

Talk Link : <https://www.curetalks.com/exercise-and-pcos/>

Exercising with PCOS & The Science Behind How It Helps

Lifestyle modification is a central part of treatment for all manifestations of polycystic ovary syndrome (PCOS). Regular moderate physical activity has been shown to mitigate insulin resistance and increase responsiveness to medications in PCOS patients, aiding better management of associated metabolic and hormonal disturbances. However, it is difficult for many of us to follow an exercise routine and deal with the fatigue that sets in. What are some ways to increase adherence to daily exercise? Can regular exercise help with the dermatological complications of PCOS such as extra hair growth, acne and hair loss as well? To get answers to these questions and understand the science behind how exercise helps with PCOS symptoms, we are talking to Dr Sasha Hakman, a board certified OBGYN with training in Reproductive Endocrinology/Infertility and special interest in fitness and nutrition. Dr Hakman will discuss differences in responsiveness to exercise, if there are any, in pcos vs non-pcos patients, with focus on specific exercises that may help with reducing weight, regularizing periods, improving ovulation/fertility and help with dermatological complications. RSVP to join us and clarify your queries, post your questions below or just listen to the discussion.

Full Transcript:

Shweta Mishra: Hello, everyone. Welcome to this PCOS and exercise session on cure talks. I'm Shweta Mishra and I'm really excited to have Dr. Sasha Hakman with us today who is a PCOS survivor herself and who worked very hard to find the most effective exercise and meal plans to maximize the positive effect of these lifestyle modifications on our bodies, especially when dealing with PCOS. Dr. Hakman is a board-certified OBGYN with training in reproductive endocrinology and infertility with a special interest in Fitness and Nutrition. She's a former water polo player and a former marathoner who made the transition into powerlifting a few years ago. As a fertility doctor and also someone who suffers from PCOS, she helps her patients with resources such as exercise strategies as well to help them make appropriate lifestyle changes. Dr. Hakman will educate us about some of these strategies today and most important of all as the new year is around the corner there is still some motivation and all of us to fulfil some of our fitness resolutions. So, welcome to the cure talks Dr. Hakman. Thank you so much for finding time for educating us.

Dr. Sasha Hakman: Thank you for having me.

Shweta Mishra: Pleasure is all ours doctor and we look forward to learning so much from you today. On the patient panel we have PCOS patient advocate Erika Volk Gilliland to guide the discussion. Welcome to cure talks Erica.

Erika Volk Gilliland: Hi, thank you for having me.

Shweta Mishra: Nice to have you Erica. To the folks in the audience, if you're listening us live on YouTube you can post your questions in the chat window or you can also post them on curetalks.com website or on our show page. So, Dr. Hakman, I will start by sharing with you about the PCOS tracker that we launched last year and the aim with that tracker is that we want to help women to track their daily and monthly PCOS symptoms and get motivated to exercise better and eat better. And we asked this question on the app., do you exercise close to 30 minutes every day and not surprisingly we see that more than 65 % of the women are saying no in answer to this question. So, it is challenging for many of us to follow that hundred and fifty minutes for a week exercise routine and as the famous saying goes if exercise were a pill everyone would want to take it, right. But until that happens, I think motivation to exercise is the only next best thing that can help us. So, I believe understanding the how and why is motivating for many folks. So, would be great if you could start by briefly and in very simple terms explain about the mechanism what happens chemically in our

bodies when we exercise and how does it help improve the body functions in general and make us feel good.

Dr. Sasha Hakman: I mean that's a great question before I kind of delve into the answer of that. I do want to kind of explain the pathogenesis of PCOS very simply and briefly. Of course, we don't really understand or know the cause of PCOS, but we do know that a big problem in women who do suffer from PCOS is insulin resistance and what this means is essentially Insulin is a hormone that helps to bring in glucose into the cell so that we can use glucose which is the end product of carbohydrate for energy. And for women who do have PCOS, the large majority, their insulin doesn't really work quite as well that's termed insulin resistance. So, your blood sugar levels spike up higher than usual than normal and so the pancreas starts to produce more insulin. So, why is this a bad thing? Insulin, kind of serves as a growth hormone and it causes you to gain unwanted weight that can be extremely stubborn and difficult to lose. That weight tends to actually deposit around the abdominal area. So, abdominal fat. That abdominal fat is also hormonally active and produces a lot of estrogen. That estrogen level throws off your hormonal axis between the brain and the ovary to help in developing an egg and releasing it and having a regular menstrual cycle, so that can cause irregular periods and infertility. But in addition, to that a lot of that estrogen gets converted to testosterone as well as its most potent form, which is dihydrotestosterone or DHT and that leads to a lot of the symptoms that we know are very typical of PCOS. The other thing that insulin does is it stimulates the ovary to also produce more Androgen, so your testosterone. And elevated testosterone levels in women causes worsening insulin resistance. The worsening insulin resistance means more insulin which means more testosterone and then it just perpetuates this vicious cycle that causes a progression of your symptoms over the years. So, a lot of women do say that over the years the unwanted hair growth has gotten worse. A lot of their symptoms just progressively gets worse. And this is why. So, what exercise does is by reducing your body fat and increasing your lean mass, which is your muscle mass and know that does it mean bulking or looking masculine, which is incredibly difficult for women to even achieve, that lean mass helps to increase insulin sensitivity so that your body doesn't have to produce quite as much insulin and it also reduces the amount of testosterone. The free testosterone circulating in your body that can act on a cell. Normally testosterone is bound to a protein which is called sex hormone-binding globulin. If you have lower levels of insulin, you have higher levels of this binding protein. That protein binds to testosterone and makes it inactive. So that's ultimately the goal of exercise and the most effective is a combination of cardio and resistance training. So, doing either or is great but doing both combined is really the best.

Shweta Mishra: Yeah, that was going to be my next question. I know you are a proponent of endurance exercises and strength training and specifically weightlifting for PCOS patients. So, if you could elaborate on why endurance exercises and would be helpful, if you could talk a little bit more on specifically what exercises do you recommend for PCOS patients?

Dr. Sasha Hakman: So actually, a lot of the exercises that I promote when it comes to weightlifting are not quite endurance exercises. They're really more focused on just really strength training because a lot of the time if you are focused just on the endurance aspect of it, which is more so your cardio, it makes it a lot more difficult to do something called Progressive overload. And Erica knows everything I'm talking about here. So, essentially what that means is for example, my workouts Monday through Friday are essentially they're different every day, but they're the same week to week. Okay, but say on Monday if I'm doing a barbell squat followed by bench press for example, the following week I'm either increasing the amount of weight that Time lifting or I'm increasing the number of sets or increasing the number of reps. And so that increase is necessary in order for your body to have to know adapt. This is how you grow muscle and I know that a lot of women whenever they hear the words growing muscle, they just freak out and say I don't want to look like that. Like those bulky women and I just laugh and say, even if you tried it's not going to happen. And so, the women who tend to look very muscular and almost masculine they either dope with testosterone supplementation or steroids or over the years they have a coach that helps them with a very specific type of workout that is really intense as well as specific nutrition and it's extremely difficult to achieve. Most people are not doing that anyway and will not achieve that. So, that's just kind of getting a reality check that I always compare I saw this meme once on Instagram and I thought it was the greatest thing. And so, I always reuse it. It's like being afraid to drive a car and becoming a NASCAR racer the same day. It's that's not going to happen. You're delusional if you think that's going to happen. So yeah, I definitely try to promote

that because there's a lot of fear in lifting weights. And then cardio is also important for the weight loss aspect, for endurance, for cardiovascular health long-term. So, this is why that combination is extremely effective since it just even if women do not lose weight, they will see somebody decomposition and so some of that fat being replaced with muscles so to speak. And that'll improve all their metabolic parameters.

Shweta Mishra: And does yoga come under endurance exercises as well. And do you recommend that as well?

Dr. Sasha Hakman: It can be. I think yoga is great. I personally don't do it. I think I should, and I think that anyone who does yoga, I mean absolutely just moving your body can make a huge difference. But based on the signs and evidence that is there, lifting weights is not only incredibly important, it's really truly so effective like nothing compares to it.

Shweta Mishra: Right. I know you're helping many of your patients manage their symptoms of PCOS better with regular exercise of various kinds and you've done it for yourself right? by focusing on strength training like you mentioned. So, could you talk a little bit about what are those symptoms of PCOS that regular exercise can really help with and I'm specifically talking about Dermatological manifestations of PCOS, like acne and extra hair both. Have you noticed some reduction in that as well, with regular exercise? This is the question. I'm pretty sure many women out there want to ask.

Dr. Sasha Hakman: Yeah. Absolutely. I mean I would say as someone with PCOS for me, the Dermatological issues is probably it was always the most distressing for me and for some women lifestyle modification can significantly improve it by reducing their testosterone or their androgen levels because that is the reason you're having these symptoms. If you have abnormally elevated testosterone, you're going to have unwanted hair on your body, you may lose hair on your head. Acne is certainly common. Although the thing with acne, it could be caused by other things in this is we're seeing a dermatologist can come in handy. So, for some women particularly if they are overweight and especially if a lot of that weight deposits in the abdominal area, they tend to get the most benefit in fat loss and in lifestyle changes. But some women it just doesn't work quite as well for them and they still need pharmacotherapy. So, they do need treatment and for example myself, I've modified my lifestyle quite a bit and I've done everything I can from a lifestyle point of view. However, I still don't bleed without hormonal therapy. And so that's something I've had to come to terms with and I personally I'm okay with it because for me birth control pills have actually positively changed my life. But some women it just they can try everything, and they still need medications and that's okay. But it can at least improve it if not, it may not resolve it. It can improve a lot of those symptoms.

Shweta Mishra: Right. Okay, that's helpful.

Erika Volk Gilliland: To follow up with that line of questioning. If someone is interested in using lifestyle modifications to help with her dermatological symptoms, you're saying your correcting the underlying hormonal imbalances through the exercise. So, how long do you think that would take her? What kind of expectation should someone set? Like if they work out for a month and they don't see a change, should they be frustrated?

Dr. Sasha Hakman: Oh, yeah, they need to be very patient because to actually see changes can take years. You can start to see changes in as quick as 12 to 15 weeks. And that's what a lot of the data has shown in scientific literature, but that's also 12 to 15 weeks of consistent exercising and proper nutrition without really skipping it. And I think that's part of the reason why I lose a lot of women to where they say, well this just doesn't work because everyone is looking for a quick fix but there's no such thing. This is why we call it lifestyle modification because it's a way of living, it's not oh I want to do this until this particular milestone. Okay, I want to eat and exercise until I have a baby and then once I have the baby then it's over. Once they've met a particular goal, it's over. Once their acne got better, it's over and then all the problems come back and sometimes they come back a lot worse. And so, I think that just always stressing that this is a lifestyle. This is like if you miss a workout, don't punish yourself. Just do it the next day. Pick up where you left off. It doesn't always happen to be restarting but it does need to be consistent. Otherwise, there will be no significant change.

Shweta Mishra: Let's talk a bit about the weight reduction and that's a big problem for many of us, right weight reduction. And studies have shown that even modest weight reduction helps in increasing the chances of conception for women who are trying to conceive and in general, it increases responsiveness of medications for the body, right? So, in terms of weight reduction, Dr. Hakman does responsiveness of exercise really different women diagnosed with PCOS versus women who are not diagnosed with PCOS and if yes, why and what can women really do about it on their own? What can they do differently?

Dr. Sasha Hakman: So, weight loss can really improve outcomes. We always recommend about five to ten percent of total body weight lost over a period of 6 to 12 months. Number 1 because 5 to 10% of your body weight as a realistic goal and then over a period of 6 to 12 months is a sustainable goal. A lot of women who do fat diets like the keto diet and I'm not knocking the keto diet, it does work for some people who are very consistent. But anyone who tries to do anything rapidly or lose weight rapidly actually tend to have worse symptoms versus just that gradual weight loss where it's just a very mild caloric deficit. Losing weight can be very complicated with PCOS and for some women they'll have tried everything, and it just doesn't seem to work, and I've actually seen cases where they've logged everything in my fitness pal. They've seen nutritionist dieticians and gotten personal trainers and none of the above worked for them at which point I think at that point that the focus had to shift a little bit on just the mindset of, it's okay that you're not losing weight, but your metabolic parameters are looking better, your insulin resistance is improving and there's some change in body composition. So, even though the number on the scale didn't change there's a change in the overall like shape of the patient and the fat distribution. And so, I think that rather than focusing on the specific number, sometimes it can be helpful to just focus on getting your body moving, eating the right things but exercise is super important. But nutrition is equally if not more important in order to help with that weight loss and that is a whole separate talking itself on how to achieve that because a lot of people will reach out to me and say well, what do you eat in a day whatever it is you're eating I want to eat. And I say well we all have different nutritional requirements. And so you can't just look at what someone else is eating but as a rule of thumb if your macronutrient distribution is focused a lot on protein particularly with PCOS that tends to be the most successful and trying to avoid too many animal proteins is best ultimately because a lot of the animals proteins do have saturated fats, especially if you're looking at red meat. And so, a lot of the fats go unaccounted for. So, it is pretty complex trying to figure out everyone's nutritional requirements. And in the clinic I do like to calculate the stuff for patients, but I think that it does get overwhelming for them to see a physician, get the medical information and then have to get the nutritional information all in one visit is a little much. And so, my recommendation is always if you have the resources and you can do it, it's always best to have kind of multidisciplinary care with a nutritionist and if you're able to get into the gym and get a personal trainer that is honestly like the best recipe.

Shweta Mishra: All right. Thank you. That was very helpful. And with that I will now invite Erica to ask her questions. Erica who was diagnosed with PCOS in 2005 is a certified personal trainer herself and precision nutritional level II certified coach who work whose work has been published by a wide variety of PCOS organizations, and she has been a guest presenter as well at many National PCOS symposiums. So, Erica please go ahead ask your questions.

Erika Volk Gilliland: Thank you. So, my first question is following up on just what you said Dr. Hakman about sometimes women work out, they eat right, they don't lose weight, but they still change their PCOS and as a layering person with PCOS like read a few research studies. I've noticed often that a lot of them say all of these results happened independent of weight loss. So, are you saying that sometimes just having these good habits could change your hormones even if you don't lose a whole bunch of weight?

Dr. Sasha Hakman: Totally. Absolutely, I mean there is such thing as even metabolically healthy obese person by definition and we see this all the time where they change their lifestyle. I had one patient where she actually went plant-based and she was primarily just eating a lot of fruits and vegetables and so her caloric intake was very high. So, she never lost any weight. There's start exercising but her diabetes was completely resolved. She had type 2 diabetes completely resolved. Her androgen levels went down to normal. She had huge improvement in their symptoms. And so to me if you're overeating fruits and vegetables, I frankly don't care because obviously, your blood tests are all coming back normal, your HDL which is the good cholesterol is looking great, your LDL, which is the bad cholesterol is looking much better,

has decreased. So, those are things where the it's very encouraging to patients because then they feel like okay, even though I'm not losing weight like I expect it to at least I'm healthier. But it's really interesting because there's a lean PCOS women as well and they have a tendency to think because they're lean they can kind of eat whatever they want, live however, they want and sometimes they have really severe metabolic parameters because of their lifestyle and if you were to compare a lean PCOS woman to a BMI matched woman who does not have PCOS, the one with PCOS has a higher body fat percentage and it's visceral. So, it's kind of coating the organs. It's more dangerous in long-term.

Erika Volk Gilliland: That was going to be my next question. AS someone who's out there in the PCOS world as a personal trainer. I get emails from women with lean PCOS saying well do I need to bother with exercise and diet? I don't have a weight problem. So, what would you say to that type of woman who's questioning and changing our lifestyle because she doesn't need to lose weight?

Dr. Sasha Hakman: I say every single human being on this earth needs to exercise and eat, right. So, it's not necessarily, of course there is forms of exercise for bodybuilding, becoming a bikini competitor or aesthetic purposes, but overall, like exercise is primarily just for overall long-term health. There's so much benefit and even just being strong is having balanced long-term in your older age. You have a tendency to have less Falls less adverse complications from whatever medical conditions you begin to develop, you are less likely to develop those conditions more. So, in those women I tell them if you were to get pregnant, you're less likely by exercising and eating right, too have pregnancy-related complications that are increased in PCOS, like gestational diabetes and gestational hypertension or preeclampsia.

Erika Volk Gilliland: Okay, so that pretty much answers the question. I can write that are not like well, Dr. Hakman said you need to still give this a shot.

Dr. Sasha Hakman: Absolutely.

Erika Volk Gilliland: Because I think it just gets so confusing because people here just lose weight. And if they don't need to do that, then they don't know about all the underlying hormonal benefits that come from just living a lifestyle that is healthy and you mentioned pregnancy and reducing complications. I do have two questions about exercise during pregnancy and fertility treatments. For either one of those stages, do you recommend changing work out routines in a specific way?

Dr. Sasha Hakman: So actually, during pregnancy you really do not need to change anything unless you have any specific contraindications and the American College of Ob-Gyn has published that and so there's something called absolute contraindications or relative contraindications. For the absolute ones, you absolutely can't work out and examples of that would be women who have, and they know who they are. Women who have severe cardiopulmonary disease, they can't do it. If someone has cervical insufficiency where the cervix will not stay closed to keep a pregnancy in place and they have to get stitches to close the cervix. They can't work out. And so those particular women will be notified by their physician. Usually a high-risk specialist as well that they cannot exercise, but for the large majority, whatever your fitness level was before pregnancy continue exactly where you're at. So, in my case if I do powerlift and I were to get pregnant I can just continue doing exactly what I was doing before without it negatively impacting the pregnancy. Now if a woman has never exercised before pregnancy and now wants to start, she's really got to keep it light and take it easy. Pregnancy is not the time to start training for a marathon. For example, bodies just not conditioned to do that, and you don't want to take any sort of blood supply away from the foetus that's developing during that time. But otherwise even the CDC recommendations is a hundred and fifty minutes minimum during pregnancy per week, including a combination of cardio and strength training. Now during fertility treatments, particularly IVF. IVF is where it gets a little bit more complex because during stimulation your ovaries, so anyone who's going through IVF and they're taking high-dose Gonadotropins or injectable medications their ovaries tend to get very large and so any significant movements like jumping around, running on even lifting really heavy weights, that can cause the ovaries to just really move around because they're so heavy and it can twist on itself and cut off the blood supply to that ovary which can result in a surgical emergency. So, during stimulation particularly as you get more into it after say a week of stimulation the ovary starting to get bigger. This is where laying off exercise either completely or just doing

very light movements, going for a walk, doing some light stretches nothing upside down is a recommended at that point and we waiting me maybe a couple weeks after your retrieval so that your ovary shrinks back to normal before you start engaging in any vigorous activity again. Now for those who are going through a frozen embryo transfer, so it's been a while since they did their IVF and their ovaries were not enlarged. You can continue exercising as is during an embryo transfer. There is really no contraindication. There's no data to suggest that exercise reduces outcomes or reduces pregnancies, but there is evidence for the opposite. So, women who lay in bed all day after an embryo transfer have been shown to have lower success.

Erika Volk Gilliland: Okay, so it's basically you don't have to like go into the gym and wonder and worry while you're pregnant that you're doing the right thing because your physician is going to tell you way in advance. There's going to be no surprise if we need to worry about exercise. So, that is something you can talk to your doctor about and they can answer that question for you right away.

Dr. Sasha Hakman: Correct. I also actually have the list of contraindications on my website so I can always share that afterwards for it to be linked on this episode and on YouTube or on the website as well because it's made public by the American College of Ob-Gyn. So, sometimes physicians may not bring it up and if patients forget to ask, it might not be brought up on since there's some serious thing going on. But it's always nice to have that list so you can feel reassured. Okay, I'm not on that list, I can do whatever I want.

Erika Volk Gilliland: Yeah it is you have a lot to be nervous about when you are pregnant especially if you've been in a fertility struggles, it's nice to kind of have those resources. Yeah, absolutely. So, my next question and I hear this all the time kind of floating around social media in the blogosphere is that strength training, we shouldn't do it if you have PCOS because it will raise our testosterone. Is that true?

Dr. Sasha Hakman: That is the complete opposite of true and it's funny because I've actually had some people respond to me on my Instagram about that saying well, I'm shocked that as a fertility specialist who has PCOS that you are lifting all these weights, you have increased cortisol, and now you're increasing your testosterone. When in actuality, it's really the complete opposite. The whole point is that you're actually reducing your free androgens, your increasing your sex hormone-binding globulin the protein that binds testosterone making it inactive. And so even if hypothetically which it doesn't if it were to increase testosterone because you're in increasing that protein it's not active. It can't do anything. So, usually strength training is the most effective way to actually help with symptoms when it comes to any form of exercise.

Erika Volk Gilliland: Okay, see I'm so glad I got a text and I can say with confidence. No, I don't know where that is coming from. Who said it and I get a lot of emails the same thing saying that I am like show me the research? Where is that coming from? I've never seen it.

Dr. Sasha Hakman: There is none. I mean there is a theoretical concern if you're over exercising that you can have increased cortisol levels, which is a stress hormone and so that can worsen symptoms. It's not really an androgen issue. But that's we're talking like significant over-exercising nothing to do with strength training. You can be running a marathon that would go into that category. So, anything just over. The research shows up to 60 minutes per day of intense training being beneficial longer than that we don't really know. But if you're underweight then usually at that point it will tend to impact your fertility in a negative way.

Erika Volk Gilliland: That's what I've read is that 60-minute mark is probably where once you get past that in a day, you are kind of into some grey area. So, you're right you kind of experimenting on yourself and we'll have to see how **the** result goes. And the other thing that I hear a lot about that that I get a lot of questions about is this whole concept of cortisol and PCOS, and it's in exercise causing a spike and it sounds like you're saying that there's no proof that there's a correlation there until you get into this past 60 Minutes?

Dr. Sasha Hakman: Well, it's not really like, oh you hit 60 minutes now, you're increasing your cortisol. It's more an issue of over-exercising, if you're exercising a couple hours a day and being undernourished. So, if you're not getting enough energy through nutrition, then there's nothing wrong with exercising two hours a

day. If you're really meeting the clerk demands that your body is needing but if you're too much of a deficit, this is where those stress hormones like cortisol can start to be released at a higher than normal, right?

Erika Volk Gilliland: Okay. Yeah, as a personal trainer I should say if you are exercising more than two hours a day. Don't go for it alone you need a professional to guide you. Okay, that's really helpful because it's just something I hear frequently is that we have to be so concerned not over-exercising all of this cortisol explosion, and I can't find anything to kind of point to where that that information is coming from.

Dr. Sasha Hakman: Right. No, there's no evidence of that and I always say, it's funny because we as women especially this day in age we fight so much for equality with men and I say, exercise is no different. Why should we have to exercise any differently than men do. Yeah, we're going to look different, men will get bulky because they have significant testosterone and to put into perspective the difference a woman who has PCOS who has higher than normal testosterone versus a man who has a very low normal testosterone will still have five to six fold higher levels than that woman with PCOS. So, it's a huge difference. So, physiologically speaking men are made to build muscle mass, were made to lift heavy as opposed to women, it's more for building lean mass. And so, it's incredibly beneficial. There's so much evidence, so much literature out there that talks about the benefit of it. So, it's not even a grey area. It's not even a controversial thing. It's a known fact.

Shweta Mishra: Right. Thank you, Erica. Thank you, Dr. Hakman. I guess now it's time for some of the listener questions and we have some posted on our website and it's not directly related to exercise per se but it asks about, this is from a 16 year old who says that I don't have my periods and I have this huge dark spot on my neck, and I don't know how to treat it. I've used many creams none of them worked and how can I get rid of this patch? If you can briefly talk about that.

Dr. Sasha Hakman: I mean, it's hard to say without seeing what that dark spot might be. There is something in PCOS and with insulin resistance called Acanthosis nigricans where you can get kind of patchy darkening around the neck, in the underarm, in the groin area, and that's usually an indication that you're developing diabetes and for that you just need to treat the insulin resistance or the possible diabetes in order to kind of reverse these skin changes. But I highly recommend that this person see a dermatologist to try to figure out exactly what's going on and dermatologists are very well versed in these skin changes as well.

Shweta Mishra: Sure. Thank you and the next one kind of wants an answer for how you treat PCOS? Basically, she says that I may have PCOS my doctor says, and I've been hairy, and my periods are off balance. Is there any way to treat those?

Dr. Sasha Hakman: Yeah, absolutely. There are so many treatment options for that. And so, this is where it kind of a discussion of in addition to lifestyle modification I mean she can always try to do that first, but it's incredibly important to ensure that she bleeds every month because no bleeding can result in a significantly increased risk of endometrial cancer. And so, this is where hormonal therapy will be really important to shed the lining use of through birth control pill and it can be combination of estrogen and progesterone or a progesterone only pill that she takes for say 10 days every month. So, there are different options with regards to kind of regulating the period. And, so in addition to the unwanted hair, there's also medical options for that. A lot of the time certain birth control pills can treat many of these problems all at once and usually something like Yasmin which has a type of progesterone called Drospirenone. It's an anti-androgenic progesterone. So, it's super beneficial and so it's kind of a combination of treating all the symptoms either through lifestyle, medications or ideally just lifestyle or both.

Shweta Mishra: Right. Thank you. Yeah, that's very useful. I guess the next one is as a repetition of what we have. So, I'll just move on to the next and it asks whether for diagnosis of PCOS, is ultrasound necessary or just blood test can help?

Dr. Sasha Hakman: The ultrasound is more of an adjunct. So, the thing about PCOS, it's actually a diagnosis of exclusion. And so, you have to just exclude other possible medical problems resulting in the symptoms being reported or the irregular periods like, other hormone abnormalities, like thyroid disease or

high prolactin. Once those things have been ruled out, ultrasound can be very helpful in the diagnosis because women who do have PCOS tend to they don't always but they definitely tend to have thickening of the middle of the ovary, that tissue contains something called theca cells. That's what makes the testosterone and the follicles tend to kind of be in the periphery of the ovary rather than throughout the ovary. So, an ultrasound can be really helpful in seeing that pattern and really kind of confirming the suspected diagnosis.

Shweta Mishra: Sure. Thank you. And Dr. Hakman, before we close the session, I would like you to talk a little bit about how to increase adherence to daily exercise. I know exercise makes us feel good, but let's not shy away from the fact that there are some of the days when we need to drag ourselves to the gym or to run or to swim. So, what can you advise on that?

Dr. Sasha Hakman: Well, I mean, we all feel that way even those of us who do love to exercise. And so, and it's like what Erica and I were talking before, we started saying how that motivation is very fickle and relying on motivation will not get you to the consistency of exercise that you need. You just need to think of exercise and proper nutrition as a necessity. The way that you feel that sleeping is necessary. So is what you eat and so is exercising so, just kind of working with whatever schedule you have. I mean, I'm a physician I never quit exercising throughout residency even working a hundred hours a week. So, if you prioritize it if you make it a necessity, even if it's short home workouts using your bodyweight, doing anything to get your body moving having an a friend who keeps you accountable a workout buddy having a trainer if you're a to afford a personal trainer. I think this is one of the greatest tools because you have an appointment you pay for; you have to go. So, for those who have the resources to do that. I think that taking advantage of that would be ideal and just really prioritizing it because you only have one life, one body. And even long-term you don't want to find yourself debilitated at a relatively younger age because you didn't stay active, you didn't build that strength or that muscular capability or that balance for the future as well.

Shweta Mishra: Right, thank you so much Dr. Hakman. It was wonderful listening to all the information shared by you and we got some good motivation to begin our new year with ...learning about the science behind. It does motivate people. Learning why physical activity is so important, and I'm sure this talk will be very helpful for women of all ages dealing with every kind of manifestation of PCOS and including those who are trying to conceive or planning for an embryo transfer or something. So, thank you very much for finding time to educate us today and folks if you need more information about Dr. Hakman, please go to her website sashahakman.com. And Erica, thank you for joining the panel today and help us guide the discussion with your very relevant questions. And I request everyone in the audience to check out the PCOS tracker please and let us know if any feedback on how we can make it more useful for women and I would really appreciate any feedback on that on that and the talk will be available on curetalks.com as well as on cure talks YouTube channel, so please visit our website curetalks.com for any details on our upcoming talks. So, until next time thank you everyone. Have a great day and stay safe everybody.

Thank you.