Episode 100 Transcript

Jaclyn Smeaton (00:54.000)
Welcome to this week's episode of the DUTCH Podcast. It's a really special episode this week and so we brought a really special guest. I'm Dr. Jaclyn Smeaton, the host of the podcast. You hear my voice every Tuesday and also Chief Medical Officer for DUTCH and today I have with us our CEO and Founder Mark Newman, welcome Mark.

Mark Newman (01:13.000)
Glad to be here, thank you.

Jaclyn Smeaton (01:14.000)
So Mark, probably have heard him before. He's a well-recognized speaker internationally. And really, he's dedicated his life to improving hormone testing. He's been, for 25 years, developing assays and chemistry with saliva, now in urine to really be able to assess reproductive hormones using 24-hour urine. We now have organic acids. And really, all I can say is Mark brings an incredible level of integrity to the science and really helping us get the right answers as clinicians when it comes to understanding our patient's hormone story. So Mark, thank you so much for joining me today. Happy to be here. So 100 episodes of the DUTCH Podcast. seems like only a short. flies. I know. It's like a short period of time since its launch. We've been going for three years now.

Mark Newman (02:01.000)
Yeah, it's amazing just how much has gone on in that amount of time.

Jaclyn Smeaton (02:05.000)
Definitely. We've hit 300,000 downloads, which is amazing for a category of hormone health. And we featured some awesome guests as well. We've had Jeff Bland, Kara Fitzgerald, Sara Szal, Carrie Jones, Tom Guilliams, of course you. Yes.

It's been just amazing to be able to sit with these amazing clinicians and scientists to learn more about hormone health.

Mark Newman (02:31.000)
Yeah, I mean, we work in such an interesting space and there are so many layers and nooks and crannies to the and we can't all be well, maybe Jeff Bland has an opportunity his brains almost that big, but to be you know, both broad and deep in all of these topics. So it's great to see that community continue to develop because it's also an exciting industry because we're we've never will never arrive. There are just so many things. mean we just today we're talking about new publications reshaping our understanding of you certain topics as it relates to HRT and monitoring and all those things so it's a it's a fun time in a fun a fun industry and a fun community to be a part of.

Jaclyn Smeaton (03:08.000)
Yeah I think that's one thing that really stands out to me is the passion of the providers and our community and you know it's cool because DUTCH is very aligned with that like I think one thing I love about being a part of the DUTCH family is just feeling like there is incredible integrity and purpose in serving women. And of course, we know research on women's health is so far behind so many other conditions. So being a piece of that feels good, but I think our providers feel that too. The way that they help their patients like they're very passionate about serving this patient community too.

Mark Newman (03:41.000)
Yeah, and getting it right is difficult and has changed over time in terms of what best practices are and our understanding of different topics. And for some of those, there's there's a lot of work left to do, so we want to pay attention to what other experts are doing, but also be part of the conversation and mining our own data. And that's been an exciting part of the last few years, is being able to mine our own data and contribute to the peer-reviewed literature on a number of fronts and more of that to come.

Jaclyn Smeaton (04:10.000)
Yeah, and I do want to spend a lot of time today talking a little bit about the emerging science that we are doing within in-house, but also what's happening in the community because there are some things that are really notable. So hold on that. But I will say that you're not going to want to miss it. So don't cut this podcast off, because I do want to talk about some things that are really changing, even conventional practice, and have the possibility of changing guidelines, like meta-paws management guidelines in the next year. So we want to talk about the emerging studies that are coming out and the conversation that's happening around that.

We'll get to that. But I do want to start with DUTCH and what's happening at DUTCH. I love when we get to do these little updates. And I've used the word we're humming right now because it feels like the education team, the clinical team, product, looking at the report, looking what's happening in operations, so much is moving right now and we're aligned and we're rowing in the same direction and it just feels like this energy and this buzz. So what are the things that you want to share on the podcast that you are most excited about that we're doing right now?

Mark Newman (05:23.000)
I think really just answering the call that we've received for over time from people of how we can help them better. You know, we know that the things that we do are complicated and there are lots of layers to them. And so we spend a lot of time, we've spent a lot of time historically talking to people and really one-on-one mentoring people. And the thing that

we really hadn't provided enough of historically is just resources and tools to help people along. And I think your team has got so many things just in the pipeline and coming out.

Our perimenopause course, for example, is something where we took a look and said, this is something that is our most prevalent reason why people do the DUTCH Test. And then when you look out in functional medicine space or any space, there just isn't a lot of education on, you know, there's so many women going to doctors in this phase of life saying, hey, can you help me? And they're saying, well, yeah, can try. But they're not educated well because there just isn't much out there. And the literature is unique and the research is unique for that group compared to the fertility reproductive stage of life or compared to menopause when you're done cycling and in HRT there's been a lot of emphasis on that. So that's one thing that you're well aware of because your team's been working so hard on it. We'll be out in a couple of months that we're super excited about. For me personally, my passion project has been twofold. And one of the things that we've talked about amongst our team is simplification, as we've got this complex, in-depth thing, but on two different phases of what we do, we haven't, as of now, simplified things enough. And that is one, just the collection process itself.

There are just a few practical things that we haven't streamlined enough for people in terms of what do we do with fluid intake? What do we do with coffee intake? What do we do with avoiding avocados and some of these things that I think when we developed the test was more of an ideal setting in terms of the data, but not quite enough practical allowances for people in terms of their normal lives without making any compromises to the data that we're, so in the fall, we're going to be revamping and relaunching the kits themselves, which will be very similar to what they are now, but a simplified version so that the patient experience itself is just simplified. That's one side of things.

Jaclyn Smeaton (08:08. 000)
Yep. We are. We're doing a lot with simplification across the building. think that when we look at DUTCH, we have the dried urine test for comprehensive hormones not that to beat the C to also mean is like clarity and comprehensive, but certainly not confusing. So we want to make sure we're looking at all the different ways we can simplify. The one about food avoidance is an interesting piece, because most of the time, the avoidance of foods is related to specific oat markers, which are not the primary reason most people are ordering the Test. It's like the cherry on top. And our team, the clinical team, is really passionate about this. In fact, we had some docs that went into the literature without being asked to really say which are the strongest correlation and then I don't even think we've told you this but we've been testing it in our team where you know the docs will send a sample in and then like eat a bunch of bananas and send a sample in just to see what the outcome is and

you know that's an end of one but when you get a couple people they're very opinionated on like how we can simplify it and those types of things again the easier we can make collection for patients the easier we make it for our providers too.

Mark Newman (09:16. 000)
Absolutely and then yeah the other thing we as you sort of alluded to is we don't want DUTCH to stand for the dried urine test for confusing hormones. And so we've really taken a huge effort to reduce, the words we've used a lot is reduce the cognitive load. And I think when we first designed the test, there was a certain mentality of doing that. But what we didn't do is make it easy enough to read in terms of just the flow and how to easily extract the most relevant information. But additionally, it's been 13 years, and the literature has changed, and our understanding has changed in terms of some of the analytes that we've had for a very long time buried on page two in those tables. You know which one I'm talking about. We need to do a better job of pulling those forward because the research that says, hey, this is a really relevant marker for. A woman's status as it relates to androgens, a lot of that research has come out over the last 10 years. And so in response to that, we want to pull the most...leverageable information forward, but also to display it in a way that just makes it easier for doctors to get, to leverage as much information as they can out of the Test, while also being able to read through it and find those problem points very quickly and efficiently. And so we've got two rounds of changes that we're planning on for the report, the second of which we might be a little bit vague at this point until we get a little closer. But in May, we will be making some significant changes to the look and feel of the report, as well as the layout in terms of where some of those really critical, sort of newly discovered, in terms of their meaning, metabolites and just how those all sit in the report itself.

Jaclyn Smeaton (11:09. 000)
Yeah, I wanna talk about those because they're really, I think, gonna level up people's understanding in a couple of areas. the marker you're talking about, well, I'll just start by saying, I had a podcast with Mohit Kara. A couple of weeks ago, he's like top of his field urologist at Baylor, so smart, knows functional medicine. And when we started talking about this urine metabolite, he was like, can you send me the white paper when it's done? There's so much excitement around it. And that felt amazing because we are part of really pushing science forward in this way. And not a lot of groups are looking at urine metabolites. So for us to be able to look at the data, look at what's being published on a small scale and then dive into our data where we have tens of thousands of samples to look at, you can publish really meaningful studies. anyway, I want to talk about that analyte and kind of prime people because I think we are going to start to expose all of our listeners and our providers to this science so they can really better leverage. And what we're talking about mostly is female androgens and the marker for 5-alpha androstain dial.

Mark Newman (12:20. 000)
Yeah, and I mean, I think there's relevance there for the men as well, but for the women, the literature is rich. Can we start with, yeah, start with what sparked this idea to bring that forward on the report? Yeah, the research really, as you mentioned, there's good research on urine metabolites, but it's just not done conventionally. So it's just sort of off the radar of a lot of providers. And what it is essentially is it's the best way to ask the question, how much intracellular DHT am I making?

So if I have testosterone, that's good because testosterone does what it does, as long as we don't have too much. And at the cellular level, it's hitting the androgen receptor. But within those same cells, 5-alpha reductase turns it into DHT. So dihydrotestosterone is about three times as strong as testosterone. So it really hits the androgen receptor. And people know this. And so what they do is they test DHT, which is very intuitive. It just doesn't work very well. And the reason for that is because

Because the DHT that's circulating is not generally the DHT that's hit that receptor. Because within that same cell, it has the machinery, after it hits the receptor, to turn it into its downstream metabolite, which is primarily what you find that actually reflects what's going on at the androgen receptor level. And that is the marker we're talking about. So testosterone, DHT, hit the receptor, 5-alpha-androstain-diol, which isn't even really androgenic itself but it's a great picture of how much DHT's been made in the cell and there's really good literature around that.

Jaclyn Smeaton (14:00.000)
So let's talk about the study you presented this when we were in London last year talking about PCOS because there was a really interesting study in women with and without PCOS where they measured androgens and androgen metabolites and talk us through what the findings of that study were in regards to 5-alpha-andro.

Mark Newman (14:19.000)
Yeah, so you've got PCOS women and not and so it's relevant for PCOS women but I think you can also think of it as the PCOS group as sort of a for women with high androgen symptoms, particularly with PCOS being such a difficult diagnosis. It's this amorphous group of sorts, but we know it's characteristic of having high androgens and high androgen symptoms. So, okay, so what they did in that study is they looked at all of these metabolites, many of which are hard to pronounce, that we have on the Test, know, androsterone, idiocalanolone, and testosterone, and dihydrotestosterone, and then androstanediol. And so when they look at those, what's really, really interesting is...not surprisingly, all of those androgen metabolites are higher in the PCOS group. But when you look at them, there's overlap between the PCOS group and the controls, which is totally

normal for some condition like that. But the one exception to that is androstain dial, that if you look at the 25th to 75th percentile ranges that they gave for the healthy controls and the PCOS women, there's actually a very sizable gap between them, meaning the people that have PCOS are in a completely different sort of state as it relates to that marker. And you could explain better than I can in terms of what's going on there as far as the insulin driving PCOS, pushing 5-alpha, and then making lots of DHT right at that cellular level. So then let's measure DHT. Well, they did. But the DHT is only slightly offset PCOS versus controls. But it's that metabolite that's made after it hits the receptor.

That is so well separated and differentiating between the healthy controls and the PCOS group.

Jaclyn Smeaton (16:07.000)
Yeah, it's exciting. And we've always, we've had 5-alpha-andro reported on the test for men and women. it's been hiding in the table. And unless you've had consultations with our clinical team where you've talked about high androgen symptoms in a patient, you probably haven't taken a second look at it. This study really, I mean, it's amazing because as a clinician, especially because PCOS is so difficult to diagnose. I'm using that as an example, but like you said, there's a lot of other times where this is a relevant marker. But probably the highest relevance or applicability in PCOS, when you measure something like DHEA sulfate, there is a very broad normal range. And within that normal range, you're like, meh could be normal, could be PCOS. And most androgen markers are like that. Like you said, there's an overlap in the reference range. So there is a window where it could be just the high end of normal, or it could be the low end of abnormal. And with the 5 alpha andro, they are so distinct that it's really crystal clear. So that's one of the big report changes is not only will we be bringing it onto the infographic page for sex hormones, which is page three, we will also be putting it on the summary page because it's that important for females. And this is new science and really our responsiveness on how we can bring that forward to practitioners.

Mark Newman (17:34.000)
Yeah, when we developed the test, the idea was if you tested five alpha androstain dial and five beta androstain dial, it was just one more window into someone's overall preference for pushing androgens down the alpha pathway or down the beta pathway. What wasn't known at the time is how strong of a marker it was for DHT. So we added those two markers, we added DHT, and along with the rest of the world thinking the value of DHT is probably higher than that downstream marker. then as is often the case, science changes and evolves as we learn more. And it turns out that that marker really glad that we included it and now we can feature it more as it should be.

Jaclyn Smeaton (18:16.000)
Yeah, we've been testing this and looking at this for a long time. our team, we went through like 2,000 reports in the last two weeks, our clinical team looking at this. And there's so many examples where testosterone and DHEA, total DHEA and DHEA sulfate look normal but the five alpha-andras really elevated and that correlates with patient symptoms. I think practitioners are gonna find the, let's just call it the elevation or like unveiling of our metabolite that's always been there. Putting it in the spotlight I think is gonna really improve your ability to find out more about why your patient has hirsutism or your hair loss or whatever they're dealing with right?

Mark Newman (18:57.000)
Absolutely and that's why we we have a team that stays on top of the literature because as it changes we need to pivot and make sure that we're bringing forward the most leverageable Information

Jaclyn Smeaton (19:06.000)
Yeah, so if you're listening now you actually have this marker on the Test and you can look at it It's on the table page that we report sex hormones You're gonna see it brought forward in the infographic in another month or two and when that goes live So and we also will be putting out a lot of additional androgen information. It's a really good opportunity for us to re-educate on androgens. We spent a lot of time talking about estrogen and progesterone, cortisol, but this is really good opportunity. So we have a whole white paper that will be published really providing a scientific update on where we're at with the state of androgens.

Mark Newman (19:41.000)
Yeah, absolutely. And it falls right in and is dependent on the rest of that information. If it's high, you want to ask yourself, am I making too much DHEA that's flowing down here? Or is my metabolism pushing down the alpha and not the beta pathway? It can be a production issue. It can be a metabolism issue. And then the solutions that you reach for might be different depending on the overall picture is actually a pretty good place to start when it comes to a patient who's struggling with symptoms related to androgens.

Jaclyn Smeaton (20:13.000)
Yeah. Now, our other big scientific change coming out on the report is a more prominent view into cortisol clearance rate. Can you talk a little bit about why this is something that you are passionate about?

Mark Newman (20:26.196)
Yeah, it's been staring at us all this time as a concept in our report. mean, was, I mean,

quite frankly, it was the single reason why the test was developed, is digging into the data and asking the question.

Why do people with larger or bigger BMIs not have more free cortisol? What's the deal with that? So this was back in my previous life when I was doing a lot of saliva testing, and we had really successful clients that were drawing a connection between weight gain and free cortisol. But the literature doesn't support that connection. There isn't a connection between, if you look at big enough data sets, there's actually a very slightly negative correlation between someone getting heavier and what happens to their free cortisol. Now that's as a population. Of course, buried within those populations are people who are hypo, hypo cortisol, hyper cortisol, whatever. But as a class of people, your free cortisol levels don't tend to change much as you go from 150 to 250 to 350. But what does change a lot in the, the sort of discovery of that for me is what led to like why don't we build a testing model where we can look at free cortisol and the metabolites is because the metabolites climb with as you go from 150 to 250 to 350 and you get more adipose tissue you know that might.

This is not that well laid out in the literature of how this actually happens. But my best understanding is if you have this basically separate organ of adipose around your waist, it's going to sequester cortisol. And then somehow, which is not entirely clear, that ends up in the toilet as a cortisol metabolite. So I'm sequestering cortisol, my adrenal glands like fine, I'll make a little bit more and a little bit more. And so you end up with the free cortisol pattern that is fairly unremarkable as a class of people.

But the metabolites get bigger and bigger in terms of their concentration as you get heavier. And then, of course, there are other reasons why your clearance of cortisol, that we talk about a lot, why it gets abnormal, whether it's thyroid or whatever. But what is the actual rate of cortisol clearance? We're asking people to stare at the picture and sort of do math in their head. And so that's been and have a big ask for people and it's a little bit nuanced. And so what we've done is just added to the test an index that takes into account all of the cortisol metabolites and all of the free cortisol and the difference between those in a relative sense is your relative rate of how much you're clearing that cortisol out via metabolites. And if that's abnormal, it's really relevant to your overall cortisol story.

Jaclyn Smeaton (23:11.000)
And I think the, if we step it back a bit, if you're new to understanding this cortisol story, we look at metabolized cortisol as our primary means to ask the question, how much are the adrenaline producing in a day? Because that's gonna be excreted through the urine,

whereas the 24-hour free cortisol is really the cortisol that's having an activity. It's affecting all of our cells across all of our body systems.

It's what you measure on the diurnal curve. We show a total as well. So both of those are really important. And when you look at just the diurnal pattern, which is what I was trained to do as a clinician, you only have to measure that and look at that, you really can miss what's happening with a patient who is really not making much cortisol or on the other end, making so, much.

Mark Newman (24:03.000)
Right. Yeah, one of the early cases of this that was laid out in the literature was anorexia Which is you can find a paper that says hey if you're anorexic you make more cortisol But then when you look at the paper what they found was salivary cortisol was higher So the statement they make more cortisol not necessarily true in that sense what our industry had been doing for a long time is look at the free cortisol which is only about 2 % of the total and then assuming and guessing that it also Reflects your overall production, but like in the case of anorexia what happens is because of that particular condition

You really slow down cortisol clearance. So the cortisol metabolites in that group of people are half The free cortisol is higher and that picture tells you I'm not I'm not able to clear my cortisol Which has to do with that particular condition and what's going on with with dysfunction within the body? And so the the picture is more nuanced the picture is you have high and a lot of free available cortisol Because you're not able to clear it and and so in that sense cortisol is a three-dimensional picture It's diurnal free pattern, which is the most important information and then total production and you're really just guessing If you're only looking at two of those dimensions and that again was the main driver behind the development of the Test in its infancy was the desire to have more data around those types of stories.

Jaclyn Smeaton (25:29.000)
Yeah. And so now you can see that on the report qualitatively by comparing 24-hour free cortisol and cortisol metabolite or we call it metabolized cortisol. You can kind of get an idea by are the arrows pointing in the same direction, toward each other, away from each other. But now we're actually calculating that. And there's instances, we saw one in a report yesterday, for example, where it was surprising the cortisol clearance rate was low because both of the free and metabolized cortisol were pressing as high as we can report on the dials.

And then actually, we asked the lab, and Scott came back from the lab and said, well, yeah, the metabolites are 1 and 1 times the highest, and the free is 10 times higher. So you can

actually get the calculation, which you would have not seen. You would have just seen them both off the charts. Now you're actually going to be able to assess the cortisol clearance rate, which has its own implications. Let's talk a little bit about that for people who maybe haven't been leveraging that as part of the story that they're gaining to understand from patients, what are some of the things that cause cortisol clearance rate to go up or down from a health perspective?

Mark Newman (26:43.000)
The most common in terms of when it's high, meaning my metabolites are much higher than my free cortisol, as we talked about, obesity, having a lot of adipose tissue systematically creates that look in the average person. So that's the most common in terms of excessive clearance. But you can also see it in like the chronic fatigue literature implies that that happens in those people, but it's probably only a fraction of those people. But if you think about this story, you live a life for decades of lots of stress, high stress, your body is seeing cortisol over and over and over again. So in some of those cases, and we've seen some interesting cases of this also with glucocorticoid exposure. I can think of a particular woman who had some skin disease where she was putting on glucocorticoids of some sort, like for decades. Topically. Yeah, but all that exposure for decades resulted in elevated cortisol clearance. Now, that's an N of one. I can't prove that's why, but it makes sense that if you show your body cortisol over and over and over again, that your body is going to adjust in terms of its clearance rate. So in the chronic fatigue literature, you can see that where the...the free cortisol is lower in chronic fatigue. But the story doesn't end there. There's one study that shows that the metabolites are actually higher, which means again, the story of why your free cortisol is low is not just that maybe you're not making enough, maybe your body's clearance of it is excessive. And the most common thing we see on the other side of it is a thyroid issue. So there's a pretty much a direct parallel between your thyroid status and how fast you get rid of cortisol. So if you go into the hypothyroid group, sluggish cortisol clearance and if you go into Graves disease or things that are related to too much thyroid or you just overdose your patient We definitely see cases like that where you'll see the free cortisol go way down and the metabolites go way up and if you Think about that story it makes sense. You're ramping up the engine of metabolism and then as soon as your body sees cortisol it very rapidly Clears that there's a study that kind of goes through that on an individual level and it showed from the most hypo to the most hyperthyroid person in that study there was like a 13 or 14 times the rate was like 14 times higher from hypo to hyperthyroid in terms of cortisol clearance rate so it's it can be profound.

Jaclyn Smeaton (29:13.000)
well so there's a lot coming on the report these are scientific concepts we've always taught and we have learnings on five alpha andro and on cortisol clearance rate in existing materials So if these are things that feel new to you I encourage you to go to the website log into the portal If you're a practitioner you can check out our interpretive guide which covers these concepts really really well and on the website We have a lot of other materials webinars logs videos that teach these concepts So this has been a great primer I think it's a good reminder for us just how much utility you can get out of the Test with things that you probably look at all the time, but maybe don't get all the information extracted out of it. That could benefit your patients.

Mark Newman (29:59.000)
Yeah, and that's really one of my passions right now, is making the report tell that story in an easier fashion for people to extract that information. Because we have a wonderful team that helps people with that. But that's another thing that we need to do for our clients, is continue to evolve the storytelling capabilities of the report itself.

And so we've got we've got some more changes coming later this year, but we don't we don't want to tease that too much But I'm really excited about that because I do think people are gonna find it much easier to extract the right information from from our test Yeah, as we move forward.

Jaclyn Smeaton (30:36.000)
Yeah, and these changes are anticipated to be launched in May. So you'll see them soon We're just wrapping things up another big change It's probably worth noting is the changes we're making to the comment section at the back of the report Maybe let's speak about that generally, you know there's pages and pages of interpretation support printed at the back of the report right now and generally we've bolded the comments that are specific to your patients but there's a lot of information that's just background information but along with this report update we'll be launching like a quick start guide which is how to read the Test.

how to move through it, what to look at first, and a little bit about what those things mean. And then we also have other materials available now, like the Interp Guide, that are even more in depth. So we're essentially gonna be trimming up those back pages, streamlining it to the highlights that are specific to the patient, and instead giving you other resources to look at that you could look at in tandem. So I think it's gonna really help patients see the main points that they should be taking home.

would say for providers too who are newer to Testing, rather than feeling like they have to read through all of this, it's gonna really be highlighting the areas that they need to dig deeper into for their specific patients. So that's another change that'll be happening in May. I think that's gonna be a big improvement that we actually haven't talked about that much. But I think providers and patients alike are gonna find that really helpful.

Mark Newman (32:04.000)
Yeah, the comments can be dense, and then the truth of the matter is that the subject matter goes even deeper than that. And that's what's really nice about the Interp Guide is it's organized really well. yeah, you…There probably aren't too many that want to sit down and read it front to back, although we love you if that's you. But for most people, to be able to find the topic that's relevant today and then have it laid out in an orderly fashion, but also in layers so that on some of those when you do need to go deep and really understand something for a particular patient or because your area of expertise is really wrapped around a particular topic that the Test hits really well, then we have those sort of different layers of depth that people can can dig into.

Jaclyn Smeaton (32:46.000)
Yeah, and we launched the interpretive guide. It's been two years now, which is mind-blowing. And if you haven't checked out this resource, it's really worth your time, because I've never seen anything like it. I mean, the amount of time and effort, it's almost 200 pages. And like you said, we built it to not be read cover to cover. You can. You'll learn a lot. It's like an endocrinology course three levels deep, it's amazing. However, we really built it more as a choose your own adventure guide, is how I would describe it, where it's formatted where you pick your patient type. Are you working with a cycling female, postmenopausal female, or male? And then from there, you turn to that section, and then you pick the hormone of interest.

Let's say it's estradiol. Then you have, it high, is it low, is it normal? So out of this huge book, you actually are picking exactly the information that you need to understand for your specific patient case. So if you haven't used this, we offer it for free in the portal. It's a virtual PDF. I'm probably saying that wrong, an online PDF. You can look through. If you're interested in a paper copy, we'll print that for you. We just charge you our cost. It's about $25. You can order it.

We'll print it and ship it to you. So it's really nice. I highly recommend that. Yeah, it's really a nice companion guide other things were launching. We're launching a treatment guide That's been we used to have one. It was really kind of difficult and a little bit confusing to

navigate that was completely Eliminated about six months ago We took it off of the website and our team has diligently built a new treatment guide that will also be launched with this new report It's gonna be may is gonna be a big month for us. Yeah lots of lots of goodies for our people. Yeah, and so that treatment guide again goes through section by section, patient by patient, our team's top.

I'll just say our top approaches. There's lifestyle approaches, dietary approaches, supplement approaches, and really it's gonna help you build out treatment plans so much more effectively. We intentionally didn't put that in the interpretation guide, and as a lab, think fundamentally we think we should help you understand what's happening with your patient. You, the clinician, who has so much more information about your patient's symptoms and background and risks and contraindications, you build the treatment plan. We don't wanna do that for you but these at least provide you with a list of our favorite options of what we would do if it was our patient for you to then look at and then go do the research to figure out which are best.

Mark Newman (35:18.000)
Yeah, no, I think people are going to really appreciate that as a tool. And that's really something that we're doing a lot of this year, just arming people with tools to...to better leverage our testing.

Jaclyn Smeaton (35:30.000)
So I want to talk, you mentioned briefly that we're launching a perimenopause course. I want to talk more about that. We're just coming off filming this week. And so now we have post-production work, which my team is celebrating because we did all the slide development and education. And we actually had dinner last night. And we're like, yay, we're done. We're finished. And the poor marketing team is like, yeah, we're just getting started.

Mark Newman (35:52.000)
The migraine has shifted from clinical to marketing.

Jaclyn Smeaton (35:55.000)
It has. And they have put in a lot of work marketing too to get us to having a beautiful recording session. But this is an area, like you said, that is, there's white space when it comes to education. No one is teaching practitioners how to help women in perimenopause. And you have this like consumer upswell of perimenopausal women, I'll raise my hand, like entering that phase right now that we want help, we want to know what's happening. And I don't know, there's just a lot of guessing right now. And like you'd mentioned, there's a lot of data in literature, but it's sparse. It's sparse spread out

everywhere. There's no guidelines for it. The menopause society hasn't put out guidelines on perimenopause. It's just this big gray area right now.

Mark Newman (36:45.000)
Yeah, I think people are just forced to say, here's what we know and think is true about cycling fertile young women. And here's what we're pretty sure today is true, which is a story that continues to evolve as well, about women who are completely done cycling and are menopausal and need this and this hormone and this and this care and then, you know, in this Venn diagram or whatever, this group is just sort of forgotten and it's a good chunk of time and it's a lot of women and it comes at a time in life that's usually difficult because you've got...can help us all, teenagers. I know you can relate.

Yeah, and all of that, right? And so, yes, perimenopause is about estrogen and progesterone, but it's also a time when, if you've got a family business, you're probably in the second or third decade of it, or if you've got teenagers, you're right in the thick of things. aging parents. mean, there's so much going on at this time. absolutely. So you're going to have also this HPA access overlay that's been strained potentially for a long time. And a lot of times, people that are young and healthy and just put their pedal to the metal and go, like resilience, resilience, but they're not taking care of themselves. And so it really becomes, I think, this fragile time of life that we want to get right. And you're absolutely right. There's just not a lot out there on the specifics of how do we treat women in that phase of life uniquely so that they can thrive at a time when it's you're shooting, also shooting at a moving target, because whatever is true of them today is going to be very different next month, next year and for sure in a few years and if you wait and don't address those things until you get on the other side of it, you're gonna miss some opportunities for health and wellness and just avoiding things that are avoidable.

Jaclyn Smeaton (38:37.000)
Yeah, I wanna share a bit about the course because I think the team did such an expert job crafting it. Because like you'd said, in perimenopause, it's a really difficult time to test. Let's just start with that. Because women wanna know, they wanna be evaluated, they're asking for their hormones to be evaluated. But us as providers know that estradiols up and down, know, cycle to cycle it could be low, could be even higher than it was in your reproductive prime, it could be somewhere in the middle. Progesterone does take this kind of more predictable downward slope over time, but lab testing, you you could argue that it's really not as helpful in perimenopause because like you said, you could test again and have it be totally different. So we really started with symptoms and presentation. Looking at the literature, because this there have been categories in a timeline of moving from reproductive prime through postmenopause and actual stages of perimenopause. So we

start by teaching providers that, how to identify what stage their patient is in based upon menstrual cycle changes and symptoms. And that's where you start. We do talk about lab testing. We talk about serum testing, not just hormonal, but what else might you be looking at during that time? And then really what was so interesting, is like you said, perimenopause is the top reason why people order a Test.

That's our biggest population when we survey our practitioners. So we did look at Testing and look at what do you get out of using a DUTCH Plus or DUTCH Complete and what do you get out of using a cycle map. And then we started to look at our data internally and we were able to identify the patterns that we saw over and over again, particularly on a cycle map in the different stages. So we kind of took the clinical literature that's been published externally, looked at our own data of perimenopausal females, and were able to start to put some predictable patterns on the cycle map in alignment with what the research has shown for the different reproductive stages. And that is, I think, a complete game changer.

Mark Newman (40:45.000)
Yeah, it's difficult. But I think to give up on testing in that phase is to miss some really important things about a woman. If you have low progesterone because you ovulated, but you don't make enough progesterone, that's noteworthy. But if you're an ovulatory and you're not making any progesterone, that's a bit of a different story. And if your estrogen is high today, it might be low tomorrow. But.

If your phase one metabolism and your methylation is off, then when your estrogen goes up, it's gonna be exacerbated. And are those things that we can, we have interventional treatments for and all of that, but you gotta know. And if your cortisol's going crazy at the same time, good luck managing those symptoms. And then of course the androgens are going to act as your reservoir for estrogen as your ovaries give way.

So all of these things, as you're trying to just tell her story, are really relevant even though you also don't wanna blindly go in there and say, your estrogen's high, you're making too much estrogen, and make this assumption that you would make at a different phase in life that like, just make too much estrogen all the time. It's not that impossible to address the uncertainty and still extract information that's super leverageable for those women to help them just thrive in that phase of life.

Jaclyn Smeaton (42:11.000)
Yeah, absolutely. So we cover the testing in the course and then we also cover treatment and I'm excited about this as well because this is the first education I've seen that really looks at comprehensive. We have a guest lecturer, Pippa Campbell.

She's a nutritionist in the UK works with a ton of post peri menopausal women. She teaches about lifestyle factors. So diet predominantly lifestyle, which about weight training. Then we talk about the supplements and nutrients that can help. And then our last two modules are all about hormone therapy in peri menopause, which this is another area I wanted to get your opinion on. Like we don't have any guidance on it, but associations don't say that you shouldn't do it. They just don't say that you should with guidelines either. Again, it's this kind gray zone.

Mark Newman (43:02.000)
Yeah, I mean even just looking specifically at what it means to be menopausal means that you haven't had a cycle in 12 months. Okay. So if I haven't had a cycle in 12 months, then the state I'm in on day 12 months in a day is essentially the same state I was in a month before that and a month before that. But we don't acknowledge it until it's been 12 months, which means there's a window in there, at least some window in there where you're in that state, you just sort of haven't acknowledged it yet. that it's, maybe there are different uncertainties in those women in terms of whether it makes sense to use some estrogen.

And certainly the progesterone depends on the person and the individual case But I think for for the well-being and and long-term trajectory of their health it makes sense to To address those things and it's just it's just a little bit more complicated and all the more reason to have a course on Where we stand now and I'm sure if we do a perimenopausal course in 2035 You know, there'll be some other things that will uncover and and know but but I think that this is such a great picture for people of where we stand now in terms of what the literature says of how we can well support those women with both testing and lifestyle and nutraceuticals and and at times hormone replacement therapy when it's needed and I think I think I think our doctors will do a much better job of handling those what the thing is those women they're out there finding someone to help them right and so the allopathic story that we hope that women are sometimes able to avoid is sort of blindly going in and say, well, we know you're not sleeping and you're depressed.

And so here's your antidepressant and your sleep medicine and those sorts of things. And those pharmaceutical tools are sometimes the best option for somebody. But if we can address what's going on and help support them with lifestyle and nutraceuticals and things of that sort, I think we're going to arm doctors to handle that whole class of women, I think, better for them, which I think will be a really great thing. So I'm super excited to see how people, how all of your colleagues as doctors respond to this education, because I think it's going to be a real help to them.

Jaclyn Smeaton (45:24.000)
Oh my gosh, I think so too. I can't wait to get it out there and to hear the response, because

I think it will be so, helpful for people. So we're going long on this podcast, but I did tease up like a kind of a more current event piece of research. And I don't want to leave the podcast without talking about it today, which is that this past month, a pretty large study was published that's really, you know, I'm seeing OB-GYNs on social. Even Mary Claire Haver posted this clip talking about should we reconsider guidelines on testing women in menopause when they're on hormone therapy, specifically with transdermal estradiol. So we actually kind of got inside scoop with this paper as soon as it was published. It echoes other publications that we're aware of, that we know of, that we've leveraged in our own education around testing. But let's start with the paper and what it found.

Mark Newman (46:25.000)
Yeah, it's a really interesting paper because it addresses a couple of issues. It gets into some topics that are controversial, both within the functional medicine space and the allopathic medicine space and just sort of women's health and menopause at large. But one of the things that's just fundamental that it addresses is the fact that when women take estrogen, they don't all respond the same.

And so the guidelines historically have been that that's a complete waste of time. Which is interesting when you overlay it with the testosterone world where...There's so much testing. It's somewhat of a parallel. And it just goes without saying that, you put a guy on testosterone, and well, yeah, you test his levels. Of course. And then you shift to women. And then it's a different story. then for me, in fairness, I think it's also good to turn then to the progesterone literature, where we would agree that testing isn't that helpful for progesterone. So then when you return to the estrogen, it's like, OK, let's just be open-minded and see what the data actually has to say about whether you can leverage lab testing or not. And so you've heard this sort of chorus for a long time of look, just ask the women how they feel. If you've helped their symptoms, you're done.

And that just ignores some really big unknowns, which is, if I give you, well, if I give you a placebo, a fraction of women are gonna say, I feel better, my hot flashes are better.

Jaclyn Smeaton (47:53.000)
It's not a fraction, 50 % when it comes to hot flashes, that's a really high placebo response. So I mean, I think that alone says you can't really trust hot flashes as a symptom.

Mark Newman (48:04.000)
And if all you're trying to do is make their hot flashes better, then maybe you wanna start with a placebo. But what we know is the placebo effect is not touching their bones that the women are having hot flashes, that's something maybe they don't want to experience. I can understand that. But it's also like a canary in the coal mine saying, you have a likely

estrogen deficiency here, and there are other consequences of estrogen deficiency that we want to be sensitive to if we're gonna care for those women.

Jaclyn Smeaton (48:31.000)
You know, that's a really interesting point also, because when hormone therapy was first used, menopausal hormone therapy, hot flashes and quality of life really were the chief concerns. In fact, when the WHI came out, they were trying to balance cardiovascular risk, balance breast cancer risk, all these things that they believed, which further interpretation showed. Now, in fact, there's cardiovascular protection for a large group of women, cognitive protection. But it makes sense that back then, when the data showed that really the predominant benefit was hot flashes, that managing based upon symptoms made sense. But now, well, one, we have this data showing that, and this is a larger study, so smaller studies have come out like this. There was one in particular that we have in our hormone therapy course, menopausal hormone therapy course, that we really walk you through, because we've really always, of course, suggested testing. We think it's really important.

That shows that...That study was small. How many, 20 women maybe? No, I don't recall. But small. About 30 % had non-predictable responses. Like when you look at the pharmacokinetics of how women should respond when they take a gel or a patch, there's predictability to it. And everyone just assumes every woman is the same. But what that study found was that some women actually have a huge response on a gel but nothing to a patch. Or a huge response to a patch but nothing to a gel. Or...They didn't reach the therapeutic level that was expected. There were so many variations. And it was about 30 % of the women in that study, if I remember correctly. I'll put all the papers. We'll make sure we link in the show notes, because I think you might like to look at those. And then we'll also post, because you can get the, it's open access. You can read the full text of this new paper, which was 1,500 women in the UK. Or was it 2,500? It was large. It was huge, like so much more than 20. So you could really see trends. You could see significant.

And they found the same it was a large number an impactful number like one in five that were not Responding as predicted, but they found ones that were like much much much lower than needed to achieve bone protection, or some women were higher. But the point was there was variability. And it was so much so that it really begs the question, now that there are so many reasons women go on menopausal hormone therapy that are not hot flashes, now it's like if you can't monitor it based upon patient reports, we really need to be monitoring some other way.

Mark Newman (51:10.000)
Right. Well, and part of the reason that people have not been in favor of monitoring is for a

different type of variability. So you have woman A and woman B. One absorbs very high, one doesn't. You want to know that, right? The other type of variability you have, but particularly with gels or creams, is that there's variability throughout the day. And that can even be problematic with patches depending on the type of patch. And so that's where I think that was sort of like the nail in the coffin of people giving up on testing is if we're just trying to address hot flashes and the numbers are variable throughout the day anyway,

Why would we test and that's where we feel like the urine test is a really nice tool because it's gonna integrate the area under the curve if you will it's gonna represent a large amount of time so if you have in this this older study that we reference a lot by Jarvan and you can see individual women that if you have your little target range you're shooting for you know that one woman was outside the range in the range below the range in the range again above the range it's like which one of these values do you want it's totally fair to say I don't want any of those values because it doesn't tell me the overall I'm not going to test serum six times. That's where a urine test can be helpful to say, in terms of absorption overall throughout the day.

The difference between one woman and another is super relevant for if you're trying to achieve a goal that has something to do with bone mineral density and those types of things that, again, aren't gonna be impacted significantly by a placebo, that information is as relevant for a woman as the testosterone information is for a man. And with testosterone, if the serum levels went up and down super fast, they'd probably be having similar conversations, but it just so happens that those are steady, gentle curves in serum.

And so the serum works relatively well. Yes, it has some downsides, but it works relatively well when you move to the estrogen We think the Test is a really good tool to ask the question how much estrogen is my patient absorbing and then we love about the Test is you've got like 40 other questions you can ask about metabolism and other things while you're while you're at it

Jaclyn Smeaton (53:15.000)
yeah, I mean this is a point that I want to drive home because I think a lot of Practitioners aren't aware of like the challenges of serum testing when women are on transdermal hormones. Now, the biggest challenge is that the pharmacokinetics are fast. Like most of it will be out of the body in six hours or eight hours. And that doesn't mean that they're not getting the benefit from it because once it binds to receptors, there's like downstream intracellular activity that persists.

But it clears the bloodstream fast. So if you have a woman applying a gel or a cream at night before bed, by the time they go in for testing in the morning, it's pretty much going to be at

baseline. And the small amounts above baseline that you might measure, they're really not meaningful. Like you said, the area under the curve, that total exposure is what you really want to see. You can't see that with serum.

Mark Newman (54:07.000)
Yeah. Yeah, even if you raise above baseline, that's good to know if that number is 20 % of what it was four hours ago, then that number is not telling you a very good story. Exactly. And so if you're missing most of the story and you really don't know whether you're hitting, I mean, if you hit a high number, you can just tell yourself, I must have hit a peak, everything's fine. Well, maybe she's absorbing a lot more than her peers and now you've overdone it. And so getting a window into that is really valuable. Serum just doesn't happen to be a very good tool for that, particularly with gels and creams.

Jaclyn Smeaton (54:40.526)
Yeah, I mean, with patches, you'd mention and I will just like emphasize that more, the pharmacokinetics are different because the patches do like a slow drip delivery over days, three or four days, seven days, depending on what patch. So if you measure in the middle of the patch, you can get a better estimation in serum compared to gels and creams.

But ultimately, this is why the Test is so helpful in this population of patients, because you get four samples over 24 hours. You actually see and catch and kind of normalize an average, the up and down. You are getting the area under the curve instead of just a single snapshot. And we published on that data. Right, the Menopause publication shows that data comparing patches, gels, and creams. Think about like kind of a fresh conversation happening, something that we've talked about inside the walls of the building for quite a long time and talked about with customers. But it's exciting to see that emerging externally. And I would just say, if you want more information on monitoring, we cover this data in our hormone therapy course, menopausal hormone therapy course. We don't cover this new study, obviously, because we built the course.

What did it launch in January? We're going to have to update that now. But this story, this understanding around monitoring, if you want to learn more, even if you are a conventional provider listening who's maybe been closed to the idea of testing, but this is cracking things open for you, if you become a DUTCH provider, you can get access to this course for free. And you can even just jump in and listen to that one lesson. I think it will really help you understand the literature around monitoring, because we've spent a lot of time on that.

You have some YouTube videos too that we could direct people to on this as well. So there's so much information. This is like Mark's passion, DUTCH's passion. anyway, exciting to cover it.

Mark Newman (56:34.526)
Yeah, the other thing that's worth mentioning when you're talking about HRT and patches and Tests is we have a publication coming out very soon in Menopause that shows women on estrogen patch therapy and then those women on estrogen patch therapy as well as DIMM looking at this sort of practical application of what happens when I give a woman a patch and I don't like that metabolism pattern. Well, the DIMM is going to shift the metabolism pattern. We show that in the study. And what we also show is it doesn't just shift things. It pulls that estrogen level down because it's sort of opening up that two-hydroxy drain to get rid of estrogen. And so it's effectively lowering that dose by about one sort of dose level in the average woman. It's different from individual to individual. But that's going to be really exciting data to have out there as well as what do women look like who are on both estrogen therapy and nutraceutical support for estrogen metabolism?

Jaclyn Smeaton (57:31.526)
Yeah, we published last year a similar paper in BMC, which was the effect of DIMM on estrogen and estrogen metabolites in women who were not on hormone therapy. Cycling. Cycling females. This is a post-menopausal women on estrogen therapy. And you might think it's counterintuitive. Why would you give DIMM if someone's on estrogen therapy? Because DIMM is known to lower estrogen. But in fact, it it can have a benefit for some women who have estrogen metabolism patterns that are not favorable. But you kind of got to know what you're doing. You got to know the impact it has on dosing. And there's not really been a paper to this magnitude that really looks at that. There's been individual metabolites that have been studied, but not something that looks at the entire pattern. it's going to be exciting to get that published. It's been accepted. think it's coming out maybe June or July. We haven't gotten a publication date on that.

Exciting. So there's so much happening. Like I said, things are humming.

You know, I didn't expect our 100th podcast to be so meaty and scientific, but I should have known with you as a guest that we'd have great conversations around some really important topics. These are all things we will be talking more about in the future. In fact, we should probably break down and have separate episodes to really talk more about each of these really important topics. But thank you so much, Mark, for your stewardship. I think one thing I want to end on, which is something that I feel just really good, about being a part at Precision Analytical is that all this stuff is moving, the business is growing, we have customers that love working with us, and really I do feel like you've built a values-driven organization in a way that I've never seen before in other businesses. Can you share a little bit about the core values and why that's so important and how that plays out as we grow into the future?

Mark Newman (59:22.526)
Yeah, no, those are things we talk about a lot within our walls, but they're meant to extend beyond. The process of, they say you don't...

You don't pursue your core values, you discover your core values. It was a process for us to sort of stepping back and looking at what's important to us and how we're behaving within our team, but also as it relates to our clients. So our core values are we take care of our people, we are transparent, and we're always advancing. Those are three things that mean a lot to us that we talk about a lot. We fail in them, and we course correct.

And then we talk about that a lot. those are things that are really important to us, of taking care of first the people that work for us to make sure that they're healthy and well and thriving and that we're doing as best we can to care for their well-being so that they can take care of our providers and our patients that use our services. that covers a lot of things, of just caring for them in the way our customer service and our teams operate as they relate to them, but also just people in the lab when they're

they're everyday dealing with just sample after sample after sample of trying to keep them connected to the fact that this is an individual person with an individual story whose life is potentially about to change profoundly in a positive way if we can be a part of that story, like that really excites our team. And then transparency has always been a big thing for us of just, there's a lot of...you know square peg round hole sort of things when it comes to lab testing of of people trying to apply laboratory testing in every situation possible with a particular tool and it's just not best practices we we know that the Test is really really good where it's really really good and there are also some circumstances where you know if your patients on oral estrogen and you want to check our estrogen levels urine testing is not for you yes it can help you look at your metabolism patterns but in terms of dosing in that situation we want to be really transparent about both the pros and the weaknesses or the areas where if someone has some big kidney issue, using a test that uses spot urine is probably not the best idea unless you really know what you're doing because it affects creatinine and that's embedded in all of our tests and that sort of thing. So we want to be transparent within our walls and transparent with the market space because more than anything, we want to be trusted.

And that means a whole lot to us and more, definitely more than the next sale that we might make is being trusted by the providers that use us, the patients that trust their providers. And that's why we're so passionate about education because even if we get our numbers right, if people aren't understanding it correctly, then the way it's applied to a patient might not be optimal. And so we feel a responsibility to our providers and to our patients to be transparent and then to be providing more and more materials and to stay on top of the

literature. All of that is what our passion is about. And that's why this is all we do, is we tell this hormone story and we want to tell it as well as we can. And there are lots of layers to it, of doing it well. And that's something that we want to keep our focus on every day.

Jaclyn Smeaton (01:02:46.00)
Awesome. Well, I can't think of a better way to wrap today. Congrats, 100 episodes Yes, thank you as well. You've done more of them than I have, so good job. If you've enjoyed our podcast today, make sure you follow us wherever you're listening to podcasts and streaming your podcasts. We launch a new podcast every Tuesday. Today you got to hear from the founder. We talked about so much science. We also feature really amazing guests across functional medicine. I'm really looking forward to what this next year has in store for the podcast as well. So thank you so much for joining us and we'll see you next week. Thanks.