Episode 104: Uncovering the Root Causes of PCOS and Endometriosis (And How to Fix Them)

Child: Welcome to my Mommy's podcast.

Katie: Hi, and welcome to the Healthy Moms Podcast. I'm Katie from wellnessmama.com. And I'm here with naturopathic doctor, Dr. Brooke Kalanick who takes a balance approach to health using both conventional and alternative therapies to address root causes via functional medicine methodologies. In her practice, she primarily helps women with Hashimoto's, PCOS, perimenopause, and menopause, as well as other female hormone imbalances. And I get a lot of questions about these, so I'm really excited for her to shed some light on these topics today. And with the women she works with, she helps to reset their hormones, their heads, and their habits so that they can finally feel at home in their bodies. So, welcome, Dr. Brooke. Thanks for being here.

Brooke: Thanks, Katie. I'm happy to be here.

Katie: It's gonna be a fun conversation. And I feel like you're going to have an amazing perspective. I was reading over your blog over the weekend and you have some great information. I get a lot of questions about PCOS, and it's one of the health problems I don't have direct experience with. I have Hashimoto's, I have a lot of personal experience with, but I think you have a great perspective on this. So, to start off, can you just explain what PCOS is? I'm sure a lot of women understand that term, but for anyone listening who doesn't.

Brooke: Sure, yeah. This is actually something that I have, so, some of my specialties I have, and some of them I don't. So, I also have a specialty, I work with a ton of women with Hashimoto's, and there is some overlaps, so maybe we'll have some people that fall in that camp as well. But PCOS is a, sort of a difficult diagnosis and criteria that leaves women really confused. And part of the problem is, the way we diagnose it is...anything that's a syndrome in medicine tends to be, there's X number of criteria, or symptoms, or lab findings, and you have to have like a certain number on a list, and then we can call it that. And the problem is, this condition just really doesn't look the same for every woman. So, what PCOS stands for is Polycystic Ovarian Syndrome. So, polycystic meaning there's multiple, like, faulty follicles that don't quite work right on the ovary. And some women do have that finding. You can do an ultrasound and see this, you know, these little abnormal follicles in multiple small follicles versus the one that a woman would normally have from an ovulation. There is this teeny ones that don't work quite right. Sometimes that's really obvious on an ultrasound, and that's how some women find out they have this. Other women either have some other lab testing or symptoms that are sort of the hormonal fallout from these faulty follicles. So, this can look like acne, irregular cycles, difficulty conceiving, this is one of the main reasons women...it's one of the leading causes of infertility in the western world. Some women just struggle with their cycle being irregular. Some it goes missing for, you know, better parts of the year, and some women aren't cycling at all. And the problem with this, unfortunately, is that a lot of women that are struggling with this, and struggle to get a diagnosis and help, because they don't necessarily look the part. Some of the classic findings of PCOS are not having a regular period, breakouts, hair growth either on the face, the arms, the lower stomach, just its courser and more dark usually for women. And then difficulty conceiving, breakouts, I think I may have mentioned that one already. So, and weight gain can be a huge piece of this, but that's not, not all women have all of those things, so it's a little bit tricky. I'm hoping in time, we continue to understand this better and the sort of complex hormonal interactions that are at play with PCOS, and we have some better criteria, because at base, I think we need to have different forms or different types of PCOS, so women who don't look that classic part don't go so long without getting help.

Katie: That makes perfect sense. So, basically to make sure I understand, like, I feel like actually my thyroid diagnosis was similar to this, although there are some more concrete numbers with thyroid. But it's almost like a process of elimination where you have to be like clinically diagnosed by a doctor who's…for one, aware of those symptoms, and who can put those pieces together. But also, it's not like a clear, checkmark type of diagnosis based on any of those factors necessarily. So that, I can understand that would make it really confusing to actually get a diagnosis.

Brooke: Yeah. And then unfortunately it's just, you know, women are left without a lot of good options. But how, you know, however though, the options for people with PCOS in the western model are not so great. So, some of the other lab findings I can mention, into our testing, we talked about the ultrasound but, trouble with our blood sugar, so it elevated the fasting glucose, or an elevated hemoglobin A1c, that sometimes is present, as is an elevated prolactin, the hormone that we make to help us make milk after we have babies and are breast feeding. That can be elevated in PCOS. We can have low reserve hormones for our ovaries, we can have elevated testosterone, and many, many women, many women have an overlap of a thyroid and PCOS problems. So, sometimes thyroid in and itself can cause this syndrome. So, there is a lot of overlap, and a lot of hormones can be off. And again, women have some of those, and they don't always have to have every single thing on the list. So, it does get a little bit, you know, confusing for some women to know, is this really the cause of my issues? And especially in the woman who is already eating pretty well and getting some exercise. Some of those findings aren't so, you know, glaringly, clinically out of range, and it's a little bit more subtle. Especially women that don't have the classic, you know PCOS body type. They're not really struggling with any extra weight, it's not difficult for them to lose weight, so they often really get missed.

Katie: That makes sense. I actually have had several friends in the past who…fit those criteria. Like, they looked very fit and healthy, and you would never have guessed from looking at them that they had any health problem or whatsoever. But then, when they were trying to conceive a child, or they were noticing small hormone problems, then they found out that they had PCOS. So, it's interesting that you say that, and yeah, I hope you're right that there'll be better diagnosis for these types of people who are probably silently struggling very much. So, if someone comes to you with these symptoms or with the diagnosis of already having PCOS, where do you start with them?

Brooke: Yes. So, a lot of women this gets caught, you know, in puberty, and they are put on the pill immediately. Some women, like, you know, more like people you're just mentioning, your friends that, you know, that it's sort of like things are a little bit off, but it's, you know, not quite caught until they try to get pregnant, and then we might do a little more investigating. And part of the problem is, with PCOS is, you know, the symptoms aren't necessarily life-threatening. They're worrisome and troublesome, and for some women, again, you know, it doesn't really rear its head until they try to get pregnant. So, in the conventional world, our treatments are the birth control pill, and sometimes Metformin if the insulin resistance is significant enough, and sometimes something called Spironolactone which can help with the hair growth and some of the breakouts, and that's really kind of it. And then, when you go to get pregnant, you can use things like Clomid or Femara. So, the pill is one of those really interesting things that many women, when they get this diagnosis, are just told, "Well, here is the pill. This is you need to be on this forever. You're gonna regulate your cycle with this, you will start getting normal periods," and I use normal is quotations because you're getting a regular period, but it's not a normal period because it's induced by the birth control pill if you weren't having a cycle before. So, that's unfortunately kind of the case. It's the pill until, if you want to get pregnant, back on the pill. Or, if you don't want to get pregnant, it's the pill until menopause, and then you

switch to some other, you know, hormone replacement.

And unfortunately, two things happen. One, the pill is going to just mask the symptoms. It's absolutely not fixing anything. There is this disruption between, you know, the brain and the ovaries. The ovaries are not functioning properly. There's this, you know, sequelae, this consequence that comes from having these hormone issues. So, you know, the progesterone gets low because those insulin surges, trigger the progesterone to get turned into testosterone. It continues to get further out of whack, that ovulation becomes worse and worse. And then the follow up from that is breakouts, and the irregular periods, and the terrible PMS, and all of those things. And so, the pill is going to mask that, and the pill is gonna do a great job of giving you a 28 day cycle. I mean that, it'll also do a great job of not getting you pregnant, but everything else that's going on, and all that stuff below the surface, it doesn't get solved by the pill. We don't fix the insulin resistance, and we don't enhance the health of the ovaries, and we don't do anything for the thyroid. In fact, we can make the thyroid a little worse, being on the pill. So, while the pill is there for contraception, and it can be there to, like, mitigate the breakouts and the cycle irregularity, it's really not fixing anything. So, and for the most part, whatever was there to go in, when we go in the pill to fix a hormone, whatever was wrong when we started the pill, it's gonna be there waiting for us when we come off the pill, should we want to get pregnant, or we're just, you know, looking to do things differently. It'll be there, and often with the case of PCOS those issues are a little bit worse, because you've had even more time of having hormonal disruption.

So, getting to the stuff that we need to do, that I do in my practice with women is, we need to focus on the insulin resistance as kind of a core issue, and then manage the other symptoms that can vary a little bit for women. Some women are having a lot of breakouts. We might need to really work on testosterone, metabolism, and skin health, and the biotransformation of metabolism of hormones, and gut health. And where someone else, maybe it's not that. Maybe we're not getting a cycle at all, and we really need to make a change in the health of the ovaries, try to get those signals going through. So, some of that can vary, but at the core of this is this insulin resistant problem. So, for those of you that don't know what insulin is, it's the hormone that lowers our blood sugar so we eat and our blood sugar, our fuel level will rise, and then insulin comes along and helps us put nutrients, and glucose, and proteins, and fats away. So, we put them in our body fat, and then our liver, and then our muscles to store them for later use. So, insulin is our storage hormone. And with insulin resistance, we have more insulin around, more often. We can get an exaggerated response to say carbohydrate, or a carbohydrate-fat combination in our nutrition, and then our blood sugar rises, our insulin levels rise, and these receptors are resistant to the message. So, the receptors on our tissue, on our...and this varies from woman to woman, and even in the same woman this level of resistance, so the ability for these different tissues to see this hormone and say, "Okay, I know what you want me to do, you want me to take in this nutrient from the bloodstream." That level of sensitivity, or the level of resistance, is different, whether that's in me or in some other woman with PCOS. It's also different in my muscle cells, versus my fat cells, versus my liver cells. So, that accounts for some of that body type difference and some of the, you know, difference between symptoms for various types of PCOS is it depends a lot on where your tissue is on the insulin sensitivity spectrum.

So, when we have insulin resistance in a tissue, it's not gonna head that message very well. And what happens in that case is your body will just secrete more of the hormone, and this just becomes like a vicious cycle of furthering the problem, that the hormone messages are just not getting through quite right. And this is where we end up with some of the metabolic consequences of PCOS. So, this insulin resistance is one of the things that makes it difficult to lose weight, it makes it difficult for our ovaries to be healthy and produce hormones, and it can make it really difficult to regulate energy, appetite, and cravings. So, the insulin piece of it, to some

degree in my practice, is always something we really need to work on because it's kind of the core of this condition. And that's managed by, you know, a number of ways. In the medical world, we give you Metformin, which in an insulin sensitizer. And that can really work for some women. I find that when most women really dig in to a fine tuning their carbohydrate tolerance, so their ability to kinda find their unique carb balance, versus just going low-carb, or just watching carbs, or just thinking about doing something more extreme like a ketogenic diet. When we really kinda focus on helping a woman figure out, like, what kind of carbs work best for me, and how much, and how many times a day? Am I somebody who needs a little bit, a couple times a day? Am I someone who needs maybe just one serving at dinner? And low-carb is really all relative. You know, my low-carb diet might be way too low for another woman with PCOS, or it might be too high for someone else with PCOS. So, the nutrition piece of it and managing insulin is kind of the crux of that. And when, I find when women do that, sometimes Metformin is simply too strong because they've honed in on the food, and the lifestyle, and the exercise that works for them, so they need something as strong as Metformin.

Also, Metformin causes a lot of digestive distress for some women, making it really difficult to take it. So, in that case, or instead of Metformin, we have some great nutrients. We've got minerals like chromium and vanadium that really, and alpha-lipoic acid that can really do similar things to Metformin, they can help your cells become more insulin-sensitive. And also, the nutrient Berberine is excellent at lowering blood sugar. And then, stepping aside from, you know, just what supplements we can take, it is, you know, exercise is an amazing insulin sensitizer. So, that becomes a really important and piece of the puzzle with me. And of course, because I'm a functional medicine doctor, we're not gonna just look at you that you have PCOS, so you have a problem with estrogen, progesterone, maybe insulin, and a problem with your ovaries. We're gonna always look at how's your gut health, how's your, again, biotransformation or detoxification of hormones and stuff in your environment, how's your thyroid, all of those things.

Katie: I love that, I love the holistic approach. And I know that there are people like you on the frontlines doing that already, but I truly hope that over the next 10 years we're gonna see a more integrated, holistic approach to a lot of problems. Because like you said, if you treat it in isolation, you're only looking at the symptoms. And your plan makes so much sense when you look at it in light of the whole body. I'm curious too, since I have no experience with this, is, can people have a reversal, or like a remission of PCOS? Is it reasonable to think that some people can actually stop the problem, or is it, is this gonna be like a life…obviously, good diet needs to be a life-long thing, but can people actually kind of see recovery from this?

Brooke: For sure. And I tend not to use the word cure, and I know some people do, and some people said their program cures PCOS, even a person that said, "I've cured my PCOS." To me, this is sometimes a genetic issue, sometimes it's compounded, absolutely, by lifestyle. And so, for me, I think of it as, PCOS for me is my metabolic Achilles' heel. It is the thing that if I don't take care of myself, and I do things that tax my metabolism and don't work for my hormones, then it's gonna rear its head. I'm gonna start breaking out, my cycle is gonna get longer, I'm gonna gain weight, my mood is gonna me worse. So, and that's my particular flavor of PCOS, so it's, I feel it actually, I think remission is a great word, so, absolutely. And this is a diet and lifestyle manageable condition. I mean, you can do a whole lot with this one, which is why are, you know, western model on this one is something that really falls very, very short. We've got great things in modern medicine, and I am not opposed...I was a pharmacist before I did what I do now. I'm certainly not opposed to medications when they work. Sometimes that's necessary for someone until they can kinda get the diet and lifestyle piece in play. Or again, sometimes the pill's the answer because, for whatever reason, you know, that's the optimal birth control method, or you're going through a time when you just really need to have those symptoms managed. But if you can dig in with those things, you can have a lot of control, much better

overall health, less fallout from some of the consequences of these medications. And this is one area where, you know, lifestyle, and nutrition, and all of those things really do shine. We've got some really great tools. And the same thing, you know, like you've experienced with Hashimoto's, there is only so many options in the medical toolbox for Hashimoto's. You've got the medication, and that's really about it, but we know there's so many other things that we can do to help someone with Hashimoto's, or in this case, PCOS, feel so much better and have so much more control in this condition, and get themselves to a place of remission.

Katie: Absolutely. I make that parallel sometimes, and I think about the fact that when I am, like, sleeping the way I know I need to sleep. And when I'm eating the way I need to eat and taking the few supplements I know that really make a difference for me, I sort of don't have thyroid disease at all. It's when those things get out of order, and I let them slip, or stay up to late, or have some kind of lifestyle problem that it, I actually, I only see the symptoms then, and that's even less and less. So I know that's gonna be encouraging to a lot of women to hear. Especially, let's talk a little bit more about the weight loss because I know that's definitely a common association with PCOS, is difficulty losing weight. Are you seeing women who are able to even lose weight?]

Brooke: Yeah. So, I mean again, it's when you get all the metabolic pieces in place, you know, you're gonna unlock that...your body cares so much more about, you know, are you able to produce and stay alive then it does reproduce and stay alive, and you, if your jeans fit. That's just our...we're hard wired for survival. So, and if you think about what this issue is, you know, insulin resistance is our storage hormone. So you are gonna be really good...and it's an anabolic hormone, it builds you up. So, it's how you make muscle, it's also how you make fat, it's also how you store vitamins and, you know, nutrients for future use. So, with PCOS, there are sort of two body types that I see with PCOS that are typically called the heavy type, and the lean type, which I hate. I think that we have enough hang-ups about body image and we associate heavy with, you know, bad, and lean with good. I steer totally clear about. I try to look at what's actually happening and kind take the emotion of it out, and like, "Let's look at what's happening in your body." So, "Are you having more of that..." remember I said that insulin resistance kind of varies from tissue to tissue."Do you have your fat cells that are really good at taking in all of that extra glucose and fat? Then that's gonna be the tissue that builds up a little bit more for you." So that's one body type, where you're putting down body fat pretty easy, and it's really hard to get it off, whereas the other type, I feel like their muscles take nutrients in really...they deal more with their body fat being more resistant, so they don't immediately push stuff right to body fat. They tend to, you know, move it more towards their muscles. They deal more with like, sucking in nutrients into the muscle and often have these periods of low blood sugar. So, that type, well they don't tend to be someone who's like, having to lose a lot of weight. Even you'd ask them, they may have like five to ten pounds that no matter what they do, is very, very difficult because of the insulin resistance.

So being in anabolic hormone, and being a hormone that causes you to build up tissue, we tend to be great at putting on muscle. So, most women who strength trained as part of their PCOS exercise, we're really strong, and that part comes pretty easy, because it's very difficult to tap into the body fat piece of it. So, with that, we want to think about two things. Nutrition becomes huge. Nutrition becomes kind of the thing that will really move the needle for you on the body change. Exercise is great, like, exercise in and of itself is in Metformin. It is insulin-sensitizing. It signals your muscles to take in glucose during...when you're exercising, you actually can pull glucose into your muscle without insulin, so it's a great way to kind of side-step this insulin resistance aspect, and really get some good fuel into there. But we do put on muscle a little bit easier, so we can often tolerate a little bit more exercise. So, sometimes lots of walking in addition to good strength training, and even some traditional, like, steady-state cardio, which is not that effective for most people who are trying to lose weight. More exercise, the better, if you are someone with PCOS. And I don't mean, you know, running

yourself into the ground, but getting a lot of activity, lots of walking, lots of just being active throughout the day, and a pretty regular training schedule in addition to the nutrition piece of it. And again, really honing what works for you in terms of your carbohydrate tolerance, but also, inflammation is a huge piece of the PCOS and the insulin resistance problem. But inflammation is a huge piece of this. So, inflammatory foods and poor fats in our diet is really, really important for this group of women. So, looking at any food sensitivities, obviously starting with a good paleo template is a great, you know, baseline, a place to start because it gets out a lot of the most inflammatory, egregious offenders. You may have some issues beyond that. Making sure we don't eat a lot of processed foods with bad fats, which come in and processed foods, salad dressings, all of those sorts of things, and getting lots of healthy omega-3s from grass-fed meat and fish.

And also, I find that this group of women, and any woman that's having hormonal struggles, we tend to be the ones that really have to watch too much animal fat, which as we, you know, practice any type of, you know, primal or paleo lifestyle, you know, what is it? It's all bacon, right? We aren't promoting lots of animal fat and fattier meats, which is fine in theory. We're not so much talking about the idea that fat is gonna, you know, kill us, the way we used to think in the '80s. It's just that any animal fat's gonna come with additional pollutants because we have a polluted environment, and additional hormones, even if it wasn't treated with a hormone. You know, animals, just like us, they have their own metabolism, and so there's going to be some build-up of hormone related compounds from the environment, and even of the animals own metabolism. So, not that you can never have those things, but rather than thinking of really heavy fat diet, I like think of leaner proteins for these women, again, PCOS or any hormonal issues. So chicken, fish, turkey, leaner red meats, bison, lean pork, those tend to be better nutrition choices for us because they sort of lower our excess hormone burden, because we're already dealing with, you know, hormonal disarray.

Katie: Gotcha. And I would think, like, especially you said increasing omega-3s is good. So, you could just substitute, like, fish or fatty fish instead, to make sure you're getting good fats.

Brooke: Absolutely.

Katie: There's a ton of options there. And I love what you said about strength training. Even I think women, in my opinion, who don't have PCOS, I think we could all benefit from strength training. There was such a negative perception of that for so long, with the whole cardio-craze of the '80s and all that. And I love that it's coming back around because, personally, like I know I feel better lifting really heavy weights. And it certainly doesn't make you look muscular or bulky, and it just does amazing things for all aspects of your body, and your core strength, and your functional movements. So, I love that you said that as well. Another thing that I get a lot of questions about and don't have any first-hand experience to share is endometriosis. And I know that's...you and I talked briefly before we started recording. That's a tricky thing, even for the…like conventional medical model. But there are some things I know that you talk about and that you do with that. So, to start off, what is endometriosis? And how do you approach it?

Brooke: Yeah. So this is another really frustrating female hormone condition that our medical model doesn't have great options for. So, what this is, is the normal uterine lining and that endometrial, so that's just a lining of your uterus that you normally shed when you have your cycle. That lining and that tissue get deposited, not, you know, it gets deposited outside of the uterus. So you have it there, but then for whatever reason, it sort of...and we don't totally understand why this happens. But it's migrated out of the uterus, up the fallopian tubes, and now it might be, you know, stuck in your, inside your body cavity or on your ovaries, and it makes its way outside of the uterus. So, we've got a proliferative, you know, excessive...excuse me, tissue in the

uterus, but then also outside the uterus as well. So this becomes...its very painful. Most women, their number one symptom when they have endometriosis is terrible pain. So, with their cycle, they often can have not only just pain with the cycle, but pain throughout the cycle because it's in these other places, and your body really does not like to have any type of foreign tissue in your body cavities. It's very irritating and it causes a lot of inflammation. Because it's elsewhere as well, that just like the uterine tissue responds to your cyclical hormone fluctuations, and you know, we know that we shed the cycle, and then this tissue kind of grows, like, you know, it's like it gets fertilized throughout the cycle. It grows like grass, and then it just sheds off. That's happening into these other tissues as well, outside the uterus. So, this constant like, response to the hormones, and the shedding creates a lot of inflammation inside the body cavity and inside the uterus, and that can create some scar tissue. And having these weird cells that don't belong in this area of your body, it makes your immune system do some interesting things as well. So at this point, endometriosis is not considered an auto-immune disease, but it definitely triggers your immune system in a way that's gonna create more inflammation. There probably is some auto-immune component or at least an exacerbation of other auto-immune issues by having this.

So, the all of this immune activation, it creates a lot of oxidative stress, and a lot of inflammation, and all of this, you know, can make women really, you know, not feel very good. And the pain can be significant. So the conventional treatment, we've got pain management, or surgery, or a hysterectomy. So the surgery, in and of itself is a little dicey because, two things, that can create more scarring, which can be also painful, and we get could of adhesions with this tissue and the tissue next to it because it's just really not supposed to be in some of the places that it is, and that can cause a lot of pain. That can be worsened than sometimes by surgery. Also, the surgery can move some of the tissue and sort of transplant it into a new place that it's not supposed to be, and then also like it can recur. So sometimes a women will have this removed and they do great for a couple of years, but then things start to happen again. And then, the hysterectomy, obviously if you had hoped to be pregnant, this isn't an option at all. And I do think that's probably not, again, getting to any of the root causes. So that's, that's what we have in the conventional world, is really just managing the pain or, you know, trying to remove some of the tissue. But again, like PCOS, there's so much we can do, you know, in the realm of nutrition, and exercise, and lifestyle, and supplements, and good, like, nutritional...like a good, targeted nutrient plan to really help get this under control.

Katie: Got it. So is it a similar approach to PCOS as far as nutritionally and exercise? And, do we know, like, why we're seeing such an increase in things like endometriosis, and what, like, is other things women can do to avoid it in the first place?

Brooke: Yeah. So we don't totally know what causes this, like what causes that tissue to either...is it increased, you know, pressure in the uterus that's causing a flow up, back out of that like, what we call retrograde, versus going, you know, out the cervix and the vaginal canal, in that direction? Why is it making its way back up through the...? We don't totally understand what causes this, but we do know that the fallout is, you know, a lot of…is inflammation. So, we really wanna think about looking at this...so, it's a different root cause, but there is still, versus PCOS, because we don't totally understand the root cause, but looking at what happens, especially with regards to the inflammation. So, if you're wanting to either get a leg up on this because all you've really got is the pain management or hormones. Some women are, you know, put on progesterone, which to me, when you throw more hormone into a hormone excess situation, it's never really a good long-term solution. So, getting to what can we do more naturally to help, you know, set things right here? So, first of all, in terms of pain management, we do have some good natural anti-inflammatories. We've got fish oil that we mentioned, we've got turmeric, we've got Boswellia ginger, Pycnogenol, and we've got some good

antioxidants and nutrients that can work really well. This is a condition that I find high dose turmeric, like a couple of grams a day, same thing with the resveratrol. Those are both great antioxidants and anti-inflammatories, they can help with the pain.

Sometimes we need to do some manual therapy to work on those adhesions, because once those form, those can be just painful in and of themselves, particularly with intercourse, but sometimes just, you know, with the pain that goes with the cycle. We also want to balance your hormones, so we want to look at what can we do, either with herbs or nutrients, or stress management to get the progesterone balance better. So, the estrogen and progesterone are not in such disproportionate. So, we get what...this is a condition we would describe as estrogen-dominant. So, estrogen-dominant just means that estrogen is the dominating, main hormone, when and where maybe it shouldn't be. So, the first two weeks of our cycle should be an estrogen-dominant time. That's what those two weeks is, that's the follicle that's trying to ovulate, releasing hormones. But if we get too much estrogen metabolites or estrogen itself, too high or dominating over progesterone in the second half of the cycle, that's something we really wanna try to balance. Or, if we have poor liver biotransformation of these hormones, and all that means is we take the pieces and parts of the estrogen, and sometimes, you know, we break that down into something that's more problematic. So we want to really make sure that we're thoroughly metabolizing our own hormones. So that's, we can use something called DIM, which is a derivative of a nutrient found in broccoli and cruciferous vegetables, which is why broccoli, and Brussel sprouts, and kale, and all those things are thought to be great for estrogen related issues. So, that's why we wanna eat those foods, but we can use that in a supplement as well. In a case like this, we'd probably do a little bit higher doses, a 100mg a couple times a day. So, that kind of can help with the liver, as can things like N-acetyl cysteine which is another great nutrient for PCOS. But, you know, 900mg to 1,000mg of that a couple times a day can really help process and package these hormones as well. And then we want to get that on through the gut. So, there's what goes on in the liver and now we've got, hopefully, some healthier hormone metabolites there.

But if we don't have a healthy gut, or where we're, you know, utilizing our gut flora really well to help deal with these estrogen metabolites, and we don't have of regular healthy bowel movements, then those estrogens just continue to recirculate. And you've got extra tissue in this case, that's gonna respond to them. So it's not just what's in your uterus, you know have tissue kinda scattered all throughout your abdominal cavity, potentially, that's going to respond, which is what, you know, makes this such an uncomfortable condition. So, we really wanna have tons of vegetables, lots of good fiber. This is a case where sometimes we'll use flax seeds, and I do really like just, not the pre-ground flax seeds, those go rancid almost immediately upon grinding. So, if you're gonna use that kind of a food as medicine, get the seeds, and do a couple tablespoons at night, and just let them soak in a little bit of water and they're kind of slippery and snotty in the morning, so they can feel a little bit weird, but you can just shoot those down as a, you know, just take that shot, that kinda slimy water, or you can throw that into some sort of protein shake or a smoothie that you're making. Or you can use, you know, a high quality, you know, plant based, non-grain based fiber as well to get more veggies. So, those are just strategies to make sure we've got that gut really moving.

And then we want to think about this oxidative stress fallout because this something...so oxidative stress is the fallout of a lot of, you know, just processes that go on in our body. Like, if I eat any type of food, and I have to take that into my cell and make ATP to make energy to actually, you know, use that food as energy, that in and of itself will generate free radicals and oxidative stress, so as will all this chronic inflammation. And so, we wanna really support our internal antioxidant systems because when we can't quelch that, that's when our immune system is gonna continue to be agitated by all this, and we risk either worsening auto-immune

conditions, or we can even risk triggering them when we lose that balance. So, this is nutrient, our main sort of...I talked about resveratrol and curcumin, those are great antioxidants. But our main kind of intercellular, deep down, you know, the intercellular antioxidant that we have, is something called glutathione, and we can support that again with taking NAC, the nutrient that I mentioned, N-acetyl cysteine, that will help us raise our glutathione. That you can take glutathione in a capsule as well, that is now liposomal glutathione we have available, and that's thought to get past the gut and get absorbed a little bit better. It's not an inexpensive supplement. NAC works really well, so try that first. It's a lot less expensive. If you're really compromised in some of these areas, or if you do know you have an auto-immune issue, you might wanna kinda leg up to some of that topical or that liposomal glutathione. And in this case, I will even use a topical glutathione. I use a company called Apex Energetics makes a product called Oxicell, and then they have the Super Oxicell, which has some added nutrients for anti-inflammatory. And I'll just women rub that literally right on their abdomen to kind of help at least get some locally glutathione and support, you know, into the area.

And then when it comes to diet, we've got, again, back to the paleo template. It really is a good way to naturally just lower some, our intake of inflammatory foods and decreasing processed food, which come with bad fats, and sometimes a lot of food allergens. Coffee and caffeine, there's some mixed research on whether or not these raise some of our estrogenic metabolites. So, you know, this can be something that it's at least worth looking at if you're someone who, you know, really needs to have that cup of coffee in the morning. It may be worth looking at two things. One is coffee and caffeine, something that's aggravating this condition, but also with PCOS or with endometriosis, we do wanna step away from this, again, this isn't estrogen and progesterone problem, and look at all the other stuff. How's your cortisol? How's your thyroid? How else can we support your system? You know, and what else do you need to look at in terms of your overall health? Sometimes we have to step away from the area of concern, and the label of the condition, that this is a problem with you endometrial lining, therefore your uterus, and therefore your female hormones. Cortisol is almost…and thyroid, are so important in terms of metabolism and their effect on all the other hormones. We really wanna make sure we're stepping back, and really looking, you know, at all of those hormone systems because balance in those areas is always gonna help balance your estrogen and progesterone.

Katie: Got it. I was over here taking notes so I can make sure I include all those points in the show But I think that's really helpful, to have like kind of practical tips people can take. And I'm curious too, I didn't have this on our questions, hopefully it's okay to throw this at you. But, you also help women in menopause and perimenopause, is it a similar approach for them since you are still supporting those hormones, or are their differences when you get to the perimenopause and menopause stage?

Brooke: So, any female hormone issues you have, you know, in your 20s, 30s, or 40s are going to make menopause worse. So, if you don't...let's say you have PCOS and you just kind of, you know, let it run rampant, when we really got on top of it, or you had endometriosis, or you had adrenal fatigue and, you know, you didn't quite get on top of helping your, you know, cortisol balance get in check. Whenever we have any of those things leading into menopause, when those female hormones start to decline, it's gonna be much harder for us because we're gonna feel that drop much more significantly. And, so, I feel like the 40s are the time to fix it. So, the 20s, we're young and indestructible, that's what I'm trying to say. We put ourselves through a lot, right? We stay up too late, we're maybe working on our career, or, you know, a college degree, we're out having fun, and we can't really necessarily see how menopause might be for us. And then, our 30s often we're raising children and maybe our career has really picked up, and we're really taking care of everyone and everything, and not ourselves. And then our 40s hit, and hopefully by that point, career is a little more stable, maybe kids are a little bit bigger. I mean, I had my kids late, so mine are, I'm 42 with very little

children. But the 40s where I feel like, that's really our window, ladies, to take care of yourself and sort out these hormone issues or those, like, nagging symptoms, the weight that's maybe creeping up, or the bloating is getting a little bit worse, and, you know. But none of those are life-threatening, they're just annoying. The fact that we can't fall asleep or stay asleep, the fact that we have really bad PMS, the fact that our cycle seems to be changing, you know, we ignore all that stuff because it's kind of just annoying.

And then we have this window of time, I feel like in our 40s, where hopefully we have some more resources and time to take care of ourselves. And that's really the time because when you get into menopause, whatever is there is just gonna make that drop in female hormones, you know, much more, you're gonna feel that more. You're gonna have more symptoms, or you're gonna even try to take hormone replacement, but we haven't fixed these underlying things, so you get more of the problems associated with the hormone replacement. Whereas someone else might be able to take that to just give them a leg up and make things, you know, more even and we can work on making sure that's safe and effective. But menopause brings your own hormone challenges with it, so whatever is going on is gonna be maybe worse, or make that menopausal transition harder for you. But when women go through that, adrenal health becomes super, super important because they're now playing back up for you to make any of your sex hormones. As the ovaries begin to shut down production, the adrenals play back up.

So, how many of us get into our 40s super, super tired, overworked, fatigued, and having a lot of symptoms, like I said, ranging from bloating to PMS? There could be anything that's not, again, not life-threatening, maybe not even something you'd see your doctor about, but all of that stuff is gonna kind of rear its head when the adrenals can't keep up with the production. And weight loss becomes a very different thing in this age group because our bodies change, and our metabolism will change in response to having less progesterone and estrogen. So, when those hormones fall, progesterone, we lose the temperance it has on cortisol, so we start becoming more and more sensitive to all types of stress. Skipping meals, over-exercising, being stressed, inflammation, missing meals, works stress, lack of sleep, we just all those things tend to have a bigger impact on us, and then the loss of the estrogen actually will make us more insulin resistant. So you may not be like, in a PCOS type situation, but you may find that your particular diet, all of the sudden doesn't work as well anymore, and you don't tolerate as many carbohydrates, or the types of carbohydrates that you used to really love, and that used to work for you. So, everything I feel like with women's hormones the thing we have to remember is that they are moving targets. So, we know they change for us throughout the month. They change, you know, every couple of years. They certainly change pre and post baby, and then they change every decade. So, we have to really know that they are a moving target and continue to shed those signals, you know, start to listen to those, you know, the hormone talk that you're hearing, and start to work with that, and not hold too tightly to something that may have worked for us when we were at another phase in our life.

Katie: I got it. And, of course, I'll have links to your site in the show notes and including some of your posts on these topics we've mentioned, but where can people find you? If they have one of these problems especially, and are looking for some hope, where can they find you online?

Brooke: Sure. So my website is betterbydrbrooke.com and one of my things that I love on my website is I have a hormone quiz. So you can just walk through and kind of tag, you know, take these quizzes about insulin and cortisol, estrogen and progesterone, and thyroid, and get some insight because lab test are super important, and they're a piece of the puzzle, but your symptoms can really tell you a lot that it's maybe subclinical. Maybe it's not an overt issue, but it's, you know, you're struggling in that area. So taking the quiz is great. You know,

you can also get some free information by taking that and some protocols. So, that's a really good thing to do on my website, so that's betterbydrbrooke.com. I'm on Instagram and Facebook very regularly, so you can find me there as well, both of those also at betterbydrbrooke.com. And I have a podcast with Sarah Fragoso, who Katie I know, who you know, that is Better Every Day with Sarah and Dr. Brooke, and you can find that anywhere that you get your podcast.

Katie: Awesome. And of course I'll have links to all those in the show notes for anyone looking for them. And I really appreciate your time. I think this is such an important issue. A lot of women are struggling with hormone problems and we're seeing a rise in these. So, I love that you're out there doing this work and helping women get to the root of it, and not just treat the symptoms. And again, I really appreciate your time and being here today.

Brooke: No, thank you so much for having me. Anytime.

Katie: And thanks to all of you for listening. I'll see you next time on The Healthy Moms Podcast.

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