



Prevention and Management of PCOS Related Infertility - A Q&A Session

Polycystic ovary syndrome (PCOS) is a chronic disorder affecting 1 in 10 women of reproductive age. It is the primary cause of reduced frequency of ovulation and anovulation at the reproductive age and is commonly associated with infertility. The prevalence of infertility in women with PCOS varies between 70 and 80%. Can early PCOS diagnosis prevent related infertility? How can the wait period before family building be reduced? What are the treatment options for women dealing with PCOS related infertility? We are kickstarting the PCOS awareness month with a Q&A session with board certified reproductive endocrinologist Dr. Ilana Ressler of RMACT, who will help answer these and other related questions from the PCOS community. Dr Ressler will help us learn all about the prevention, diagnosis, treatment and management of infertility occurring as a result of PCOS that went undiagnosed or was diagnosed late.

RSVP to listen and post your questions for Dr Ressler in the comments section below.

Full Transcript:

Shweta Mishra: Good evening. It's world's PCOS day and the beginning of PCOS awareness month and I welcome you to this PCOS and infertility Q&A session in association with the PCOS tracker app that aims to help women keep track of their PCOS symptoms. More information about which is available on their website pcostracker.app. I am Shweta Mishra and I'm honored to welcome our eminent guest expert Dr. Ilana Ressler of Reproductive Medicine Associates of Connecticut to educate us about prevention of PCOS related infertility and its management. Dr. Ressler is a Reproductive Endocrinologist with several years of experience. She is a member of prestigious societies like a ASRM, SREI and ACOG and sits on the editorial board of Fertility and Sterility. She also serves as medical advisor for Yesh Tikva, a Jewish community support for those experiencing infertility. Dr. Ressler I welcome you to Cure Talks and thank you for finding time today to join us.

Dr. Ilana Ressler: Of course, my pleasure. Thank you so much for having me.

Shweta Mishra: It's our pleasure doctor and I'm thrilled to introduce our Global Patient Advocates panel today representing PCOS communities from different parts of the world. So co-hosting with me today is Lisa Rosenthal from Reproductive Medicine Associates of Connecticut who has been advocating for over 30 years in this field now. Tatiana Alafouzo who is joining us from the UK, a PCOS warrior and a PCOS researcher. Dr. Ami Patel who is a Clinical Pharmacist and PCOS Advocate and is representing the South Asian PCOS Community here. Lisa, Tatiana and Ami welcome to the show and thanks for co-hosting with me today.

Lisa Rosenthal: Thanks for having us.

Shweta Mishra: Well to begin with Dr. Ressler you are on the editorial board of Fertility and Sterility, the ASRM leading international Journal, so we know the literature says that 70 to 80% of women with PCOS have to face infertility at some point and I believe it is also the most emotionally and financially draining symptoms of PCOS. So with all the research that has happened around in the past few years, have we found ways to prevent PCOS related infertility and I'm curious to know how do you guide your teenage patients around this discussion related to this particularly like disrupting PCOS symptom that is infertility.



Dr. Ilana Ressler: Yes, while PCOS is so common and more and more well-studied we still don't know the exact cause of it. It's thought to be multifactorial as I explain to my patients it really is a condition, it's not one disease that's the same for everyone so we can definitely successfully manage PCOS and we can set someone else someone up for increased likelihood of success with fertility and so identifying it at a young age is actually one of the best things that can be done for prevention because then one is aware of it. I see unfortunately many women who are unaware that they've had it their whole lives and it's only discovered once they are experiencing the infertility and they present to us and then we make the diagnosis. But identifying it at a young age can be very helpful and there are many things that can be done to again set someone else someone up for success.

Shweta Mishra: So you said that earlier diagnosis is something that is very crucial in preventing infertilities. If you get diagnosed earlier, it's possible that you do away with that particular symptom of infertility right?

Dr. Ilana Ressler: Well, it's hard too. We don't have a known way to absolutely prevent it. So it ultimately has a lot to do with the menstrual cycle and one of the key components of PCOS as we know is having irregular menstrual cycles, right? That's part of the diagnosis. So, again just to cover that basic for everyone that it's diagnosed you've to meet two, three things. So one is having Irregular Cycles. The second is having Hyperandrogenemia meaning elevated blood levels of Hormones such as Testosterone or DHEA's or blood work can be totally normal and women just may have symptoms of this like acne or hirsutism which is excess or unwanted hair growth and the third being polycystic appearing ovaries on ultrasound meaning just a certain number of follicles and follicle is the structure that contains the eggs. So if someone has a certain number of follicles or higher that means it's a polycystic appearing ovary. So, these are the broader damn criteria for diagnosing PCOS. So again implicit and very common for most women with PCOS are Irregular Cycles. There are ways in some cases to make Cycles more regular but not always. So we can't guarantee a prevention of infertility, right?

Shweta Mishra: Thank you. That's well explanation to that. I think I will now move on to the panel because we have a lot of questions from Lisa, Tatiana and Ami and they are wonderful questions which everyone would like to have an answer to. So I don't need to introduce Lisa like we were just discussing but for those who don't know her Lisa is determined to help others undergoing fertility treatment motivated by her own personal journey and she has been in the field for 30 years and she's also Certified Grief Recovery Specialist and teacher and founder of Fertile Yoga program. Lisa, welcome again and please take over.

Lisa Rosenthal: Thank you so much. So Dr. Ressler these were questions that I collected from people who have PCOS. The first question is, if having a baby is what I want three years from now, how should I try to manage my PCOS now?

Dr. Ilana Ressler: Great question. So yes there are medications which I'm sure we're going to discuss and talk about more during this hour. But really I always emphasize two of the best ways to manage PCOS are through nutrition and exercise. So I would really emphasized and highlight these looking down the road towards future fertility. These actions go a long way healthy lifestyle, good nutrition again exercise and so those are the two best ways I think someone can set themselves up for trying a few years from them.

Lisa Rosenthal: The second part of that question was if I'm not on birth control. I don't get my period. Does that play into your answer? Does that change your answer at all?

Dr. Ilana Ressler: Sure, we have to think about PCOS when we're managing it as what are the symptoms that someone is experiencing again there's not a one-size-fits-all, it's different between and the condition varies between individuals even for one individual it can change over time. Right. So if someone is certainly cycle regularity is a major focus or symptom that we are accessing with and want to address. So if someone is not having periods then that is a problem because we know it is most healthy for the uterus to shed regularly. We want the lining to shed on a regular basis. It doesn't necessarily have to be a perfect 28-day cycle but at least every three months to maintain the health of the uterus because if someone is not having a period for a greater amount of time than that it increases the risk of Endometrial Hyperplasia meaning cells



can be abnormal and increase the risk of uterine cancer. So that is really something that we want to avoid and can be prevented and there are different ways of doing this. The most common way is to go on a birth control pill. This will regulate the cycle and has many additional benefits to managing PCOS as well.

Lisa Rosenthal: I love that. I never knew that about it that every three months so thank you. So the second question is straight from the patient, given the proclivity of many follicles being produced even without hormonal or medical stimulation is IVF a better and safer choice than IUI to avoid hyperstimulation, very specific kind of question but we get asked that a lot about one or the other IUI or IVF.

Dr. Ilana Ressler: Sure. There is not a need for women with PCOS to go directly to IVF certainly the need may arise but it's typically not the first line treatment for those who are experiencing infertility. The main problem right with the Cycles not being regular is that the cycle is stuck in the starting gate. It's not progressing regularly and so it's hard to know when that ovulation is occurring. So as I explain to patients we just want to give that cycle a little boost to get it out of the starting gates and get the follicles growing and then we follow the growth of those follicles and we control when ovulation occurs by giving often a medication of a drill where we know exactly when someone's going to be ovulating as well and we can often start even with intercourse alone if this semen analysis is normal or we can add in intrauterine inseminations but there really is not a big risk of hyperstimulation with this treatment that I just described which is called ovulation induction. It's very safe and does not create hyperstimulation even for those with PCOS.

Lisa Rosenthal: That's really reassuring. Thank you. Next question is, is it safe to be on Metformin and Inositol or other PCOS drugs while trying to conceive?

Dr. Ilana Ressler: Yes, it is. So these medications supplement that you just mentioned the purpose of taking those is to help manage insulin resistance rate. So insulin resistance is often associated with PCOS and that means someone has to produce more insulin to metabolize the same amount of glucose as someone who does not have insulin resistance and the risk with insulin resistance is then that it can develop onto pre-diabetes and diabetes and of course we want this to be managed not only for like overall health but particularly in pregnancy we want someone to have good glucose control, to avoid ideally getting Gestational diabetes so certainly if someone has insulin resistance we want to treat it and we treat it while trying to conceive, there's no contraindication. I just want to add though historically it used to be thought that all women with PCOS should go on Metformin, right. So it used to be that if someone was given that diagnosis the same time they were handed over a prescription for Metformin and that is not really the current recommendation. We want to treat the insulin resistance. So if someone has Insulin resistance treating that will conversely or it will help additionally with treating the infertility, they go hand-in-hand there. They can't be thought of as completely independent.

Lisa Rosenthal: I love that. It's into the next question, which is what pre-diabetes really mean, especially if I'm trying to conceive.

Dr. Ilana Ressler: So again it's when we think about like Glucose and Insulin metabolism we can think that along a spectrum of developing. So insulin resistance is one of the first steps and then that can develop onto pre-diabetes and diabetes and if that is present again while trying to conceive or prior to conception we certainly want to have good control of this whether it's insulin resistance to pre-diabetes to whatever the current state is we want to manage that really well and I always tell people in pregnancy they were very picky about blood sugar levels, levels that are hemoglobin A1C's that I thought of this maybe not so terrible outside of pregnancy we really want super tight like blood glucose control and pregnancy because of the effect that it could potentially have on the developing fetus. So ideally we get good control and management of this even prior to conception to set someone up to have a healthy pregnancy.

Lisa Rosenthal: I love how that rounds back to that if I'm not trying to get pregnant now so what are other medicine options that also reminds me of your answer. The two things that you mentioned before which was exercise and food. What are other medicine options besides Metformin since I can't tolerate it?



Dr. Ilana Ressler: So specifically for an alternative that we often consider from Metformin is supplement Inositol. Inositol is a six carbon sugar. It's made by the own body. It's available in food sources and is available as a supplement and there are different forms of Inositol and there are two in particular that have been studied at a particular ratio and have been shown to be beneficial for PCOS because some of the actions of these Inositol are at the level of the ovary and the insulin receptor two key components as we've been talking about with PCOS. So that is I think a good alternative or again not exactly the same but something else that could be considered if Metformin can't be tolerated.

Lisa Rosenthal: Okay, thank you. And lastly, especially since we can be really a problem with PCOS what birth control pills and medications can help regulate period length without weight gain?

Dr. Ilana Ressler: So, again it's more historically that birth control pills were thought to directly cause weight gain. In general, the amount of Estrogen in a birth control pill over the years has come down lower and lower. It's really pushing the lower limit at this point. The problem with going to too low is sometimes it doesn't have enough to adequately like regulate cycles and someone might have irregular bleeding or other issues from that. But the point is that it is not typical to have a weight gain from any of the commonly prescribed birth control pills used today. I will just add however I think that everyone reacts or might be sensitive to a birth control pill in a different way. So I have seen where for some individuals the pill might affect their appetite in one way or the other. So if a birth control pill is causing someone to have all of a sudden a much bigger appetite and they're consuming a lot more than certainly in turn they will gain weight. I've seen conversely someone who loses their appetite essentially and actually had a great weight loss. So neither of these are necessarily good. So that person might just need to try a different pill and there are many pills in the market and so sometimes it's a little bit trying to find the right fit for someone. But overall I want to reassure that birth control pills are not causing weight gain.

Lisa Rosenthal: You just reassured and made a lot of people very happy and Shweta it's back to you. Thank you so much for taking the time to answer those questions Dr. Ressler.

Shweta Mishra: Thank you Lisa great questions. Next up on the panel we have Tatiana Alafouzo. Tatiana is a PCOS warrior passionate about empowering women with PCOS to take control of their symptoms and she's a Registered Associate Nutritionist with Association for Nutrition in the UK and is currently working on her PhD focusing on complementary and alternative therapies for PCOS management. Tatiana please go ahead.

Tatiana Alafouzo: Thank you Shweta. Hi Dr. Ressler thank you so much for taking the time to answer my questions. The first one is how soon after stopping birth control should a patient start to ovulate before you consider or perhaps giving a first-line treatment?

Dr. Ilana Ressler: So, ovulation can resume immediately after stopping a birth control pill. So typically we would expect that immediate cycle that they should ovulate. Generally, if someone is stopping a pill and then trying to conceive, I think that's the idea behind this question then I say to try for typically about six months or so. However, if they're going weeks and weeks with no period then best to come in sooner than necessarily waiting the six months but we know that reproduction in general is quite inefficient actually each month at a couple is trying only about 15% are successful. So it often does take several months to succeed. So typically, we say if there's a known issues such as PCOS or someone's 35 or older or other fertility related matters to come after 6 months but for the general population we say even up to a year of trying.

Tatiana Alafouzo: Thank you so much and I guess that kind of leads into my next question, which is when many women with PCOS stop birth control this can exacerbate a lot of the symptoms of PCOS which almost creates this vicious cycle. So what would you recommend for women that are sort of experiencing that?

Dr. Ilana Ressler: Yeah It's a good question and very common and again when thinking about how we're treating PCOS we are treating the symptoms so often it's that you have irregular cycles or the acne or the hirsutism that leads someone to be on the birth control pill in the first place and the birth control pill is kind of



like a Band-Aid, it's treating, its managing the symptoms and fixing it but it's not against not curing the underlying PCOS. So when we take away that birth control pill Band-Aid the underlying PCOS is still there and so you're right off in these symptoms may come back. Unfortunately, most of the treatments that are used to manage those other symptoms either prevent pregnancy like the birth control pill or many are contraindicated in pregnancy. So for many we sort of have to prioritize are we trying to focus on fertility or not? And if the answer is the fertility than often we focus on getting someone helping them conceive and we may have to put some of these symptoms on the back burner not to say that they're insignificant but again unfortunately the conventional treatments for many of them can't be used in pregnancy.

Tatiana Alafouzo: So interesting. I had to know that thank you and I guess that sort of leads into my next question which is with regards to if you're putting a patient on Clomid or Letrozole in order for them to ovulate. How long would you want them to be on this before you consider moving them onto another treatment such as IUI or IVF. What is the game plan in terms of for a patient who is looking to conceive?

Dr. Ilana Ressler: So with treatment such as Letrozole that's the first line ovulation induction agent or women with PCOS again even though we're giving the medication it doesn't mean that unfortunately that we would have instant success. So again going back to that concept that reproduction is inefficient it often does take multiple tries even when receiving a medication. So when using Letrozole for example, in a woman who is this sort of gold standard situation right under 35, a good uterus, good fallopian tubes, good sperm chance of success is up to about 20% per cycle with use of Letrozole and that's sort of a best-case scenario. I don't tell anyone know your chances like 40 or 50% per cycle. Now that's per cycle, but then there's also the idea of cumulative success rate. So the more you try something, the more likely you are to succeed that sort of peaks the cumulative success around the three to four cycle time frame. So typically we want to try something about three tries or so and if we haven't achieved success then we want to step it up and be more aggressive in some way so often let's say someone started with Letrozole timed intercourse and they it hasn't worked after three tries. We might say let's add in intrauterine inseminations in these cycles as well and if we are successful after three tries of that then IVF would likely be the next step. Now I always tell patients these are not rules written in stone, we are flexible if someone does two cycles or then they feel like they just want to be more aggressive and move on to the next or if someone has done three cycles and they're not quite ready for that next step. Fine, but we don't want to do the same thing over and over again like 10 times and expect a different result. We want to be proactive about this. So that's how we gage and move on to the next step.

Shweta Mishra: Wait Tatiana. I just have a one follow-up on Clomid. Doctor what are the guidelines around hues of Clomid basically how many times is it safe to use? How many cycles basically?

Dr. Ilana Ressler: Yeah, so we don't have an exact limit, these medications the way they work both Clomid and Letrozole their mechanism of action is to lower an estrogen levels and then the brain makes a little bit more of the FSH follicle stimulating hormone and that FSH is the hormone that drives the growth of the follicle each month. So again, going back to that idea that women with PCOS they're stuck at the beginning of that cycle. Their follicles are not growing. So if we can give a little boost in their own FSH levels will increase and that will grow the follicles. So we do look at when using it for example, we want to monitor the response, so that is one of the biggest benefits of being treated by a specialist infertility that we really are monitoring every aspect of this and so after the Clomid is taken or Letrozole is taken then someone comes back into the office for ultrasound and blood work and we see how they responded because women with PCOS are at increased risk of having resistance to these medications or so to Clomid than to Letrozole. So, unfortunately sometimes women are just handed over some Clomid and said take this, starting on day three of your cycle for five days and then let us know if you're pregnant but they might not even be responding to the medication. So certainly we want to monitor that and change the course if that's happening.

Shweta Mishra: Right definitely I know every case is different, that's what I wanted to know basically when does it get unsafe to use Clomid basically. Thank you for answering. Dr. Tatiana, please go ahead. Sorry to interrupt now.



Tatiana Alafouzo: No not at all that was a great question. Would you recommend that a woman with PCOS in her twenties or thirties that's her eggs freeze if she's financially able to and is thinking of having children down the line. Is that something that you have recommended to some of your younger PCOS patients. What are your thoughts on that?

Dr. Ilana Ressler: So, I think it's a good thing for all women to consider not necessarily specifically those with PCOS but all women who might be thinking about that they want to have a family in the future but they're not ready yet and it might be several years off now I don't necessarily think of really like 25 year old needs to go out and freeze her eggs. We know that really age does have a big effect on fertility specifically on female fertility. So as we get older, the quantity and the quality of the eggs go down and that statistically starts to be more noticeable in our mid-30s. So, the ideal time to freeze eggs is between the age of 30 and 35. So if someone has PCOS or not I think if they're in that age range and don't think that they'll be starting a family anytime soon as and as you said able to go forward and it works for them. I think it is a really good option because the idea behind egg freezing is that at a certain point our own eggs can no longer be used so once we enter into our 40s most eggs are no longer normal in terms of the quality. Not that we can't have healthy babies in our early 40s but it can be a little bit more challenging to find those good normal eggs and by mid 40s it's almost impossible with our own eggs and at that point the option really is to use someone else's eggs donor egg. But if someone had frozen their own eggs at a younger age than they have those available to use that point before considering use of someone else's.

Tatiana Alafouzo: Thank you so much and just my last question is more anecdotal than evidence-based but in your practice have you seen women with PCOS have been able to get pregnant without any kind of intervention and if so how many roughly that percentage is?

Dr. Ilana Ressler: Sure, it definitely can happen absolutely not all women with PCOS need assistance with conception. PCOS does not mean that someone will have infertility. I tell all of my young patients this, it does not mean you will need our help but we are here to help if it's needed. I have sort of a self's or I guess a bias population because it's those who are having difficulty who I do generally see and not the ones who aren't so. I probably don't have like a good percentage to give you on that. But I do see, I have a patient who during her diagnosis was PCOS her cycles were irregular, she was doing her diagnostic testing with us and we saw during one of the tests she actually is growing a Follicle. We pointed this out to her and said go ahead and try. It looks like you'll be ovulating with the next short while and she conceived just during that diagnostic cycle. So definitely it can happen without any help but again I think if it's been six months or so trying without success then good time to come and speak with us.

Tatiana Alafouzo: Absolutely Dr. Ressler. Thank you so much for answering my questions. I so appreciate it.

Dr. Ilana Ressler: You're welcome. Thank you.

Shweta Mishra: All right. Thanks Tatiana. Next up on the panel we have Dr. Ami Patel. Ami is a Pharmacist and Board Certified Pharmacotherapy Specialist motivated by her own challenges. She is passionate about raising PCOS and infertility awareness especially in the South Asian community and she advocates through YouTube and Instagram through her messages and videos. Ami please take over.

Dr. Ami Patel: Okay. Thank you Dr. Ressler again for taking your time to be with us and answer questions. So one question I have is you're just talking about the in fertility evaluation, looking at the ovarian reserve, HSG scan, ovulatory function and semen analysis to be recommend like women with PCOS or couples to get that done like before they want to conceive just so they know if they will have trouble.

Dr. Ilana Ressler: Yeah, so I think certainly we do see many couples who want that information ahead of time. We say just give it a try especially if cycles are happening, if someone really is not having any cycles and they're not having any periods. I think better to do that testing and get started with the treatment sooner rather than later because this really means they're not ovulating at all. So no need to wait those six months



but yes I think look information is always powerful and so the more information someone wants, we're happy to provide that it doesn't necessarily commit someone to having to start treatment. We can do these tests and then they can go off and try on their own but if we do realize another issue than maybe we've saved some time and can be starting a little bit sooner with the treatment. A lot of women or couples want to know why do we even need to do all these tests if we know that someone the problem is that they're not having regular cycles and not ovulating why do we have to do all these other tests and the answer is just because one problem exists doesn't mean that another one does not and so it really for sure is beneficial to look at the big picture before starting any treatment because we always want to pick the best treatment for that couple from the get-go and so if we don't look at those other things and let's say we do several tries of ovulation induction and then we do a semen analysis and see that this Sperm is abnormal maybe we should have been doing IUI all along or maybe that isn't even an option and they need to go directly to IVF. So it's definitely helpful to see what all these different components are.

Dr. Ami Patel: So, say like for a couple the results are normal do you recommend that they tried earlier than they would ideally like to because of the risk of unexplained infertility and miscarriages which are higher in women with PCOS.

Dr. Ilana Ressler: So I think it's important to start when they're truly ready so they're not ready I don't think that the PCOS should add pressure that they have to start sooner than they otherwise would want to. I just think being mindful of how much time is going by one starting and of course being mindful of the effect of age on fertility. So the good thing about PCOS is that it's associated with a very high number of follicles. As I had mentioned the quantity of eggs tends to go down as we get older. But in general women with PCOS tend to have very high ovarian reserve. Of course it does decline with time as it does for all women and they go through menopause as well. But it's typically not a quantity issue which can a low quantity or low ovarian reserve is a separate diagnosis that we see many women with. So it is positive thing that there are many follicles there. They just often need a little boost and help to be released.

Dr. Ami Patel: That's good news when you're positive in all of this and that actually goes to my next question. Does the decline of ovarian reserve differ for women with PCOS than without?

Dr. Ilana Ressler: So again it still happens across the board in all women. Some studies have shown that the age of menopause might be slightly later maybe to about 2 years later for those with PCOS than those without. But it still happens. So we can't rely on having PCOS to have indefinite fertility and even if the quantity remains higher as I mentioned we still also have to be mindful of the quality issue because that happens universally. We have not unfortunately figured out the key to stop that process and so as we get older it doesn't matter someone leads the most healthy lifestyle and fortunately they will still have the egg quality decline as everyone else. So certainly if someone is mid-30s or higher we want to be more aggressive in terms of time.

Dr. Ami Patel: So, in addition to PCOS, what role does thyroid function play in infertility knowing that many women with PCOS also experience hypothyroidism.

Dr. Ilana Ressler: So, thyroid function is important for many different reasons but in particular relating to fertility thyroid disorders can affect cycles. We are always checking for everyone who comes in whether they already have the diagnosis of PCOS or were establishing the diagnosis or for any fertility patient who were working up, we always check thyroid levels because having again thyroid disorder can affect cycles. So with PCOS diagnosis, we also want to rule out other causes of irregular cycles. So we want to make sure that it's not abnormal thyroid levels that can be contributing to the Irregular cycles as well. Additionally thyroid levels that are not optimal can be associated with miscarriage with actually anomalies even, so we are cautious about levels, and we have a very like strict range that we want the thyroid levels to be in particularly for those who are trying to conceive. It's like a tighter range than for those who are not

Dr. Ami Patel: So in addition to the thyroid control is there any other way that women with PCOS can decrease their chance of miscarriages?



Dr. Ilana Ressler: Yes. There are several different factors that contribute too to miscarriages. So it's hard to even PCOS is often talked about as being associated with a higher risk but I think it's really the component like certain components that are associated with PCOS that are have this association. In other words, I don't think you necessarily say all women with PCOS do have. There are studies some supporting this and some not supporting this. I think it's a little controversial but it's specifically the components for example of insulin resistance, of obesity which is commonly associated with PCOS. These definitely are associated with higher risk of miscarriage. So addressing these and being as healthy as we can lead into pregnancy can definitely help reduce those risks.

Dr. Ami Patel: So, I know you touched on Metformin and Inositol for insulin resistance. I don't know if you have any experience with berberine, if you heard of that or if you see patients with that and is that safe to continue during pregnancy?

Dr. Ilana Ressler: I have seen it and used before it's not something that we very commonly use but it is an alkaline that is a component of many like used it in Chinese herbal medicine. It has some similar properties as Inositol in terms of how it can help. So in other words it's used often to help with like insulin resistance with diabetes or with hyperlipidemia. So they have some overlap and it may be helpful again. If someone has some of these components of the PCOS but we don't recommend continuing to use that in pregnancy.

Dr. Ami Patel: It's a little like you're saying that Metformin and Inositol are the safer options for that situation. I have one more question. I don't know if you've heard about Geritol it's like a multivitamin that some people on social media have been talking about lately and saying that there's a baby at the end of every bottle. I don't know if you have any input on that situation.

Dr. Ilana Ressler: Yeah, so Geritol is a brand of vitamin and actually on their website interestingly if you look it comments on this phenomenon and it's a rumor and we don't know exactly how it got started. Unfortunately, there is no magic bullet. I wish there was that we could say take this and we will cure your PCOS or it will ensure that you conceive. It is a line of multivitamins and in fact they're not even prenatal vitamins. So we should definitely not be relying on these. As magic to help conceive it is important however to be on a good prenatal vitamin when trying to conceive we don't want to wait until already pregnant best to be on it prior particularly for folic acid. So probably best not to take Geritol in that case and to be on a good prenatal vitamin.

Dr. Ami Patel: Thank you for clearing the air on that. Those are all my questions. Thank you again so much.

Shweta Mishra: Thank you Ami, great questions thanks. So Dr. Ressler we have some questions posted in by our listeners on our web page as well as send in via email. So I'll try to read out a few of them some of them I think you already answered. The first one says that what types of issues or factors impact fertility for lean PCOS women and what types of issues do lean PCOS women deal with that are different from the normal type women?

Dr. Ilana Ressler: Sure, so first I think women with lean PCOS often actually might not be diagnosed as quickly or the diagnosis maybe brushed off more easily because there's sort of this like stereotype rate of what PCOS looks like and it's exactly that it's a stereotype. It's not accurate but if someone doesn't fit that stereotype then it again often can get missed or not really given as much. I look at it as important as it is with someone who's experiencing more of the symptoms but lean PCOS women are still subject to the same symptoms, the same associations metabolically, insulin resistance, hyperlipidemia, the irregular cycles and sometimes it can be even more challenging because weight loss often if someone is overweight weight loss can make a big difference, losing as little as 5% of body weight can sometimes be enough to help get cycles even more regular. But if someone is already lean we don't want them necessarily to try to lose weight because if we don't want someone to be underweight they are already at a healthy weight and so that isn't going to change their cycles. However, changes in diet can go a long way for those who even are normal or underweight and so sometimes making these modifications can go a long way.



Shweta Mishra: Okay thank you. So the next one asks what is the best way to track irregular periods? I know its bit hard.

Dr. Ilana Ressler: That's a very big challenge. There is no easy way therein lies the problem when someone's cycles one month might be 40 days and the next month 70 days and then they're going three months without one. There is no easy way to track it. I actually discourage the LH, the ovulation predictor kits. These are those kits that you buy in the drugstore and you have to pee on a stick every day and it's looking to see when the LH surge is occurring. So, the LH surge is that hormonal change that occurs typically mid-cycle that triggers ovulation. However we know that women with PCOS have higher basal levels of LH and so they may be getting positive all the time or might be negative and positive and in other words their false positives and are not accurate and it's very stressful to be trying to use these kits. If you're going weeks and weeks without ovulating I think it often causes more stress and anxiety than not doing them. So really the best way frankly is to see a specialist and we can do use ultrasound and blood work and we can see if it's been a while since someone has had a period, we bring them in, we do an ultrasound, we do blood work, we see sort of where they are in their cycle hormonally and by ultrasound is it look like even though it's been two months since your last period does it look like they're still in that starting gate or just do they have a follicle growing and we can advise they're more mid-cycle and peri-ovulatory or perhaps we see their progesterone level has risen, it's high which means they've already ovulated this cycle. So will we just advise be a little bit more patient. A period will come within the next couple weeks. So, that is really the most accurate way to get a sense of where someone is in their cycle.

Shweta Mishra: Okay and just as a follow-up what about the other physiological parameters like body temperature and cervical mucus consistency. Do they also differ in a PCOS women compared to the normal women? Is there any study on that or something?

Dr. Ilana Ressler: I'm unaware of study specific to that. However, I will just add that I think the same underlying issue is there that it can be weeks and weeks without seeing these changes and so that can be very discouraging and difficult. So, if someone really is trying to conceive at that point and their cycles are just so irregular or so long I would say don't hesitate to see a specialist because we can alleviate a lot of this stress and make it so much easier.

Shweta Mishra: Right. I have another question on the same lines. I think the person is dealing with consistently elevated LH levels and she's saying I have been trying to conceive for a few months now and when I take my ovulation tests they always seem to be high and I assume this is because my LH levels are always elevated. Does this mean that I am probably never ovulating? How can I get my body to ovulate?

Dr. Ilana Ressler: Yeah, it does not mean that she will never ovulate certainly LH even if higher at a basal level, women with PCOS still will have a higher LH surge and will ovulate but again it goes back to that difficulty in using those kits. I think are not really reliable. So if it's been months of trying, it would say again having a specialist look and follow the cycles and perhaps give a little Letrozoles to get the cycles more regular.

Shweta Mishra: Right and the next one says what are some of the ways to reduce inflammation associated with PCOS?

Dr. Ilana Ressler: Inflammation obviously is pretty broad. It can be due to numerous factors. There's some basic ways to help reduce levels of inflammation through eating certain types of foods, avoiding certain types of foods, exercise, antioxidants or other supplements can help. So there are some basic ways that would say one of the most important parts as I've mentioned to managing PCOS is the food aspect and so we have registered dietitians actually as a part of our practice and all of our PCOS patients meet with the dietitians to help manage this aspect because it is such an important one. So I would encourage all women with PCOS to seek the expertise of someone like that.

Shweta Mishra: Thank you doctor so those were the listeners questions and I think we have a couple more



minutes left, and Lisa would you like to go back and ask your questions if you have any more.

Lisa Rosenthal: Yes, I would and I'm actually going to, these are very specialized questions Dr Ressler so I'm going to apologize but is PCOS genetic? Well, I have to worry about passing this on to a daughter if I have one and I'm going to slip this in here even though it's not there and does that fold into gestational diabetes if you have a daughter so let you make some sense out of that Dr. Ressler please.

Dr. Ilana Ressler: So the answer is, there is a genetic component. It is not as straightforward as other diseases for example, some things such as cystic fibrosis we know that this is inherited in an autosomal recessive manner. So meaning that if someone has one copy of this mutation they are carrier. If they have two copies of that mutation, they have the disease. So PCOS is not inherited in this way. In fact, we don't know the exact pattern of inheritance but it has been linked to certain genes. So it does tend to run in families. I tell my patients there're probably other family members with it whether they know it or not or whether you know it or not. There are likely our other family members with it but just because you have it doesn't mean your mother does have it or that a future daughter would. So, we don't really know the exact again mode of inheritance.

Lisa Rosenthal: And the gestational diabetes part in terms of passing that on to a daughter. Is that more likely?

Dr. Ilana Ressler: If someone has gestational diabetes, is it more likely to pass on PCOS. I don't think we know there are certainly effects of gestational diabetes on a child but I don't think we can prove that having gestational diabetes causes someone to then develop PCOS.

Lisa Rosenthal: My last question is, is there any connection between PCOS and the MTHFR Gene and if so what does it imply?

Dr. Ilana Ressler: I'm not aware of that Association. MTHFR is one of those hot topics or could be a study out there that I haven't read. MTHFR has brought up a lot with infertility, with pregnancy loss but ultimately it has not been established as a cause of either of those. So we don't actually test for this for women with infertility or those who have recurrent pregnancy loss because again that association is not really been proven.

Lisa Rosenthal: Thank you I appreciate it. I know that's a hard question. Thank you for my answering additional questions.

Shweta Mishra: Thank you Lisa. Tatiana would you like to ask the questions before we wrap up?

Tatiana Alafouzo: Sure. Dr. Ressler just a brief overview I was diagnosed with PCOS at the age of 14 so very young, very early. I was very lucky but in this diagnosis I was also very traumatized because I was told that the possibility of having children would be slim to none and I know that I'm not the only person with PCOS who has been told this when diagnosed at no matter what age is it is. So, I guess I just wanted to know what is a better way for a physician's to present the information possible infertility down the line to newly diagnosed PCOS patients especially younger ones without traumatizing them for life.

Dr. Ilana Ressler: Yeah, I'm sorry that was advised to you. I can imagine that would be very upsetting or if not. I've heard some patients say they were told that at the time and it didn't really mean much at the time but as the years passed the like came back to it and it really meant more as they were getting older even and it's unfortunate that's advised. I think the more better way of explaining is that some women with PCOS may have more difficulty having children than others and so I always explain PCOS does not mean that you will have infertility. You may have more difficulty but the good news is, if you do we have very successful ways of helping people have a baby and I also advise young patients PCOS should not be thought of as meaning you cannot conceive but it should not be thought of as a contraceptive. So if you do not want to conceive and you have PCOS you do need to use a reliable method of contraception. So, hopefully that



makes a little bit more sense to young patient that it may come up as an issue, it may not. But if it does again we have very successful treatments.

Tatiana Alafouzo: That's a wonderful way of putting it. Thank you so much and thank you for answering my questions.

Shweta Mishra: Thank you. Thanks Tatiana and Dr. Ressler. This was a great discussion. Lots of questions answered and thank you for finding time to talk to us today doctor and answering our questions. I'm pretty sure it will be helpful for women and girls out there with PCOS. Lisa, Tatiana and Ami thank you so much for co-hosting with me today and guiding the panel with your very relevant questions and Lisa a special thanks to you for introducing me to Dr. Ressler and RMACT team. Folks in the audience thanks for your overwhelming response and your questions. I hope we were able to answer most of them in this discussion and I would like to request you all to visit the website pcostracker.app to check out the free PCOS Tracker app and see if it's helpful to you. It's available on both iOS and Google Play stores. It is a community app and we need all your feedback to make it more efficient. So please send in your feedback to shwetha@trialx.com. Today's talk will be available on Cure Talk's YouTube channels as well as on Cure Talk's website and the link will be shared with all participants. So until next time thank you everyone and have a great day and stay safe.

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