## Introduction and Dr. Troliceu2019s Background

Welcome to the PCOS SOS summit I'm your host Dr. Felice Gersh with me for this episode is my friend and very esteemed professor of medicine, Dr. Mark Trolice He is the founder and director of the IVF Center in Orlando, Florida.

Welcome, Mark. I'm so thrilled to have you join me. I can't wait to hear all you have to say for this episode, because as we all know, PCOS is the number one cause of female infertility.

And so many of them do have to resort to advanced reproductive technology, which you excel in. So tell us about yourself, how you became involved in this field.

And then we're going to do a deep dove into the reproductive issues and how every woman with PCOS can optimize her chances of having a successful pregnancy and of course conceive when she wishes.

So give us an idea of how you got into this field. Thanks for it's wonderful to be with you and to see you again. It's been too long. So thank you so much for the honor of the invitation.

PCOS, as you eloquently described, is is a devastating problem for women. And I was attracted to that probably 15 to 20 years ago when I saw the impact that this has.

They suffer from a feeling of being out of control. Their friends are having regular periods. They have irregularity in general. And then there's the weight challenges, the metabolic problems.

And of course, near and dear to my heart is the infertility aspect. And we say, gosh, more than ten new patients a week with PCOS. So as I developed with this field research, I started writing more about it and met with the wonderful PCOS challenge people's reality and William Patterson.

And that's how you and I got together by knowing each other at these conferences. And it's a it's a it's a niche. It's a it's a family of people that are dedicated to helping PCOS women.

And when you go to these conferences that are involving patients, you really it really touches your heart because they tell you firsthand their story.

And then you get involved in the energy and excess PCOS society and the and you develop and you continue to learn your PCOS. So much is written on that because so much we don't know about it.

PCOS is probably not the right title for the syndrome because the ovary, as you know, is a victim is not really the cause of this issue. But we can talk about the the metabolic disturbances of PCOS, but I love the field.

I love learning more and more about it and I wish we could do more for patients, but it's a challenging, challenging disease, which. And it is a disease. Well, it certainly is.

And it is like an epidemic proportions now. It is growing by leaps and bounds. And maybe you could tell our audience, like, what is it that's going on in women as as a general rule who have PCOS that prevent eating them from easily getting pregnant?

Why are they not obviously eating what's going on in them? Absolutely perfect question. 8 to 13%, it's estimated that women have PCOS. But I've seen studies of these that show up to 20%.

I mean, think about one in five women with PCOS. It's not clear how it starts. It's probably in utero when when the

woman was was a baby inside mom and a fetus inside mom, some exposure to either androgens, which are the male hormones or amh anti-malarial hormone seems to be the predisposing factor.

Now there's the blocker hypothesis of a stress on on the fetus inside mom and that can cause some metabolic changes thereafter.

## Why PCOS Causes Infertility

As far as why women don't ovulate. It's really a disconnect. I mean, you know, the major access as the health care providers that are that are viewing us, the major access reproductively is the hypothalamic pituitary ovarian axis.

And that all needs to be synchronized to be able to have a menstrual cycle. You know, the menstrual cycle is really a measure of a woman's reproductive health.

And when that's a disturbed wants, something's wrong that needs to be looked at further. So with PCOS, is that really the pituitary and the ovary are not communicating?

There is a hypersensitivity of LH which is from the pituitary to the ovary, so LH and combined with insulin stimulates the ovary to produce a little bit too much male hormone.

And that male hormone works in the microenvironment around the old way to block ovulation. You know typically for the for the patients are on on listening the ovary is stimulated by the pituitary with these hormones.

FSA agent LH So obviously in the top, top center, the hypothalamus is producing what's called G and RH and there is that hypersensitivity of LH to generate that then is increased and the increase of LH causes the increase of male hormone.

Now interestingly and women trying to conceive with PCOS and infertility patients who's using an over-the-counter operation predictor kit is testing their urine for when they're going to operate and when they're going to hibernate.

There's a surge of the pituitary. LH Well, in PCOS that LH is a little bit higher, so they get false positive levels of elevations in ls that they think they're operating, but they're really not.

So the lack of population really has reverb of, of, of other effects, like increasing estrogen, not really increasing it, but too much exposure to estrogen without the protection of an operating hormone called progesterone.

Okay. So with too much estrogen, the lining of the uterus gets built up. It's not that the antigen levels high is that is continually bombarding the lining of the uterus, which it's supposed to do, but a normal cycling woman should be getting progesterone every month preparing for pregnancy.

And if you're not pregnant, those hormones go down and you have a period. Well, I tell my patients, think about when you put a hose in a pool and forget to turn the hose off, the pool overflows.

Well, the bleeding from PCOS is overflow bleeding from estrogen and that the estrogen unopposed without progesterone increases pre-cancer is risk. And these patients with with too much estrogen and not enough progesterone, they have a 2.7 times higher risk of endometrial cancer, which is the lining of the uterus.

So these patients are at risk of reproductive problems that remember I talked earlier about a little bit of too much male hormone. Well, that causes the hair growth.

Right. And cosmetically disturbing and psychologically disturbing in the male pattern areas. They could have hair loss, they could have upper lip, chin sideburns, neck, chest around the breast, lower belly, lower back, upper inner thigh.

These are coarse hairs, not the normal soft hairs called Bella's hairs, but these are terminal hairs. And what women

have to realize is that you're not growing new hair, the elevated male hormone, to start strong is getting converted in the body with an enzyme five alpha reductase to Dihydrotestosterone or DHT.

Okay, so DHT stimulates the hair follicle in the dermal really to turn dark. So they're not growing new hairs. Everybody is born with the same number of hair follicles.

Okay. But in the male pattern areas, these this DHT turns that hair dark once it gets turned dark for these, it doesn't go back. The only way to get rid of that is electrolysis or laser.

But I encourage women not to go to these centers to get these hairy removed unless you stop that conversion. And the way you stop the conversion is birth control pills or five alpha reductase inhibitors like finasteride.

We got a lack ton also will work. We got to stop the conversion and then you can go to get the electrolysis or razor. Otherwise you'll be in and out of the office all the time getting the hair removed because you're not stopping the conversion.

Okay, so that's the reproductive issues now, but the metabolic issues, well, there's a syndrome called the metabolic syndrome. And PCOS women are 2 to 4 times higher risk of having that problem.

What's the metabolic syndrome? What's the collection of five diseases that hang around together? And if you have three out of the five, you have the metabolic syndrome.

So what is it? Well, abnormally low HDL cholesterol, which is the good cholesterol. Okay. Less than 50 elevated triglycerides, more than 150 elevated blood pressure, really.

But, you know, about 120 over 80 is considered pre hypertensive, 130 or maybe five or so you get into it. Then you also have diabetes and, you know, elevated blood sugar as well as waist circumference, more than 35 inches for women.

So three out of those five are going to get the metabolic syndrome. They also have sleep apnea issues, particularly the ones that are overweight. They have anxiety, fatigue and depression, something about being overweight.

It is a misconception that PCOS women, you have to be overweight to have PCOS when really the obesity of PCOS matches the general population of obesity.

It's not higher. It's about half of the patients with PCOS are overweight and then they have a thin. Now it is important to know that patients with PCOS have a lower risk.

A lower chance of losing weight, in other words, is more challenging. That means they can't, but it just is more difficult to do that, presumably because of the metabolic disturbances.

But they can and it's important that they do because being overweight not only worsens all these metabolic issues, but it also unfortunately challenges fertility more.

So that's a lot of stuff on PCOS. It it is.

## PCOS Symptoms and Health Risks

And you have to really look at the total status, the health status, metabolic emotional, you know, every single aspect of a woman when she comes in to see you, which is really so important because it sounds like you can't just see a woman who says, you know, I've been trying to get pregnant for two years.

I have periods that who knows what they are like you said, this doesn't when they believe that doesn't mean they populated. It's just, you know, dysfunctional uterine bleeding because they have unopposed estrogen and it just gets too thick in the lining.

It just falls out. So we don't even know what that bleeding is. But they bleed every few months. It's irregular. They can't get pregnant. They show up in your office and they're sitting in front of you and then you find out all these things and they have metabolic syndrome and they have all the androgen excess symptoms and so on.

So like, where do you start? You have this woman who is now will say she's 30, okay, and she can't get pregnant. So where do you start with the woman like that?

Because I bet this is not uncommon for you to see just that type of patient. Women with PCOS, the bleeding is chaotic. They could bleed every few months once or twice a year, never or every day.

And they present with hemorrhage and anemia and sometimes life threatening, you know, and talking about the metabolic issue at the recent Endocrine Society meeting, it's showing that that the risk of cardiovascular disease, cancer and diabetes are almost 50% in PCOS women.

Let's talk about, first of all, how do you make the diagnosis? Okay. The the one that is most common was the consensus conference in Rotterdam in 23. Okay.

So two out of three of these issues make the diagnosis. So some measure of ovulation dysfunction, what's considered normal measure intervals? Well, between 21 and 35 days apart.

But even if they're within 21 to 35 days, if they're 22, then 34, then 23, that's irregular. Okay. So it's typical regular cycles is what's normal irregularity.

And it's also important to realize that 20% of women who have regular Mr. Intervals may not be out everyday with PCOS. Okay, so just because your periods are regular doesn't mean you're advocating.

I had a patient or a doctor's wife who's had regular cycles and we tested. I said, I think you have PCOS. And she was not relating and we did ovarian drilling, which is a surgery to try to induce a relation with electro cautery.

And she started operating after that. So we are actually doing a study shortly on vaginal approach to ovarian drilling through a company called Mahle.

So for those of you interested, reach us at the IBF Center dot com and we'll give you more information about that. So two out of three criteria, population dysfunction.

Second is some measure of elevated male hormone caused hyperandrogenism here. So either their testosterone is elevated or sometimes DHEA, which is a weaker male hormone from the adrenal gland, or they have the hair growth.

Now, the hair growth needs to be clinically significant. And that we use is a score called Ferryman. GALLOWAY okay. For the providers that are watching a score of eight or more would be clinically significant excess terminal hair called here.

SUSAN Okay. The testosterone, you know, we usually get a ton of testosterone because free testosterone, difficult assay, you need liquid chromatography and it's not often available in laboratory so you can get a free antigen index.

Okay. That's where you have your total testosterone divided by sex hormone binding globulin, and it's in the units of nanomoles per liter. So a little bit more difficult to calculate, but needless to say, that's another way to do that.

And the third is ultrasound appearance of the ovary. Here's where it gets a little bit funny or fuzzy. Rotterdam in 2003 said more than 12 little tiny cysts called prehensile follicles.

The intra follicles rather 2 to 9. Mm. If you had 12 or more in one ovary, that would be considered PCOS. Now the antigen excess society, PCOS is saying more than 25 and a more recent endocrine meeting was saying more than

20.

I'm using more than 20 now in one ovary, but what is consistent with all those different societies is the ovarian volume being ten centimeter cubed or more OC ten center.

Then ten centimeters cubed or more would be a polycystic ovary. So, you know, when a patient comes to see me, it's years usually for infertility, but it's also something that they would be dealing with, say, you know, my hormones are out of whack, right?

The way that we address this is that we look at the metabolic problems and the menstrual interval. If they are anemic from abnormal bleeding, we need to address that.

And the best way to do that is the birth control pill and the birth control co regulates the hormones may make it easier for them to operate after being on the birth control pill, but it also can help restore hormonal balance, the estrogen and the birth control pill and the progesterone progesterone inhibits LH to some degree, so reducing male hormone protects the lining of the uterus and estrogen will also help increase sex hormone binding globulin and lower the amount of free circulating male hormone.

So both contribute really good of hair growth is an issue. We talked about the anti male hormones of the spironolactone and the finasteride, but also I get particularly in the overweight PCOS patients, we check their blood sugar, we look at that metabolic syndrome, right?

We look at the lipid profile for HDL cholesterol and triglycerides. We do a two hour glucose tolerance test for the diabetes or pre-diabetes. Certainly look at their blood pressure and lifestyle management for elevated body mass index, Mediterranean diet, as you know, a very, very effective health diet.

But we follow the American Heart Association guidelines. You got to get out there. You've got to exercise right for everybody. But particularly the overweight PCOS patients five days a week, cardio for at least 30 minutes of getting into the fat burning zone.

Right. The target zone, five days a week at least. But what's also important in the US patients is two days a week, strength training, muscle strength training increases insulin sensitivity and can help with those patients, particularly with the pre-diabetes and also getting into diabetes.

So we work with patients on what their goal is. If pregnancy is not immediately desired and we do an awful lot on lifestyle management, we try to do that with everybody.

But when patients come to a specialist like myself, they don't want to spend a lot of time on lifestyle management. They really want to get pregnant right away.

Fortunately, PCOS patients similar cumulative pregnancy rates as non PCOS patients, but the PCOS patient does have more challenges to get to that point.

Yeah, I was going to ask you because they have so many metabolic issues and then they show up and maybe they've had no lifestyle education. They have they're eating the standard American diet, they're watching TV, they're hardly moving.

And, you know, they've kind of generally achy every time they try to start doing exercise programs. So and then they show up and it's like, I want a baby.

I want to get pregnant right away. Do you say, wait a minute, let's take a couple of steps back. We need to prepare you. We need this pre conceptual health to be worked on and let's do some lifestyle medicine for a few months.

Or do you say, well, okay, let's just start ovulation inducing drugs? Or like, how do you handle those women that really aren't healthy, but yet they want to conceive?

Well, that's a salient question. It's it's really the million dollar question is what do we do with a patient who is desperate for a baby but has some red flags?

Physicians are teachers. We want to provide them with informed consent. We let them know the risks. When the risks outweigh the benefits, we really need to put a time out.

New onset of diabetes, increased risk of birth defects, a baby without control, blood sugar control. That would be a time out. That's a hard stop. Okay.

Hypertensive without control, with increasing risk of pre-eclampsia in pregnancy, that would be a hard stop. Body mass index, huge sensitivity issues of body shaming and paces really have a difficult time talking about that.

We know that high BMI increases the risk of pregnancy complications, miscarriage, diabetes in pregnancy, birth defects. All we can do is counsel. The success rates in pregnancy are not as dramatic based on body weight, but the complications in pregnancy are the elevated body weight.

## Diagnosing PCOS and Initial Treatment

So we have them see a high risk obstetrician to go into more detail. So if they have difficulty with delays of wanting to lose, we do talk about lifestyle management.

We even talk about bariatric surgery to help them get to the weight if they feel they have done everything okay. We do bring that up. So addressing the health problems for all of our patients is vital before pregnancy.

Because you know what I say is out of the frying pan into the fire, right? If you if you avoid the problems going into a pregnancy, well, then the pregnancy is just going to be worse.

And and now you're dealing with a fetus that's going to be a baby, and you really want to do everything possible to reduce complications to that baby.

So it's a lot of education if you don't have the time to spend educating a piece us patient about their problem, the more they know about their problem, the more compliant they will be.

But if you don't have that time, just refer right away. It's not fair to the patient or you to give a capsule Reader's Digest version, if you will. It really spends a lot of time for these patients to understand their problem, the why and the significant impact on their reproductive health and baby.

That sounds like great advice. And I've heard that even losing, say, 5% of body weight can help to be more successful with ovulation induction, you know, the medications that you give.

So this is no such a trendy thing. Now, do you try to help women maybe for three months to try to get some weight down like maybe 5% to help, you know, with higher success rate, whether they do IVF or they're using one of the ovulation induction protocols.

And are you using the new like trendy medications, the GLP one agonist? Because I'm sure everyone wants to know, is this for me? You know, is this going to help me?

Will this help me to achieve a pregnancy more readily? What's your experience and what do you suggest right. We always encourage health before pregnancy.

It's not easy. By the time they get to see a report, the specialist, they have tried. They've gone through maybe their primary care physician. Then they are with you and then get to see me.

And if I say, well, you know, if we lose a little bit of weight, that's really hard. They've gone through a lot already. I encourage the gatekeepers that are watching this interview.

You all need to be the ones to address these at the first visit. Okay. Whether they're trying to conceive or not, then when they're talking about trying to conceive, that needs to be reinforced by the time they come to see me is not the time to identify that this needs to be addressed.

It's very hard for them as far as the weight loss medication or the medications, the GOP that are out there, we do not prescribe them, but we have had patients to use them.

It's recommended about 6 to 8 weeks or so before trying to conceive, getting that medication to clear out of the system anything that's going to work as long as it's there isn't a risk to the patient that exceeds the benefit we encourage them to do.

But the tried and true is moving by getting movement multiple times throughout the day. The tips of weight loss right. Small frequent meals maybe, or intermittent fasting is gaining tremendous amount of benefits that that we read about in the medical literature and the effectiveness of that.

Not eating for 2 hours before you go to bed. Right. No eating after dinner, walking, eating slow or so that your feedback from your stomach is due to the brain to say that you're full faster than your eyes.

Right. And then, of course, the good eating about a mediterranean diet nuts, legumes, berries, fruits, vegetables, olive oil solids, omega three fatty acids, all those kind of things.

You know, it's a commitment. If you think you can, you can. If you think you can't, you won't. And but I empathize with the struggle. It's a real challenge for people.

Weight is a big challenge for non PCOS patients. It's affect us all and we just don't have a great handle. I think you have to adjust to what the patient's capabilities are really are.

You know, we could say, okay, go to the gym five days a week. I mean, that may not do it for them or they don't want to go to the gym because of feeling uncomfortable around others.

Given that there are newbie, as it were, but you know, the physician needs to work with the patient to adjust it accordingly. Personalized. It's not a cookie cutter one size fits all.

Well, I love that you take such a personalized, individualized approach to every patient because yeah, they all have their own unique backgrounds and goals and such.

And in terms of like, okay, now you're going to move forward, you know, full steam ahead to get this woman pregnant. So maybe you could tell the audience a little bit about, well, what kind of drugs do you use to help them to ovulate?

Because this is obviously a big barrier to successful conception if you're not ovulating. So what can you do as a specialist in this field to help them to get a healthy egg out so it can become fertilized?

And what if you use the specialized protocols to help them to ovulate? You know, well, what is this SS rate in general for PCOS women? And if it doesn't work, what what do you do next?

How do you decide when and if they should try IVF? So maybe you can delve a little bit more into your specialty and how you actually handle these women who are actively trying to conceive.

Yeah, great questions for these. Thank you. But this is vital. The three most important factors of fertility, right? Ovulation, sperm and open tubes. Open fallopian tubes.

So with a population function which affects 40% of infertility patients, qualifying citrate was the tried and true for decades. It's a it's a selective receptor modulator.

It internalizes estrogen receptors in the pituitary. It tricks the brain to send more episodes to the ovary to get you to OB with it. But several years ago and then the manager of medicine, Dr.

Largo, grow at Penn State, had showed that Letrozole over five months of treatment. Letrozole which is an aromatase inhibitor sort of tricks the brain as well.

But it blocks the conversion of androgens to estrogens, testosterone, estradiol and Justin Downs is strong and it increases stimulation to the ovary. Letrozole was superior to come off in citrate overall, but when they stratified it by body mass index, it was really for the women above.

With a body mass index above 30, there was a difference. No difference really. Body mass index below 30. But we still give lectures to all the PCOS patients based on their success of observation.

We'll give them Letrozole for five days. Then we actually do an ultrasound monitoring because of the false positives that they can get with the urine.

So if there is no response several weeks after, then we'll check a progesterone level. If they haven't operated, we just increase the dose, right? Then they don't have to have a withdrawal bleed where they have a period and start all over again.

That just delays things. When we reach maximum dose of that result, which is 7.5 milligrams, we'll actually back off and add coffee citrate to that because that's been shown the combination to be actually superior in patients with a body mass index above 30.

The American Society of Medicine does feel metformin may be of help. Metformin is a diabetic medication. We give it to all of our patients with prediabetes.

But in those without prediabetes and a BMI above 30, there may be a benefit. It is debatable over whether there is any improvement in live birth rate.

With metformin alone there hasn't really been shown, but it might help. In terms of population function, it seems like there is some regulation of the menstrual cycle.

The addition, if that's not helpful, of injectable medication called Gonadotropin and Gonadotropin inside the FSA gene knowledge of the pituitary gland, we have that in injectable form medicine that is more costly, certainly more powerful, more successful in reducing population, but also more likely to end up on Oprah with multiple births.

Okay. So we got to be very, very careful about managing patients for that.

## Lifestyle, Weight Loss, and Preconception Health

It does get more costly as well because more frequent ultrasounds, more blood work to monitor, more costs. And also the medications are more expensive.

So rather than that, I favor either ovarian drilling or IVF, ovarian drilling. As I mentioned, traditionally, it's been a lacrosse it's a one day surgery where a woman's asleep in the operating room.

We put a telescope through the bellybutton and fill her belly up with gas, and then with a laparoscopy and cautery, we drill holes in the ovary. Two thirds of our patients.

When we presented at the American Society of Medicine meeting, two thirds of related and half of them got pregnant. So about one third of those who go for the surgery will have baby.

We had a patient who had five children with one ovarian drilling. She kept on relating and kept having children. So we're doing that study with May Health that'll be coming up soon where we're going to be doing it vaginally in the

office under sedation sort of like a negligible to see if it gets the same effect.

So as I said, please contact us the IVF center dot com for more information. IVF is certainly a successful option for PCOS patients. We could reduce it a little bit, but certainly not a lot.

However, for a lot of IVF centers, our office based surgery now in Florida, where I am, the office based surgery guidelines by the Florida board of Medicine prohibit giving sedation to women with a body mass index above 40.

So we are limited in being able to offer IVF to patients until they have a weight loss for a body mass index below 40. But it's a very effective option and one that we have used very, very often.

Well, that's really encouraging because I had read that of all the different types of infertility patients that you deal with with IVF, that women with PCOS have the lowest success rate.

So that's encouraging. So you're actually doing really well. You're getting quite a lot of these women pregnant then with IVF. Yeah, sure. IVF, of all the things in our reproduction specialist armamentarium, IVF is the highest per cycle pregnancy rate.

The advantage of the PCOS women is that they have a lot of eggs. So the more eggs, the more embryos, the more embryos, the more opportunity, particularly the younger patient, to have chromosomal normal embryo implantation.

So IVF is certainly an option, but it is costly and we offer a tremendous financing options even in house financing and hopefully insurance will cover as well if they don't have the ability for financial.

So it's it's really a dialog. It comes down to a dialog with the patient. Not every patient wants to do one type of treatment or another. They certainly want a baby.

But for a variety of reasons, maybe IVF is not for them or maybe ablation induction. They did not want to go and they did that with their OB urine and they want to get more aggressive and other. So we're an educator.

I think a physician just needs to provide objective data, realistic expectations, certainly empathize, understanding the challenge and the devastation and then giving them the facts so that they can be informed to make a proactive decision.

And patients really need to be their own advocate. They have to be in a center where they feel engaged, where they feel the team has accountability and ownership of their problem and not just treated like a number.

Well, that's great. I mean, this is very optimistic that women, even who have been struggling for years, they still have hope that that's great. And I have read that many women who have PCOS, they have systemic inflammation.

You know, inflammation kind of rules their bodies, including in their follicles. You know, in surrounding their eggs. And that perhaps there are some supplements, you know, that are out there.

You know, people are using Miwa Inositol, some with tiny bits of decoding us at all and and acetyl cysteine and antioxidants are. Do you what do you see as the role, if any, of using over-the-counter supplementation either before going into like trying more advanced reproductive technologies that you utilize or in conjunction them?

Excellent question again, Felice. Years ago, the medical endocrinologist at Brilliant Medical Technologies, John Nestler, discovered metformin effect on PCOS patients.

He realized that when he gave them metformin for prediabetes and diabetes they were calling him with pregnancies. And so I called him to say, you know, tell me about metformin and what we can do.

Because he was publishing a lot on that and he said there is no absolute perfect test for a measure of insulin resistance. I do the two hour most tolerance test, you know, the instant clamp test is much more involved and a

little bit risky.

So he said, you know, Mark, all patients with PCOS have some measure of insulin resistance and we don't always know how to define that. So he was a big fan of Good Work, great article about the current US over national substance and I think that's fine.

I don't think you need metformin. And Karen asked still but we don't we don't give the the current us what everybody and the of us at all and admire in us it's all they're all having the same substance that that's included so that's fine but over the counter, I can't speak to the the definitive impact of a systemic inflammation, if you will.

That's sort of not my area. And I look at the end goal, you know, and operation is an operations and population. Okay, so if they're coming with me for that purpose, then the goal is observation.

And if we're successful, I can't say any impact of information on pregnancy chance and embryo implantation. So if that's more of an effect on the metabolic syndrome, then I would leave that up to your specialty.

The integrative medicines, to talk more about patients for that. Great.

## Ovulation Induction, IVF, and Other Fertility Options

And you also mentioned that, you know, sometimes you deal with egg freezing. So maybe you could like address like so if you have a woman who has PCOS, say she's around 30 and she doesn't have a partner, but she would love to have a baby someday.

Do you recommend doing egg retrieval and egg freezing? At what point and what about that in in terms of women with PCOS, is there any specific data on the success rate in that group?

Yeah, I don't I don't see any evidence that PCOS is any different from anybody else in terms of egg freezing, but, you know, egg freezing is still in its early stages.

The American Society of Medicine turned the designation from experimental to standard in 2012, so it has dramatically increased the number of patients.

Initially, we did it for cancer patients before they were undergoing out of toxic therapy, chemotherapy, radiation. We get their eggs frozen because they could go into ovarian failure and never have the opportunity to have a child.

So the success rate freezing is based on twofold the numbers of mature eggs that we get and the age of the woman when she froze her eggs. So I don't think PCOS patients are really much different.

And in terms of what I recommend, it's a personal decision. You know, every every part of fertility is a physical, emotional and financial investment.

Right? It is an insurance policy. All right. But probably, you know, more of a psychological insurance policy to know that they have those eggs there.

Because I tell them that, you know, the caveats are that you may never use these eggs, you may get pregnant on your own with a partner. Right. Or we use them and you don't get pregnant.

So you have to realize that it's an investment, but it's not a guarantee. You're like a actual life insurance policy or something like that. Right. But if a woman, you know, the ideal age, there was a study in fertility, the cost effective ideal age for egg freezing was around age 37.

And why is that the case? Well, my theory is that below age 37, they're probably going to get pregnant on their own. Above age 37, the success rates are going to be lower.

So that's sort of the sweet spot. But the earlier that you freeze your eggs, certainly the more successful you're going to be. Well, that's great. I really thought they were.

We're recommending earlier and that's really good to know. But just listening to everything you've said, it seems like if you're a woman who plans, wants to get pregnant, work with your primary care provider, or find someone who will work with you to really help you with lifestyle medicine, to optimize your health so that you can optimize your ability to ovulate and so forth, and then conceive naturally.

And then if you're not successful, then find someone just like you or find you, right? Go to see you and then get started on these more sophisticated approaches using, you know, Letrozole, sometimes with Clomid, sometimes metformin going into ovarian drilling and your study going through the vaginal approach seems so logical.

You know, it's just like, duh, you can go, you can access things right through there. I've done, you know, I don't know, thousands of hysterectomies vaginally.

Why can't you have a vaginal approach and make it simple for women and your success rate is phenomenal. Yes, that's so impressive. And then if they have to go into IVF, then you just go ahead and do it, you know, and you know, if that's what is what you want.

Right? And individualized what you want, you know, think through like what are you willing to do and what's your budget and how do you pay for it? And finding the right team like like you ma to really to help women be guided and also to do the job, you know, the hard work to get them to become fertile when they were you know, sub fertile and and achieve their their goals to have that beautiful, healthy baby in their arms, it's just you must just have so much joy every day when women come back with their babies.

Well, yeah. Somebody asked me what's the most rewarding part of my field? And I said, when I'm out of the office meeting a patient coming up to me showing me her six year old or they're in high school or, you know, the multiple children of the family, that gives you chills because you knew them as a little embryo.

Right. And to see that is remarkable. I'll never forget the time that I was outside of a hospital and a patient came running to me to say that the child that the just this is my daughter.

And it was remarkable. The daughter ran to me and hugged me and the woman started crying and she said, she's never done that to anybody and I've never told her about you.

So it was just really I mean, I was I get chills just thinking about. Saying the same, getting chills just picturing this beautiful, like, you know, reunion, you know, that little adorable child, like, got.

So I'm a big advocate of health. I'm a runner I Mediterranean diet for years. I think that whether you're PCOS or not busy as result I know pre-conception health and general health is vital so we all do three things.

I tell my patients, we all do three things without thought. We don't think about the weather, the time of the year, the time of it's we all eat, we all sleep.

And unless we hit the lottery, we all work. Okay? If you make four, if you make health number four without any no option, you will always be healthy. But if you say, well, you know, the holidays and I put on a lot of weight or I was on vacation, oh my gosh, it was December.

Now that then you're not going to remain healthy. Health has to be a part of your life. It's not an option if you want to remain healthy. It's not a hobby is not.

Well, I do it sometimes, not other times has to be a part of your life.

## Egg Freezing, Patient Empowerment, and Closing Advice

And if that's the case, you will be healthy. So once again, whether you think you can or whether you think you can't, you're right. And I encourage everybody to embrace health because it gives you tremendous energy and it reduces your risk of a really difficult life when you're older.

Okay. So and one last thing Felice, if I could say to the patients trying to conceive, I wrote in my book and I want you all to realize that my book is the Fertility Doctor's Guide to Overcoming Infertility on Amazon and other places.

And I wanted to share that. My wife and I went through ten years of children, and I understand the suffocating burden of that life. We adopted our five children and I'm very, very blessed.

But I want you all to think about this. You are not defined by your ability to procreate your value in life is not based on your fertility. Your value is based on your contributions to the world, making it a better place and to others, not something that you have no control over.

Fertility is not a skill that you can acquire and to brag about and accomplish for its nature. So if you can look at it that way, and my prayers are for all those struggling to build a family.

That is so beautiful and you have created a beautiful family. My goodness. Five adopted children. How wonderful and what a journey you had. And you go through this journey over and over again with your patients.

And I just cannot let you sign off without telling people again. How can they find you? Because I'm sure many say, you know, my goodness, I want an endocrine reproductive specialist just like him or how about him?

So how can they find you? Well, that's very kind of Felice that I'm right back at you in terms of mutual admiration. I am in Orlando, Florida. We have two offices and the easiest ways TheIVFcenter.com I'm also on social media of course.

Dr. Mark Trolice, So we are just committed to providing optimal reproductive health care in a compassionate setting. I have a wonderful staff. They have all faced fertility in some manner, either themselves or they've been an egg donor or gestational carrier or a family member.

And that's what's important to me. When you build a team, I can sort of train people to do a lot of things, but you can train somebody's heart, you can train their compassion, their empathy, their emotional intelligence to engage with others.

So that's what I've been proud of most about this center. So thank you Felice Thank you for joining me and for your big heart. Thank you. And to everyone out there, you know, define yourself by what you do and go and, you know, take charge of what you can control and, you know, have a wonderful life.

So this is beautiful. Thank you again.