be, they want to work on fertility, progesterone's pretty low. You could consider if this is within your scope, but we don't, like it's part of many options. And it's one that's like, if it's therapeutically indicated, here's a shout out of when it would be implicated. Yeah.

But it's not our like, flagship. This is what you must do. Again, we like to provide information and options that we're not saying this is how you have to do it. Think of this more as like a one on one consult with a colleague.

Yeah, yeah, makes sense. Can practitioners create accounts now? Is it open?

That's a great question. Is it March 1st? Okay. I think March 1st, we're opening up to getting accounts, but don't quote me on that.

That's totally fine.

I think you can sign up and at least be on get more information, stay on our wait list. Our website's up.

Okay. Sorry, I made a question in the chat. Practitioners set up accounts. No, not on our HT right on the endo access through endo access practitioners will set up accounts. Yes, there are huge, oh, hold on.

There's one. I'm almost 70 have not been on HRT, had a genetic test done in the session with the doctor. I was told I should never take HRT because not even bio identical because I have slow COMPT and the little estrogen I produce seems to be the more toxic one. I also have osteoporosis. Is there anything I can do to support what meaning would this be relevant? Like should I test this?

Again, DHEA and testosterone are going to be your next best bone protectors and even progesterone can be bone protective. It's not the same turnover. It's more bone building versus bone turnover like estrogen is the bone turnover piece, but still really important to know where your levels are and not that you need to be on HRT. You don't have to be given DHEA or testosterone. You can be given some really great androgenic supportive herbs like tribulus, chitaverine.

There's some great options out there. Then I think knowing that you have a risk for higher for hydroxy, we don't want any for hydroxy around for tube on ever. Knowing your ratios is really important and there is great anti-, it's one of my favorite blends that we've made as a tube on horn.

Our NERF 2 promoting formula is fabulous. If you have higher for hydroxy potential, it would flag for you as an option to take this product and it's a beautiful blend. I think there is still benefit because A, you're going to see, are you at risk and can you do things to protect your risk? Are you pushing more for hydroxy? How can we improve that methylation gauge if we wanted to through dietary interventions, even through like aminos and supplements or minerals? Aminos and minerals. Then how can we boost those antigens if we need to?

People benefit from taking the Dutch plus test every few years. I took the test about two years ago. I wonder if the results change year to year. The results would actually change month to month and we just answered this one a minute ago and that six months is ideal. Some people test as often as

every three months if they're really looking to be proactive. But if I was working with someone long term, six months would be the maximum I would want to wait to see it retested because it would change month to month. I wouldn't even view a Dutch test from two years ago as clinically relevant.

We actually say if it's older than six months, we're not going to give you recommendations because things will have changed so much that we need to know what we're dealing with in the now.

Kelly, we are making this available with professional interpretation and the report to make it so if you don't have a practitioner that you're already working with, this is a way that you can get it. Yes, you'll be able to follow the recommendations that we give from the report from theirs and our video and you'll be able to follow those recommendations on your own. Yes, definitely huge answers relative to osteoporosis. Are the supplements mostly herbal? You mentioned iminos, you mentioned herbs, you mentioned vitamins.

Yeah, minerals, B vitamins, some have magnesium and calcium. We try to keep the minerals actually to a minimum to be synergistic with the herbs because the herbs themselves are full concentrated herbal extracts so they do have some mineral content of their own. Obviously, it's not going to be on the RDA label but it is there and so we don't want to block the herbs by adding too much mineral but we do want to complement the herbs. They are primarily herbal and amino based with our B vitamins as a higher focus and then the minerals being synergistic.

Okay. We will be able to take questions about your reports and get answers for you if there's further questions and Mary Ann's pretty well trained on them so if there's something she can't answer we'll get answers for you. Can one take their supplements and vitamins while taking the test or there's instructions in the Dutch about which things you can and can't take it would come with the kit. Receptors involved in the hormone environment, this is the last question. Are receptors involved in the hormone environment is a question but yes and if so, how do you deal with situations where a receptor is polluted, covered or by some other element or I think with the patterns you can figure out if it's a production issue, if it's a utilization issue which would indicate if you have a lot of the hormone but not a lot of the metabolites you're probably looking at a utilization issue so that would be receptor site type of stuff.

That can definitely be an indication. And symptomatically too, if they're robust in their hormones and yet they are super symptomatic in terms of fatigue, low libido, there's other factors that we actually pull into or just rule out these other things like thyroid and iron.

And environmental stressors but that can definitely be an impact to those receptors too and like speaking of environment, xenoestrogens do compete with estrogen receptors so that can definitely throw off our estrogen picture as well and the fun thing about that like if you dig into it, a lot of those xenoestrogens so like our bisphenols, our parabens, our phthalates, right, those up regulate certain enzymes so if we see that you're really pushing for or 16 hydroxy and your estrogen deficient in your symptoms, you can actually, we can extrapolate that there probably is a xenoestrogenic receptor issue going on. But yeah, anyway. I dig. So muted.

Thank you Dr. Liz. Yeah, I was muted. I know we're 23 minutes over. We're gonna have another Q &A with Dr. Liz this month, a full Q &A note, we can answer any questions about endoaccess, about Dutch, about the test, about anything. So that's going to be this month. We're also having Kuran on for a Q &A but that one's going to be more focused on microbiome and skin related stuff. And then we're going to have a third Q &A possibly with Steve Wright because we just had a webinar with him and a lot of people were asking questions afterwards and he's better at answering questions about his stuff than I'm better at answering questions about his stuff. Thanks for the speedy recovery wishes.

I hope I didn't sound too terrible on here but I've muted myself for the coughing and the sneezing and the sniffling. That sounds like a commercial. Anyways, thank you so much. Congrats on launching this. I've put the, I know there's been many, many, many, many, many, many hours of work put into creating this.

And so I'm sure you guys are really excited. I've put the link in the chat a bunch of times. Again, we've marked both tests down 50 bucks to make it easier for everybody to order their first one or two. And please share this. If anybody out there you know would benefit from it and the recording will be on that page that had all the information about the tests and ordering probably tonight, maybe tomorrow. I'll send it out in an email. The discount will run the next few days. And thanks for all the great questions.

Thanks for all the excitement in the chat. Dutch can ship internationally. So yes to Canada. And then I'm sure it would probably be better for us to order through Nordic here in Europe than ordering from Dutch and having them ship it to Europe and ship it back.

I would guess there's a better way to do that. So reach out to us and say, Hey, I live in Europe. I want to order one of these Dutch tests and we'll get my account from we'll wake up my account with Nordic to get those ordered.

I'll send Graham an email. So thanks, everybody. Thank you for all the comments.

So many people in here. Marianne, you're going to be having an email from Dorina wants to order two tests to Canada. So keep an eye out for that. And I think we're good. Thank you so much, Dr. Liz. Thanks, Karan. Even though he's out in the universe now and we'll talk to you soon.

Thank you so much, Michael. I hope you have a speedy recovery. Thank you.