

## Managing PCOS Symptoms with Nutrition Modifications & Supplements

Diet and medical nutrition therapy is a crucial part of PCOS management. The Academy of Nutrition and Dietetics' Nutrition Care Manual includes evidence-based medical nutrition therapy guidelines for adolescents and young adults with PCOS which indicates that proper management of macronutrient intake and supplementation of a few micronutrients are helpful in reducing symptoms of PCOS such as bloating, male-pattern baldness, acne, irregular menstruation, hyperandrogenism and more. However, one size does not fit all and personalised nutrition guidance is recommended for all women. What supplements have been shown to regulate periods and improve fertility? Which nutrient reduces excess hair growth and acne? What helps reduce bloating before periods? Does intermittent fasting work? Is low carb better or low fat? What does evidence tell us?

To get answers to these questions and more from the PCOS Tracker community as well as women from the larger community, we seek the expertise of registered dietician Angela Grassi, a PCOS survivor herself who is an internationally known nutrition and health expert on PCOS, author of several books on PCOS and founder of PCOS Nutrition Center. Angela will educate us about the most effective dietary modifications to improve various manifestations of PCOS in different age groups. PCOS patient advocates Ashley Levinson and Lisa Rosenthal will help guide the discussion from the patient panel.

### Full Transcript:

**Shweta Mishra:** Good evening everyone. I'm Shweta Mishra and I welcome you all to this PCOS and nutrition session on Cure Talks in association with PCOS Tracker app, more information about which is available on its website, [pcostracker.app](https://pcostracker.app). Today on this show, we are talking about Managing PCOS Symptoms, specifically using supplements and diet modifications and I'm beyond excited to welcome our eminent guest expert, registered dietitian, **Angela Grassi** who is a PCOS survivor herself and an internationally known PCOS nutrition expert and author of The PCOS workbook. A recipient of numerous awards, Angela is the founder of the PCOS Nutrition Center which provides evidence-based nutrition information and coaching to women with PCOS. Welcome to Cure Talks Angela. It's my pleasure to have you here with us today and thank you for finding time.

**Angela Grassi:** Thank you so much. I'm excited to be here.

**Shweta Mishra:** On the panel to guide the discussion, we have PCOS Patient Advocate, Lisa Rosenthal from Reproductive Medicine Associates of Connecticut. Welcome to the show Lisa. Thank you for joining the panel with me and co-hosting with me today.

**Lisa Rosenthal:** My honour to be here. Thank you.

**Shweta Mishra:** So Angela, we have an overwhelming response for this talk and we have a lot of women in the audience excited to learn about everything about supplements that can help improve the variety of PCOS symptoms that we experience some of which affect our daily lives. So, I'll begin with the most common question coming in from the listeners and that is about irregular periods. We have received several questions asking what are the best supplements for regulating periods, naturally resuming ovulation, and improving fertility?



**Angela Grassi:** So, irregular periods in PCOS are very common and it's mostly due in part to the hormone imbalance. So, people having PCOS tend to have higher levels of insulin, higher levels of testosterone and that affects the other female sex hormones that control our menstrual cycle, like luteinizing hormone and follicle-stimulating hormone. And there's so much we still need to learn about PCOS and menstrual irregularity but one supplement in particular that we find to be very helpful is Inositol. Inositol, both Myo and D-chiro-inositol in a 40 to 1 ratio I find helps the majority of my patients regulate their cycle within three months.

**Shweta Mishra:** Okay.

**Angela Grassi:** Yeah, Inositol is a really good one. Other supplements that can be helpful is vitamin D because vitamin D can help bring down testosterone and it is also a hormone. I'm sure we'll be talking lots about vitamin D and fish oil as well can help regulate menstrual cycles.

**Shweta Mishra:** Okay, so Inositol specifically would you like to recommend a dosage or something like what is the frequency in which it should be taken?

**Angela Grassi:** Sure. So, Inositol there's two main types. Like I mentioned, there's myo-inositol and there's D-Cairo Inositol and according to the research the majority of the research shows that taking 2,000 milligrams of Myo and 50 milligrams of D-Cairo Inositol twice a day, so spread out. So, you take 2,000 of Myo and 50 milligrams of D-Cairo with breakfast. And then again, doing it with dinner, it works best if you spread them out and take them with food. And so, this is the 40:1 ratio that I mentioned.

**Shweta Mishra:** Okay. Alright, thank you for that answer. So based on your experiences, which supplements and diet modifications, if any have you found that are most effective in reducing extra growth hair related to PCOS?

**Angela Grassi:** Yeah, extra hair growth is not fun and is usually related to higher testosterone levels and so supplements that we know can help bring down testosterone is going to be zinc. Zinc can actually inhibit testosterone from converting to its active form DHT. So, zinc starting with maybe, 30 milligrams a day taken with food because it can irritate the stomach and trying that. And what I recommend patients is take a picture like once a month, like at the beginning of the month or certain dates and take a picture of your problem area, whether it's hair loss, or acne, or the extra hair growth and that if you try a supplement may be a month later, take another picture and compare the difference. So, you can see if it's really working, if you need to try a higher dose and certainly working with the professional can really help to guide on the ideal supplement dosage. But starting with about 30 milligrams to zinc can help bring down testosterone. We also know that fish oil or those Omega-3s are great at bringing down testosterone too and that's bringing down inflammation too, so that can be really helpful for extra hair growth. And then, in general for nutrition, we always recommend a nutritious eating plan, so that includes those Omega-3, whether it's from fish and avocado and nuts and seeds. And we also recommend eating high in fibre rich foods, so whole grains, fruits, vegetables, beans all can be good for PCOS.

**Shweta Mishra:** Sure, thank you. So, how does N-Acetylcysteine act to relieve PCOS symptoms? And are there any contraindications that we should be aware of when planning to use the supplement?

**Angela Grassi:** Sure. So, N-Acetylcysteine is also known as NAC. This is an amino acid. It's also an antioxidant and it's really helpful in PCOS. We have some pretty good data on its usage. It has been shown to reduce insulin and cholesterol and help improve egg quality and it's even been compared with Metformin. So, we do have a systematic review looking at randomized controlled trials that compared NAC to Metformin and it performed equally as well for improving insulin. It also brought down cholesterol like Metformin did equally as well if not a little bit better for the N-Acetylcysteine. So, NAC that the average dose that was used in the studies was 1.9 milligrams to 3 grams a day and there are some contraindications with NAC. It shouldn't be taken in people who take blood thinners or certain blood pressure medications. So, it's really important to talk to your doctor first especially if you're taking any of those medications.



**Shweta Mishra:** That is very helpful. Thank you. With that I will now invite Lisa to ask her questions. A brief introduction about Lisa, motivated by her personal infertility journey, Lisa is determined to help others undergoing fertility treatment and she has over 30 years of experience in the fertility field, including her work at the RESOLVE and Reproductive Medicine Associates of Connecticut. She's also a certified grief recovery specialist and teacher and founder of the Fertile Yoga Program designed to support men and women on their quest for their families. Lisa, I invite you to ask your questions, please take over.

**Lisa Rosenthal:** Thank you Shweta. These were questions that I collected from patients, but I can't I go on without asking Angela one question. Metformin can be really as I know because I take it, can be really challenging for your digestive system. It can be very challenging. How does that compare to the NAC?

**Angela Grassi:** Metformin and NAC, so they both perform equally as well for bringing down insulin and glucose and cholesterol. According to the studies that have been compared the two. Now we have a lot more data on Metformin helping PCOS, but as you mentioned, it can be really difficult.

**Lisa Rosenthal:** Does NAC also have some of the side effects that Metformin does, or does it not have those kind of side effects?

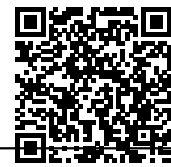
**Angela Grassi:** NAC generally is really well tolerated. It doesn't cause the GI but they do work maybe a little bit differently. So, some people really benefit from both, you can take both together. Some people might find Metformin more helpful depending how insulin resistant they are.

**Lisa Rosenthal:** Excellent. Thank you so Much. So, one of the questions that I got was, how can I tell if my feelings of depression are due to PCOS? And if they are, what are the best supplements to take for it?

**Angela Grassi:** Yeah, there are emerging research that shows anxiety and depression are pretty prevalent in the PCOS population. And the new evidence-based guidelines actually recommend that we screen all patients for PCOS for depression and anxiety, as well as eating disorders. So, that's how important it is, and we don't know if it's PCOS related. But, certainly living with PCOS, I have PCOS, is very difficult. There's a lot of challenges that may be someone who doesn't have PCOS doesn't have to experience. So, we don't know if it's necessarily related to PCOS or is it because of other factors. But regardless, if you feel like you do have depression, there are some supplements that can help. Magnesium can be really helpful, especially if you have the anxiety part of the mental health as well. We see fish oil can actually help improve some depression symptoms and vitamin D. So, vitamin D is a vitamin, it's also a hormone and it has been shown to play a role in mood and if you think of some people who get that sad, the seasonal affective disorder in the winter because they're not out in the sun, they get more down and perhaps some people like me, I'm happier when it's nice and out and they could be related to the vitamin D. So that's definitely one. But, we actually myself and a psychologist Dr. Stephene \_\_\_\_, we actually wrote a workbook, a PCOS workbook- Your guide to complete physical and emotional health and we have a whole chapter on mood in recognising the depressive symptoms, anxiety symptoms, and some coping skills. So, that actually has been proven to reduce anxiety and depression in PCOS. There's a published case study on it but regardless, if you do find that you're struggling with depression, I would certainly encourage you to reach out for help with a mental health expert. And so many professionals now are doing sessions over Zoom, Telehealth sessions. So, it's really beneficial. I know some people are like, oh therapy it's not for me but it can be really beneficial maybe just a few sessions even to try it out.

**Lisa Rosenthal:** I love that. That's really great suggestions. Thank you. Another patient wrote to me and I quote, I can't afford the kind of health care that I need for PCOS. Everything's out of pocket. What do I do including the supplements because there are not medication, no insurance covers them? And she writes help with an exclamation point.

**Angela Grassi:** I know, and really good quality supplements are expensive, insurance doesn't really cover them. If somebody has a flex savings account or health savings account, you can actually use that money for supplements as well as nutrition counselling with the dietician. So, maybe some listeners didn't know that,



but if you have a health savings plan, you can use that money. And there's so many different supplements and we're going to talk more about the different types of supplements. But not everybody needs every supplement. It really depends on maybe some key ones if you're trying to get pregnant Inositol are a really great one to spend the money on. If you're low in vitamin D, you can actually get a prescription for that. You can ask your doctor and insurance will cover vitamin D, if you're low. Other ways, I mean, for fish oil, you can always really increase your intake of Omega-3 so eating fish, eating seafood, eating avocados, avocado oil, nuts and seeds. These are all great forms of Omega-3, so you get through food.

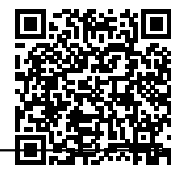
**Lisa Rosenthal:** Well, I'm glad I'm here because I'm learning so much already. Thank you. So, another one of our patients said, one expert says to take one thing, another says something entirely different. How do I know who to trust?

**Angela Grassi:** Yeah and that's something that really bothers me and one of the reasons I founded the PCOS Nutrition Center was to provide evidence-based information to people with PCOS. And I'm not just going to give you my opinion. I'm going to tell you what that research is showing. I'm not going to tell you what supplements working for me but what the research shows and what range is, and I think it's important to look at that. I think there's a lot of experts out there that have PCOS and because something works for them a certain tea, a certain vitamin, a certain elimination of a food group that's how everybody with PCOS should eat. And we do know there's at least four different phenotypes of PCOS. So, everybody is different and it's important to individualize recommendations. There's not a one-size-fits-all for every single person with PCOS. What you need Lisa is probably different from what I need. So, it's really important that we look at what the evidence is that's being presented. That we be objective when we see some evidence out there, who is this person giving information. I would be weary anyone recommending one certain product if it's elimination of a complete food group and those kinds of recommendations. And certainly, looking at their credentials too, are they qualified, are they registered dietitians, do they have experience treating PCOS.

**Lisa Rosenthal:** Excellent. Thank you so much again, so helpful and it's nice to hear that just by getting a prescription for vitamin D that can make a difference for people. So, this was a very specific question. I hope I pronounce it correctly; a friend and patient had a question about berberine and what she said was, I've always researched different supplements to see what could help with PCOS and my struggles with it. And I recently, I heard about this, is it something that might be considered more reliable and effective than Metformin?

**Angela Grassi:** Right. So, here's a situation where you hear something on the Internet, and you pronounced it correctly, its berberine. Berberine is a Chinese herb and it is shown to be useful for decades for helping people with Type-II Diabetes. Berberine is pretty potent. I kind of compare it to Metformin, although it doesn't have the side effects of Metformin. Berberine works to improve insulin sensitivity. That's one of the big benefits of it. It can help bring down, insulin, it's great for lowering cholesterol. If you have high cholesterol or improving fatty liver, which is pretty common in PCOS, as well. There has been a study that compared Berberine and Metformin, and they also looked at it versus a placebo too, and the Berberine group actually improved insulin, just as well as Metformin. It also reduce glucose, it improved testosterone a little bit, but I think it was only a three-month study and this is part of the problem with PCOS is we don't have long-term studies, we don't have a lot of funding for PCOS. \_\_\_\_\_ a lot of very very little compared to other even female conditions for PCOS research and if we don't have enough funding the researchers can't do really good study. But I can tell you, some people find berberine to be very helpful and you can take it with Metformin, of course, talk to your doctor if you're going to use any supplement or some people that just can't tolerate Metformin and aren't taking Metformin they can try perhaps Berberine as an alternative.

**Lisa Rosenthal:** Wonderful. I was wondering how that was going to go. Can you help us understand briefly how better to read and understand nutrition labels or packaging of supplements? Like for instance if I go to the health food store and I look, and I see 3 supplements and they all say the same thing. Vitamin D for instance, what makes one better, because the FDA does not approve any of them, doesn't look at any of them. Correct? So, how can I tell the difference?



**Angela Grassi:** Right. So, you bring up an excellent point Lisa that everyone should be aware of is that the FDA doesn't regulate supplements, like \_\_\_ drugs, like we even saw for the Covid vaccine. They do all this testing first and show the evidence before they allowed the U.S. to use it. Supplements don't have to go through that. You can literally put something in a bottle and put it on the store shelves or sell it on the internet. So, what happens, it's very scary. And what we hear is some supplements don't have what it says on the label. We've heard of cases where they found like broken glass in the bottle or paper clips or just all kinds of stuff. So, it's really important to ideally look to see if the product has been third-party tested. So, that means an independent lab, it's sent to an independent lab and they analyse it to see if it's got what's in it and then some companies like the PCOS Nutrition Center that I run need to go an extra step. We get it certified. So, there's two main organisations, there's NSF and there's USP and you can have this like another independent lab and they do more thorough testing for purity and accuracy and they have a whole database once they approve a supplement that you can look it up. So, looking for those are really important. Those symbols will be on the label if it has USP or NSF certified.

**Lisa Rosenthal:** That is so helpful, that really is. I'm so delighted to hear that. So, now is my opportunity to just talk a little bit about Madison who was diagnosed with PCOS in 2019, after years of ignoring her symptoms, been there, done that. She started experiencing severe mood swings in 2014 and started gradually noticing other challenging symptoms common to PCOS like extra hair, acne, weight gain, depressions and irregular periods. She's grateful that she was diagnosed, and she looks forward to making necessary life changes and her questions are what are natural ways to lower testosterone? That was her first question.

**Angela Grassi:** So different forms, it depends on how high it is. But zinc again, really good at bringing down testosterone because it inhibits testosterone from converting to its active form. Also looking at, Inositol, they can help bring down testosterone. We see vitamin D can help with testosterone lowering. And we also see that Omega 3s or fish oil really helpful to do that too.

**Lisa Rosenthal:** It's wonderful that those things are helping on multiple levels, that's wonderful. So, she currently reports that she's taking Ovasitol. And she asks, have you heard of it? Which clearly you have and what are your thoughts on it?

**Angela Grassi:** Yeah. So, Ovasitol is actually in an Inositol supplement that has that 40 to 1 ratio of myo to D-Cairo that I talked about at the beginning, and it's a powder, which I really like and just for \_\_\_ we do sell Ovasitol at the PCOS Nutrition Center. Ovasitol is NSF certified, so it's been taking that extra step. You know what's in it is pure Inositol and it's nice being in a powder form that tasteless powder. I take it myself and it's nice because so many people having PCOS are taking handfuls of supplements and medications and one less thing to swallow down with the pill is kind of nice. Yeah.

**Lisa Rosenthal:** So, do you put it in like a glass of water or cup of tea or something? Is that what you do with it?

**Angela Grassi:** Yeah, you can put Ovasitol in cold liquids, you can put it in warm coffee, anything except maybe alcohol or maybe carbonated beverages because it might fizz, but I love it in just water and it's pretty tasteless or unsweetened iced tea.

**Lisa Rosenthal:** Excellent. What is the main challenge you find that women with PCOS face? And that's a big broad question.

**Angela Grassi:** I would say the number one is struggles with their weights, that they've gained weight uncontrollably, and then they go to the doctor and the doctor just tells them just lose weight and do a crazy diet to do so. And it's really frustrating, and to hear that advice.

**Lisa Rosenthal:** Yeah, there's nothing less helpful honestly than the doctors say, well, eat less and exercise more. What does that actually do to somebody who has insulin resistance with PCOS? If that was



the advice, they followed. I mean my follow-up question is and I hope it's okay Shweta is some of them advice actually the opposite of helpful. Does it exacerbate some of the problems that we have with PCOS?

**Angela Grassi:** Very true. And again, we don't have a lot of long-term data at all about different diets for PCOS. We really don't, the longest nutrition study we have was a year and it involved a low GI diet approach and it did improve insulin sensitivity, even without much weight loss. We know that nutrition changes like improving the quality, the nutrition quality of what you eat, can help improve your insulin that taking certain supplements like Inositol or the NAC that we talked about or Berberine can actually help bring down insulin too. What's really problematic is doctors are taught do no harm. And we talked about the higher prevalence of depression and anxiety and eating disorders in PCOS. So, if a doctor or health care, professional says do this one diet, especially if it's very restrictive like a keto diet and \_\_\_ style diet or something like that or even gluten-free diets, it's very difficult to follow. Somebody might start doing it, see some results as far as weight loss and it's very hard to follow long-term. So, oftentimes it's not uncommon for people to start bingeing and engage in binge eating and that's how we see eating disorders develop and that's going to worsen insulin resistance in the long run as well as mental health.

**Lisa Rosenthal:** Thank you. It's very frustrating, but the doctors don't seem to know. Some doctors do but it's the lack of information is challenging. So, Madison's last Question is great, which are what are the main foods you would incorporate into a PCOS friendly diet? And I would even go further to say like, do you have like, I know there's no magic foods, but your favourite foods things that you really like something in PCOS eating?

**Angela Grassi:** Sure. So, we know that food can help kill PCOS, I shouldn't say totally heal it. But you can improve your labs, you can get your labs at normal ranges, you can get your cycle regulated and good nutrition can help with that. And that really comes down the antioxidants. That is what we get from fruits and vegetables, the whole grains, things like the Omega-3 that we talked about. Fish is great for PCOS and seafood. We see that incorporating other omega-3 like olive oil and avocados, lots of prebiotics like onions and garlic are really good for us. So, it's really some people say like the Mediterranean approach is they eat a lot of Omega-3s and fruits and vegetables, if that's really great for improving insulin resistance and helping to improve fertility.

**Lisa Rosenthal:** So, I have one more question Shweta.

**Shweta Mishra:** Sure.

**Lisa Rosenthal:** Thank you, you're being very kind. How important is it to have organic foods?

**Angela Grassi:** So, according to a large research study, we have seen one it comes Organic foods to Conventional Foods as far as fertility and we find that they are the same nutrient bias like an organic apple is the same nutrients as a non organic apple but we did see from this one study that fertility was better in the organic.

**Lisa Rosenthal:** Excellent. Thank you.

**Shweta Mishra:** Alright. Thank you, Lisa great questions. Lot of information Angela, thanks. I think while we are talking about food right, so we should take up some questions that came in from our listeners related to food. So, we have a couple of questions on gluten and dairy. So, one of them asks is fasting or going gluten or dairy free good for PCOS and the other one again, asks about Dairy is that what are your suggestions on dairy consumption?

**Angela Grassi:** Sure. So, I think one of the most confusing recommendations out there is gluten-free diets for PCOS. I don't know where they came from. We don't have a single study that has looked at gluten-free diets in PCOS. I'm not going to say that that doesn't work because for some people, they feel a lot better if they cut out gluten and those are going to be people that maybe have an intolerance or sensitivity or maybe



have celiac disease, which is an autoimmune condition.

**Shweta Mishra:** Which is not diagnosed, right? They may have an undiagnosed condition which they are not aware of.

**Angela Grassi:** Exactly. So, when they cut off gluten, they are going to feel better, right. Their inflammatory markers are going to come down like they can lose weight in an easier way. I would say the majority of people aren't going to respond that way with PCOS \_\_\_\_\_. Gluten-free diets are very difficult to follow. They're usually lacking in a lot of vitamins and minerals and fibre. So, I usually don't recommend them unless I'm working with a client and we are seeing some digestive issues. They also have to consider that people that have irritable bowel syndrome might have more trouble digesting gluten. Gluten is what we call a \_\_\_\_ food, which is an acronym for food center. Basically, it difficult for some people to digest. So again, maybe somebody has IBS and they cut back on gluten and one of those foods tends to be something that would be difficult for them to digest, and they're going to feel better, and the bloating is going to be down. But there's no evidence and it's really frustrating that even some experts are recommending gluten-free diets because I think it's unethical, I think it's irresponsible to say everybody needs to eat gluten free. As far as fasting, the data is pretty limited on that and there's different forms of fasting. I would never recommend going days on end without eating. Some people find that if they stop eating after dinner and they don't eat till breakfast, that's actually considered a fast. So, somebody stopped eating at six o'clock at night and they don't eat until 6 a.m. That's a 12 hour fast technically. I always work with my clients to listen to their bodies if they're hungry and it's the evening they might need to eat. And to experiment if they're not hungry what that's like for them in the morning if they don't eat late at night, how that impacts their hunger levels, or how they sleep even. And as far as dairy, that's another controversial topic with PCOS. It has lot of controversy; we hardly have any studies on PCOS and dairy. We do have a couple studies that show that Dairy but in particular fat-free milk and fat-free yogurt, can contribute to acne production and can increase testosterone and can increase insulin. Fat-free milk and yogurt when you take the fat out of milk you change the hormone composition of it. So, normally milk has fat in it. So, when you make it fat free you are taking the fat out, then you're left with higher androgens in the milk and that can actually increase your blood androgen levels in your insulin and contribute to acne. We didn't see it so much with full-fat dairy, didn't seem to do it as much and we didn't see it with cheese. And cheese has actually considered a low glycaemic index food because it has protein in it, and it doesn't really have carbs. So, I think we need to look at it in context. I think we have to individualize it. If somebody is struggling with acne, they might want to play around with either switching to full fat dairy or cutting out milk, and yogurt and seeing how their acne is and taking it from there.

**Shweta Mishra:** Right. Yeah, that's helpful. So, we have one question asking should typical PCOS and lean PCOS be treated the same? Angela.

**Angela Grassi:** Good question. So, when we refer to lean PCOS, we're talking about thin women with PCOS, and again everybody's going to be different and have different recommendations that someone struggling with infertility the guidelines are still going to be the same vitamin D, can still really help with fertility, low glycaemic index foods, regardless are going to help. We're still seeing that no matter what your weight is that you still have an insulin issue and we do see that in the data when we compare women with PCOS to women without PCOS, all different ranges of weights, we do see that even lean women with PCOS, have higher insulin levels and higher inflammatory markers than somebody without PCOS. So, the same recommendations pretty much do apply focus on antioxidants, getting in Omega-3s, getting in fibre, the vitamin D can be really helpful, and inositol can be really helpful too.

**Shweta Mishra:** Right. Okay. Thank you. I think one of the symptoms that we have not discussed so far is acne, right? And we have a couple of questions, a few questions on hormonal acne. So, how to regulate periods naturally as well as hormone leptin? So, if you can answer that?

**Angela Grassi:** Sure. So, inositol is great for helping to regulate periods. Like, the Ovasital that we talked about and I'd say, 90% of my patients can get their cycle back in three months from taking it regularly. It's that good. It's hard to believe, but it's that good because we see that people with PCOS tend to have a



defect in their ability to use inositol. So, when you correct for that defect, it works the way it should. And we know that inositol plays a role in ovulation and egg quality and menstrual irregularity, but as far as the acne we do see the inositol can actually help with acne and since it has been studied in that aspect. Again, the dairy so experimenting with cutting back on Dairy or switching to full fat and just have a couple servings a day of that or less and zinc because zinc can help to decrease the testosterone. And if somebody is really struggling and they're not trying to get pregnant, there are some medications that can help too to bring down testosterone levels and improve acne.

**Shweta Mishra:** Sure. Thank you. So, I have another question on depression on what Lisa was talking about. And the person says I suffer from Hashimoto's and PCOS and I have also suffered from eating disorders. I feel like everyone is telling me to remove many foods from my diet and manage the two conditions, but this is affecting my already low mood and mental health. How to navigate this?

**Angela Grassi:** Yeah, and that's the frustrating thing is this listener has both the Hashimoto's and an eating disorder. Both are really common in PCOS and the reason I wrote the PCOS workbook is to take a non diet approach to treating PCOS. And when you take the dieting out of the equation you are focusing on sustainable lifestyle changes. So things that you can focus on is listening to what your body needs, listening to your hunger levels, listening to your fullness levels, listening to what combinations of food seem to satisfy you and energize you versus what types of combinations of food tend to drag you down and not making you feeling good or leave you feeling hungrier. The other aspect that we take in the consumers workbook is to focus on other things other than nutrition which includes sleep because sleep really affects mood and in fact, insulin levels we know stress management is so important for general health and well-being and can affect insulin too because the stress hormone cortisol really can worsen insulin. So, working on stress and exercise can be really helpful in improving insulin and hormones and mood and fertility too.

**Shweta Mishra:** Absolutely. Okay, thank you. Yeah, we have at least three to four questions that we need to answer. So, I'll read am just a long one, but the person says much content published on PCOS is focused on regulating cycles and managing fertility. I am now perimenopausal and past those information leads, now craving for information about how PCOS changes as we age. The strategies that help me lose weight and manage symptoms during childbearing years are no longer working for me. What are some of the challenges PCOS can cause in our mature years and can PCOS disappear with menopause?

**Angela Grassi:** These are great questions and we actually have some really good research now that, before PCOS is always looked at as a reproductive condition that affected people at childbearing ages and now we're noticing those people that were studied maybe 20 years ago, they're following up on and studying them now. So, older people have PCOS, what we're finding is that, PCOS does not disappear. Yeah, if anything hormones, so eventually Androgen levels do come down, right. Women tend to go through menopause, with menopause androgen levels come down. It takes a little bit longer for those Androgen levels to come down and someone that doesn't have PCOS, but they eventually do come down to normal ranges. But what we are also finding is that women with PCOS tend to reach menopause two years later than somebody without PCOS. So, they're finding a later menopause because of the hormone imbalance and they're also finding that insulin resistance continues into older ages, and that can actually increase the risk for type 2 diabetes. So, we almost need more aggressive treatment. Some women might not even be diagnosed until later on in life, even after they have children. Yeah, so you wait your whole life reason not knowing that you have this until later and a lot of people might have higher glucose levels higher cholesterol because of it. I mean this should be diagnosed in adolescence and the right treatments and supplements need to be started early to prevent it from getting worse. Knowledge really is power, but we are finding PCOS does persist post menopause and that the insulin resistance, the metabolic aspects can get worse if it's not managed. It doesn't mean everyone's going to get type 2, diabetes or get high cholesterol or fatty liver, but it just means to be aware of it and maybe a little bit more aggressive treatment as necessary.

**Shweta Mishra:** Absolutely, totally agree. So, Angela, we talked about extra hair growth, right, but we have a question about how to manage hair loss. And the person says I have lost at least 25% of my hair in the last two years, I already am on Metformin and Spironolactone. How can I counter these issues?





**Angela Grassi:** Right, so Metformin can actually help a little bit to bring down testosterone. Spironolactone is a very weak antihypertensive medication, its blood pressure lowering medication, very weak one that can actually help bring down testosterone. You can't get pregnant on it, does cause some birth defects. So, it's not if you're trying to get pregnant or you need to be careful with that, but it does work. It takes a good three months to kick in generally to minimize hair loss. And I'm wondering if the listeners just not taking enough of that, because you can go up in the dosage if you can talk to your doctor about doing that. But as far as natural treatment, zinc would be another really good one to try. We also see that \_\_\_\_\_ does have some research and helping the slow hair loss. Omega-3s are really good for that and there's even some procedures, there's one called PLP that they actually do some injections into the scalp to help regrow hair growth. So, a lot of advancements with that.

**Shweta Mishra:** Okay, thank you. One last listener question and then I have one of my own and then we can wind up this talk. So, the person asks how to regulate heavy long periods? A lot of PCOS advice is geared towards people with no periods.

**Angela Grassi:** So, some people with PCOS, a small percentage getting monthly periods and sometimes they can be really happy and associated with blood clots. Some people can even become anaemic from the heavy blood flow. So, it's important to look at iron levels. Sometimes what's causing the heavy periods can be low progesterone, so you can actually talk to your doctor about supplementing some progesterone at least like the weak leading into your cycle. Other sides of the low progesterone could be like, sore breasts, like tenderness and headaches, mood swings, the PMS or the PMDD is usually aggravated by low progesterone. Trouble sleeping, that's another big one associated with low progesterone and some people really find that Inositol can help lighten up their periods a little bit too.

**Shweta Mishra:** Sure, okay, thank you. Thank you, Angela. So, you mentioned about contraindications about I think Spironolactone, what supplements are contraindicated in women with PCOS who are actually planning pregnancy or are already pregnant?

**Angela Grassi:** Right. So, of the ones that we talked about today, I would say Gnostic Berberine just because we don't have enough evidence. The evidence that has been out there has shown that at this stage if someone is trying to get pregnant, they're taking, and I would just recommend stopping it. But we don't have enough information about how it affects pregnancy. NAC is kind of controversial if you still need it, it's a lot of people are taking it to get pregnant but those are the big ones. I always recommend a prenatal vitamin if someone is trying to get pregnant or is pregnant and we even see that vitamin D levels as well as omega-3 levels are depleted by the end of pregnancy. So, it might be a good idea to still supplement with those two.

**Shweta Mishra:** Right. Thank you, Angela. And I know you mentioned Inositol, Magnesium, zinc, vitamin D and Omega 3s right, I'm wondering if there is a one pill, which is called a PCOS pill, that is available out there for women to take, because these are so many minerals and vitamins to take right?

**Angela Grassi:** There is, and you know what I did formulate a PCOS multi it is called. It's a multivitamin, and it has extra zinc in it.

**Shweta Mishra:** Okay. So, there is already one.

**Angela Grassi:** It has Vitamin D, it has magnesium, it doesn't have fish oil so you could take it separately or you can eat more fish. But it also has extra B12 in it and one thing we didn't talk about is that people who take oral contraceptives and \_\_\_ medication and Metformin, Metformin is a big one it actually depletes levels of B12. So, anyone taking Metformin really have their levels of B12 checked or blood test drawn every year to see what their levels are because deficiency of B12 can actually cause some pretty serious permanent damage to nerves and can affect mood, too.

**Shweta Mishra:** That's right. Yeah. All right. Thank you. Thank you, Angela. One hour is clearly not enough



for answering all the questions that we may have about nutritional management of condition that is still taking time for even doctors to understand, right? But I hope we were able to touch upon most of the questions that were asked. And thank you so much for finding time to help with all these answers and I look forward to organizing more such sessions with you that will be helpful for the PCOS community and folks who want to reach out to Angela you can go on her website [pcosnutrition.com](http://pcosnutrition.com). And Lisa, thank you so much for co-hosting with me today and guiding the panel with your very insightful questions. Mary thanks for sending in your questions and audience thanks for your overwhelming response and your great questions. I would like to request you all to visit the website [pcostracker.app](http://pcostracker.app) and check out the free PCOS Tracker app to see if it's helpful for you to share your daily and monthly PCOS symptoms and please share your feedback. It is available on both iOS and Google's stores for free and we are definitely working to make your tracking experience better and your feedbacks will only help us make it more efficient. So, send your feedbacks to [shweta@trialx.com](mailto:shweta@trialx.com). And the link for today's show will be sent via email to all the participants. So, until next time, thank you everyone have a great day and stay safe.

Thank you.

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