PCOS and Infertility Basics

Dr. Roelands, great to have you back on the Beyond Infertility Summit. I am very excited to talk about PCOS today. PCOS is one of the leading causes of infertility.

One in two women with PCOS struggle with infertility. So it's a really big number of women that are struggling. And it's so important to have women have that awareness because I think at least what I've seen a lot is women don't always know that they have PCOS, right?

They were maybe given birth control at a young age and they never got a diagnosis or were never educated on what this is and how it's going to potentially impact our fertility in the future.

So I'm really excited to dove in and just get your wisdom on all of all things PCOS and how we can support if we do have PCOS in order to help start our families.

So welcome. Thank you. I'm an honored to be here. It's PCOS is my favorite subject to talk about so I can't wait to dove in. Yeah. Also. So how does PCOS contribute to infertility?

What is it about PCOS that has anything to do with fertility? So it's generally the lack of ovulation. When you're not ovulating, then you can't get pregnant.

You need to. You need to get pregnant. PCOS is a very common cause for lack of ovulation or an ovulation is the medical term. And so women with PCOS consistently are not ovulating and so therefore their chances of getting pregnant every month are lower and lower, depending on kind of how consistent that really is.

So and ovulation is the biggest driver. So let's talk a little bit about an ovulation. What in the PCOS picture, contribute to that? So both pieces of the PCOS picture actually contributes.

So the insulin resistance picture that happens related to PCOS and also the high androgen. So the high androgens certainly contribute to the lack of ovulation.

And so there's some schools of that that say is it the high androgens that then cause the blood sugar dysregulation which causes the lack of ovulation?

Or is it the blood sugar issue that causes the androgen issue, which then causes ovulation? Either way, both of those two pieces are contributing to the problem of large population.

And when you have lack of ovulation, that's where, you know, getting pregnant is more difficult for women with us. Yeah, it's definitely like a chicken and egg scenario and they both kind of feed each other.

Why PCOS Causes Anovulation

So if one of if insulin resistance is present, then it feeds the androgen excess and vice versa. So accumulating and making each other worse. Yeah, that's actually that vicious cycle related to PCOS.

We have insulin resistance causing high androgens, causing inflammation, causing other parts in the body, which then causes more androgens, which cause more insulin resistance.

It's just that vicious cycle that keeps repeating itself. Yeah. Yeah. So women with PCOS, are they this like end of Ovulatory pitcher and the hormones that are contributing to it, are they just are we doomed if we've been diagnosed with PCOS and really want to have a child?

We know there are so many options. First of all, there are women who want to do it more natural. And so when they want to conceive more natural, I really focus on do you have insulin resistance?

Do you have a high androgens? Do you have gut issues? What are those pieces of the puzzle that are making up your PCOS diagnosis? Because if you start to break that vicious cycle and you fix insulin resistance, if that's what's part of your PCOS or you lower your androgens, then you will be able to cycle naturally and also potentially ovulate as well, which will improve your fertility as well.

So there are different some women want to try things a little bit more naturally. Some women are open to like ovulation medications, things like Clomid or Femara or even injectable medications.

And some women want to ultimately do things like IVF. So there are a lot of options for sure. It's not a diagnosis that says you'll never have children by any means.

I can tell you from a personal standpoint, I have PCOS and I have four children. So it's not a it's not a know for sure. Yeah. Yeah. I often say, at least in what I've seen like 99 to 100% of our people with PCOS get pregnant. And so I'm of the belief it's a, it's, there's a hidden gift of PCOS and I like to frame it in that way because like everything just seems so doom and gloom, especially when you've been struggling with something for so long and people say, Oh, you just need to be on birth control.

I'm like, You go, last thing I want to do, wants to get pregnant is going to agree too. So it's really like fun to see them transform and be able to start ovulating and eventually do get pregnant.

But the fact that they have lots of extra follicles in their ovaries is the the hidden gift that they have the potential to access. Yeah, I love that.

I love I focus too. On PCOS is being a PCOS warrior, right? There are some serious benefits to having PCOS like women. PCOS have good quality eggs. They tend to have a lot of them as opposed to someone who might have like hypothalamic amenorrhea or might just have low shear.

They have great eggs, good quality eggs. It's just they got to get them to be kicked out of the ovary and out of PCOS.

Natural and Medical Paths to Conception

Right. Warriors with the testosterone are actually really good at athletics. If you look at Olympians, there was a cool study done a couple of years ago that said there's a high percentage of Olympian athletes who have PCOS because that stronger testosterone that is present is actually very good for muscle building, very good, strong endurance.

So it's just been that concept of PCOS. If you're a hardcore warrior, like you're not like you. There's so many benefits and some ways that you can do the other women cannot.

It's about hacking your own biology and understanding how can you then make it work for you if it's fertility is the question or if it's just the is the question, like how do you maximize your own biology?

Yeah, absolutely. What can women do to help support your conception with PCOS? So making sure that they get those labs done by their doctors, that really looks at the metabolic side of PCOS.

What happens often when people go to a standard OB-GYN is they say, okay, or here's your estrogen and progesterone testosterone. Here you have PCOS. You want to try to get pregnant, try for six months, come back.

And when you're at this point, but truly to give them a real true chance at trying and you have to understand, do they have any metabolic dysfunction that comes with it?

So you need to be tested for inflammation. You need to be tested for insulin resistance, gut health issues. You need to be tested for this metabolic picture because it doesn't matter if someone's trying for six months, if they have pre-diabetes for the health of their pregnancy.

Also, they need to really optimize this. So if you really wanted to go, okay, how do I make my body ready for this? Making sure you understand what is driving your PCOS symptoms?

What is driving that diagnosis for you? Because it could be very different than the woman next to you has PCOS and throughout my lifetime it changes. So making sure you're always really on top of getting that metabolic workup.

And then I'm a big component of using supplements too that really help optimize nutrition because we're learning more and more is being really it's already been known, but like really getting out there about how important nutrition is for fertility and not only just to make sex hormones, but ultimately for a quality and to improve your overall health.

So I'm a big component of looking at what are you eating? Are you able to eat to get the maximum number of nutrients that you need or should you consider supplementation because you just can't get it in your diet?

And then I think the other thing that's really important that happens a lot is women get really, okay, I'm going to do I'm not going to put myself we're going to get exposure, ending any toxins and I'm not going to go anywhere and I'm going to workout crazy hard.

And I feel like they sometimes get a little bit overly invested in this in this sort of journey, and it can contribute to their cortisol being off because you have these sort of feelings like my friend got pregnant because she does cardio four days a week, I should do cardio.

So that doesn't necessarily work for you, right? So it might stress you out if you hate cardio, right. Or you just like human. Yeah. I think it's a very personal journey.

So you have to put that part of it to the way that you go through it is going to be different than your friend. So I notice a lot of times when women are considering having a baby, they often will put themselves on these very regimented lifestyle.

And so you have to be able to also be comfortable in that journey.

Testing the Metabolic Roots of PCOS

If you're doing something like you hate Zumba and you sign a resume of classes, it's going to be a disaster for you. Hormonally. Yeah, sure. Of what you like.

Please don't force yourself within reason. And I mean even like food sometimes become so regimented and in some people's cases it needs to be. But in other cases, it's like you can't over regiment, you can't over supplement or an over exercise is your way to conception.

I think that toning it down and really finding that balance in everything that you're doing supports that journey in a more useful way. Yeah, and it's important to find somebody, a provider who meets the needs of what you're looking for because there are patients who have okay.

They're okay with doing natural up until, say, Clomid, but they won't do IVF or they won't do they have sort of their own personal ethical boundaries or what they're comfortable with.

And so starting off that journey with the right provider, that's going to be in line with what you want to do is important because you don't want to show up and say, I'm, I don't feel IVF is the right thing for me and the providers like IVF.

And the providers, that's what we do here. Yes. And also that balance to where it meets your own personal values.

And you mentioned I want to go back to a couple of things that you said earlier there.

You mentioned inflammation as one of the possible underlying things that we might find in a metabolic workup in terms of like someone who maybe doesn't know they have PCOS and you suspected or someone that is diagnosed with PCOS and you're like, okay, what else is going on?

What kind of testing do you think is really necessary for you to get that like big picture metabolic functional perspective on that person in front of you?

Yeah. So if I think that they have PCOS, I want to test them for PCOS. I want to know first of all, do they have irregular periods, right. Because you need that for the diagnosis and do they have levels of androgens that are elevated?

So you're going to do DHEA, you're going to test total testosterone and free testosterone. You're going to be looking for those androgens that are elevated because you need that to make a diagnosis.

Now, if someone came into me and they had irregular periods and they have evidence of hearsay to some they have hair on their belly or they got chin hair.

They've already met the the the criteria. So it could be physical signs or it could be bloodwork that define the high androgens. And then I will definitely test them for those metabolic labs like we were referring to.

Let's say it comes back as negative for PCOS and they still have high inflammation. They're going to start looking into what do they eat, what do they put on their body, what are the chemicals they may be exposed to?

What if they may have had Lyme or mold ten years ago? What is going on in the environment? Really focusing on the environment for that patient to figure out what is this inflammation from an inflammation can also be cortisol dysfunction.

So it could be also that of the patient that's maybe trying to lose weight and exercising seven days a week and eating two carrots like this. Some of that contributes to inflammation as well.

So understanding if they're not a PCOS patient, they may just have metabolic dysfunction and therefore having to look at those parameters as well. And then in terms of the metabolic panel, what do you like to test on there?

Let's get into the nitty gritty. So CERP, which is the measure of inflammation, right? They do fasting, leptin levels and levels. So looking at those two really leptin insulin kind of parameters that have to do with blood sugar balance.

I like the cardio IQ, which is a more advanced lipid profile, really understanding what is someone's cardiovascular disease, because we, we know that PCOS has a higher chance of cardiovascular disease as we age and we don't want to just at the 20 year old, like just because you're 20 doesn't mean you don't need to have that checked.

Yeah. And like preventing. Yeah. On every PCOS patient really. And then sometimes I dove into like testosterone because that can contribute to metabolic dysfunction of someone and everyone will do like growth hormone.

It just depends on the age of the patient as well. Okay, nice. And then in terms of supporting someone to have a healthy pregnancy with PCOS, what do you think is the most important?

I know that we've touched a little bit on all of it, like diet supplements or exercise like lifestyle pieces. But if we were to get granular with it, what are the key things that people should pay attention to specifically with PCOS?

That is, it may be necessary in women with other fertility challenges.

Pregnancy Risks and Monitoring in PCOS

So understanding that it's a metabolic concern, then, you know, you would be while you're pregnant, you're at increased risk for hypertension in pregnancy, for diabetes and pregnancy.

So understanding that, you'll be watching those more carefully. So if you know that you already have blood sugar problems earlier, like you have pre-diabetes, then I would, as an OB provider, be checking someone for gestational diabetes earlier in pregnancy than 20 weeks.

So I'd be monitoring them, maybe even do it in the first trimester, but certainly by 20 weeks and by definitely 28 weeks. To look for that insulin resistance to turn into gestational diabetes, I would be more conscious about their blood pressure understanding.

Could they develop preeclampsia. I would definitely be more conscious about mood issues too, because PCOS, you do have some issues related to mood and pregnancy can be hard for people.

It can be a hard time too. Not everybody's like walking around going, This is the best thing that ever happened to me. Some people have hard pregnancy and so if they have depression or anxiety really being on top of do, does that patient need to be treated for their depression or anxiety knowing that we need to support their gut also during pregnancy?

Because that's important for the mood as well. And then trying to understand, is there any other components of their PCOS that we would need to be conscious of during pregnancy?

For example, there there is a higher chance of thyroid disease in PCOS women. So an untreated hypothyroidism is really bad for a fetus. So we need to be on top of that as well as understanding we need to look for thyroid disease.

And so understanding those things that co-morbidities or the things that can occur while someone is PCOS and the complications related to pregnancy is is important for a good provider to say, okay, we don't need to not just do our standard see and for we see at 20 weeks, you know, we need to be looking at that and checking things that are a little bit more appropriate.

So check vitamin D levels because vitamin D is very deficiency, very common in PCOS. And it's amazing when you start checking people in pregnancy how low they're right.

And that baby's taken quite a bit. And I always check vitamin D levels in PCOS patients while they're pregnant just to make sure that they're getting enough for themselves and they're growing bones in the baby, right?

Needed in fertility and pregnancy. Vitamin D is got a lot of research coming out about how it support critical and quality implantation sperm how there's just so many ways in which it's impacting fertility.

So definitely if you are already pregnant, really important and if you're not pregnant yet, don't get your vitamin D check. And check it every once every year once you're not pregnant.

Right. Once you're done having a baby, it's important to be on top of those like I said, part of this I should have mentioned in the metabolic labs as well.

But really important to have these series of labs once a year at your annual. Yeah. Yeah. And I think it blows my mind how many times people come from doctors and they're like, Oh, I go for my checkup every year and I'm like, How come we don't have any data?

Like, how come you have a CBC and CMT and that's it. And sorry, I know I went into doctor lingo. It is comprehensive metabolic panel and CBC is just like the red blood cells, white blood cells, all of that.

It's really common that people aren't being checked and with the like you've been saying, the metabolic issues, the blood sugar, insulin, leptin, like the things that are very impact double.

When someone has PCOS, it's really important to check regularly. And then the cardiovascular health of course is very important. Yeah. And the reason they do that is the standard says that below 40 you don't need to do this sort of a metabolic workup.

Right. And that's also because Western medicine sees PCOS as a guy in problem when it should be considered a going on and a metabolic problem and endocrine problem really.

So until it categorizes that, they're going to keep missing the fact that these women really need prevention, not waiting until they have a 50% chance of diabetes at 40.

Yeah. Yep. Half of them end up diabetic. Like it makes no sense to me. Yeah. This is why I love integrative medicine, because it's really about prevention of disease, reversal of disease, not let's wait till our hemoglobin eight would see. It's like we're on the edge for a lot longer than we are before getting diagnosed.

Using CGMs to Understand Blood Sugar

That's why I love like using things like technology. I use CGM as a continuous glucose monitor and a lot with PCOS patients to help them understand blood sugar balance.

I use sleep AIDS. It could be like an or a Ring or Apple Watch or WAP or whatever it is a device to help understand these metabolic parameters. Because if you really learn what works for you and I know the secret to me, right, like I know I can have sweet potatoes, but sweet potatoes with olive oil in green so I can understand why what works for me.

Yeah. Can you talk a little bit about the CGM? Because I think that's very interesting in like how people can help understand their metabolic pattern, their blood sugar or stuff like that.

So how do you guide people in like figuring out what their body feels good and not good with? Yeah. So continuous glucose monitors, you just put it on the back of your arm.

They're little. They look like little white patches. There is a needle attached for them and so you wear them for 14 days. The one monitor lasts about 14 days.

So when I talk to patients about starting them, I usually say, just eat what you normally eat in the first seven days and it's going to start tracking it.

It can be tracked on your desktop, it can be tracked on your phone, on the app, and you can start seeing what does my waking up blood glucose level, what is my glucose level after I eat breakfast, what is my glucose level when I go work out?

What is my glucose level when I'm in the middle of a meeting with my body, what is my breakfast levels? And you're looking for not only how high is it rising from the baseline, but also how long is it remaining elevated?

So everybody's is going to go up when you eat, but is it going up sky high or is it same persistently up for two, three, 4 hours? Those are those concerns where you start going, what's the thing I did that's correlating with this?

So for the first days, I just tell people, just track it. Yeah. We'll take a look at the data. Let's see where we can start making some changes because sometimes it's about, for example, I gave you the sweet potato example.

That's my example. When I wore a CGM with glasses, I had a sweet IDA sweet potato and it shot up to 220 my blood glucose and it was there for 3 hours.

It just slowly went down and the next time I had a sweet potato, I decided to have olive oil in it. And greens and I didn't have that giant spike. I had a nice gradual up and it came on back down within 2 hours.

So I combined it with some fat, I combined it with some greens. And for me that slowed the absorption of the glucose. So it was a little bit better option for me.

Who loves sweet potato food early enough, it was better than Oreos. I had to a trader Joe's Oreos multiple times apart so I could see if it was just a fluke and it didn't go up as high as sweet potatoes. Wow.

Yeah. Me Oh, is it better for you? Better potatoes. Oh, boy. Yeah. So I use that information than you understand. Okay, maybe someone's waking up. Blood sugar is elevated, maybe it's their breakfast choices.

Maybe it's that. So they're eating too late at night. Maybe. So it gives some data for if you're a data person, that helps you make changes because you understand what's happening to your body.

It's really useful for those patients to go, Oh, hey, maybe next time I have oatmeal, I should have oatmeal with chia seeds and berries because it seems to go a little better for me for blood glucose levels than just oatmeal or making these sort of changes that might happen.

So I like it for people who want to slow the timeframe down on how do I figure out what I can even do, even on your own, where you would be journaling if you decided to do it on your own, you'd be like writing down what you eat, what symptoms you had were, how you felt.

Were you having shaky episodes like what's going on with those symptoms? And slowly figuring out how to eat more for insulin resistance, for example, which can take some time.

So I like Cgmps because they really give you real time data and I don't I'm not a big fan of using them forever. Right. I don't think everybody should be wearing them nonstop because I was a bit neurotic about that.

What's been my next question? But I really help patients hurt me and I feel like I'm doing everything right. What is the problem here? Where's the gaps?

So I find them very useful for my patients in my practice.

Supplements for PCOS Fertility Support

Who especially those women who may be also perimenopausal and blood and insulin resistance and blood sugar dysregulation are very common as you age as estrogen goes down.

So I find it really helpful if you have a PCOS and perimenopause lady like it's a great tool for them. Now for the favorite part that everyone loves to talk about, some of it, let's talk about supplements for PCOS.

If we were trying to get pregnant, what are your favorite ones? Who are they helpful for? I always like to emphasize the who because I think a lot of people will hear these lists and just go out and get everything and we as providers know that's not the way to do it.

Yeah, like we can dove into the supplement piece and just talk about what are the ones that you found most success with? And then who or like what kinds of things were happening that they were most helpful for.

Yeah. So I think part of what I recommend for supplementation is certainly related to do they have insulin resistance, do they have inflammation and do they have got issues? Do they what are the other components?

Because across the board, I would say I almost always suggest inositol, because inositol there's not really a lot of downsides to it. We know that the data supports that there's good egg or improved egg quality as well as ovulation related to Inositol.

So I don't have a problem saying to every PCOS woman who's who wants to conceive, go for inositol at least two grams. Right. You need to at least get two grams.

So I'm, there's very little side effects, maybe some gas pain, some digestive discomfort, but really very few side effects to that. So Inositol is always a favorite of mine.

I also always suggest women, no matter what's driving their PCOS an omega three. If you're if you're not someone who eats a lot of omega three fats making sure because that will also help with inflammation which almost everybody has inflammation in their body in the world we live in.

So omega threes like fish oil or flaxseed, whichever you prefer from an ethical standpoint, is fine, but I certainly think omega threes are very valuable.

If you have any nutrition issues like you don't eat them very well on a diet, then you should be taking your prenatal anyway. So prenatal can often help with overall balancing sort of any nutritional gaps you may have because it'll give you some vitamin D, but it may be folic acid, like it'll give you some of those other vitamins that are useful as well.

So I think a multivitamin is also very helpful. And then B-Complex is almost always a very important option too, because most people need these for both sex hormones and neurotransmitters.

So B-Complex is always a very valuable one as well. Unless you're just somebody who just eats a ton of bell peppers and really kills it in the B vitamin department.

I mean, I could be really helpful too. And then the rest of the sort of supplements I think are really tailored towards that specific person. Yeah, certainly talk about a C, we can certainly talk vitamin D, let's say as we said, if you're vitamin D deficient, you better just be on a vitamin D, right?

That's just a for sure that but the sort of specific supplements are really geared towards where you are. Do you have a metabolic issue? What are some other components that may be related to your PCOS?

So those ones, I usually suggest more personal based upon the patient specific. So in terms of the more specifics and see who I know that there's a lot of research on anything in PCOS, there's research on anything as just a high quality antioxidant for and quality anything else.

Like how how do you tailor this to people deciding do they need it or not need it? Yeah. So if they have other metabolic issues, say they have high blood pressure or or maybe pre-diabetic or other metabolic dysfunction, we know that their mitochondria take a hit. Right.

They have some serious mitochondrial health issues. So I am very low threshold for adding any see for that maybe if you're a little older trying to have a baby that's also very helpful to for just the oxidative stress is helping our bodies keep up with energy requirements.

So I'm also a big fan of any see. Yeah I mean there's more for what do they have other metabolic issues and certainly if your CRP is high, this is a very useful supplement as well. And also some would argue against some people just put it on.

They do do it anyway for all fertility patients. And is there really a downside to it? Probably not. And I see it's pretty well tolerated. It's amino acids right there.

Amino acids are in proteins that we eat. There. So our is it one that you're going to likely get into hard? Probably not. Yeah. I feel like supplements are tricky.

Like you can take a lot and it's supportive and then you can take a lot and it's working against you. I read a paper recently that was basically like the number of supplements that people take has been shown to cause oxidative stress and deplete egg quality.

Right? So there's that threshold of, yes, this is the right thing for us and it'll be amazing for you. And then, no, let's

like drop that off just for the sake of not adding stuff that your body has to deal with.

Yeah, I feel fine. Like, where's the balance for? Like, always trying to weigh the scale of is this the right thing? Do we absolutely need it, is desirable or is it not a necessity and try to weigh that out regularly for people?

Yeah, I think that where I find the concern is that patients will often take see like ten supplements, but they're taking the supplement doesn't have enough of that ingredient that actually is used.

Yeah. So for example, there's a lot of like hormone balance supplements over the counter and they have Chaste Berry, but it's like Chaste Berry 50 milligrams.

That's nothing. Yeah. That's not could do anything. Right. So I find so when I start going to people supplements, I'm like, yes, Chaste Berry. Fantastic.

But it doesn't do anything at 50 milligrams it's if you have a headache might give you a quarter of one tablet of ibuprofen, you're going to be like, my headache didn't go away.

It's not a therapeutic dose, right? So I'm more where I see in in a clinical standpoint, I just see a lot of people that are like, Oh, I saw this on Instagram.

I'm, I take this one, I see this one for I take this one, I'm taking this one.

Personalizing Care and Provider Alignment

And they don't realize that they're not even getting enough of the active ingredient to do anything. And so you may not need ten. You might actually need four. Really good ones.

Absolutely. Yes, exactly. So really tailoring it. And are there any other supplements that you're a fan of or herbs? You mentioned Vitex, which tends to be potentially a good herb for people with PCOS.

What's your what's your take on it? Yeah, I often use Vitex for people who are trying to get it regular cycles, right. They really don't want to do an ovulation medication.

They really want to continue just have regular cycles. And it may be that they're ultimately their progesterone is the issue. So we're using Vitex or Chaste Berry for that and supplements for like fertility.

You can go down there's a lot of different options. We could talk about vitamin E, we can talk about there's a lot of even herbal options. You can even talk about Schisandra, Like from an ayurvedic medicine perspective, there's a lot of different sort of ones, but I think it becomes more it's really personal to that person, and it's important to make sure that you like I said, supplements really supplement nutrition so it doesn't make sense to take if you're eating something and getting it appropriate levels now would be one thing to mention is you could actually get nutrient testing which is often covered by insurance with companies like Genova and I don't work for them for anything, just throwing it out there for people.

But you could also get nutrient testing, which I sometimes do with fertility patients to understand maybe they're actually thinking they're getting enough amino acids, but they're really not or they're not getting enough vitamin B or they're not getting certain nutrients that they think they're getting.

And so therefore, this is the perfect example of supplementation. Yeah. Absolutely. Through your OB is on board, whoever you going to see for your pregnancy is on board because there's sometimes some obese who are a little less open minded to be on an AC and probably need to make sure that you also run it by your provider to say, Hey, this is what I want to try, see if it improves my ovulation and equality and overall health.

Are you okay with me continuing this regimen when I get pregnant? Yeah. You want to find that right team that is understanding of what it is that you're doing and how it's supporting you or not and being able to have those

conversations because, you know, a lot of people struggle with, oh, my OB is not on board or my already said stop all my supplements and yeah, it's sometimes that's necessary and sometimes that's not the best thing for them.

So always finding like finding that team that is going to support you with your vision and your goal is really helpful. Yes. Well, thank you so much for being with us today, Dr. Roelands.

It's always lovely to chat with you and hear all of your wisdom and what you're doing in your practice. So thank you for being with us today. Thank you so much for having me.

It's been a pleasure.