Introduction to Dr. Mazza and Integrative Endocrinology

Welcome to this episode of the PCOS SOS Summit. I'm your host, Dr. Felice Gersh. With me for this episode is a very special friend of mine, Dr. Angela Mazza.

She is a unique doctor in that she is triple board certified in the field of endocrinology with metabolism, diabetes, anti-aging and regenerative medicine, and in turtle medicine.

Now, she is a specialist in all aspects of endocrinology with a special focus on thyroid disease, which we are going to do a deep dove into that topic and how it relates to PCOS and fertility and such.

But first, let me introduce you. Hi, Angela. Thank you so much for joining me. Please tell our viewers about yourself and your practice in Florida and how you became interested in this field of medicine.

First, thank you so much for having me here. This is truly an honor. So thank you. As you mentioned, yes, I am traditionally trained in diabetes, under phrenology metabolism.

And when I actually came out and started practicing in real life. I found that we won. We were missing a lot of one diagnoses of thyroid disease. And two, we really weren't treating patients and helping them live their full potential.

That's actually how I came into integrative medicine. So integrative medicine actually combines traditional medicine with more functional types of medicine, getting to the root cause of issues.

And that's the whole foundation for our our center metabolic center for wellness. So we, we use integrative medicine to help persons with endocrine issues.

I spend a lot of my day taking care of people of all ages with thyroid issues. So not just hypothyroidism, hypothyroidism, thyroid nodules, thyroid cancer.

So it's truly an honor to help work with my patients to live their best lives. So that's kind of our goal of the practice and that's my focus in my my career.

So it's really an honor to do it. Well, I love, of course, what you do. You're like, be we got the boots on the ground. We're actually seeing patients in the trenches and you go one on one.

Absolutely. Well, women with PCOS have significant rates of thyroid dysfunction. We know thyroid issues have a big correlation with fertility issues. But first, why don't you tell everyone, like what is the thyroid gland and what what are its basic functions in the body?

What the Thyroid Does and Common Hypothyroid Symptoms

Yeah, the thyroid is super important. I may be a little bit biased, but I think you would agree. Because thyroid disease right now is that epidemic proportions.

And it's it's really underdiagnosed and and not really treated correctly. But the thyroid is really important because it controls all things metabolism related.

So I think when we think about metabolism, we think, oh, it's the food and drink that we take in and make it to energy. But really, metabolism encompasses all the enzyme reactions in our body that help us maintain life.

So there's not one system in our body that is not affected by the thyroid in one way, shape or form. So when I first

started practicing, people would come in with different symptoms.

I'd be like, No, that's our thyroid. The longer I practice, the more I'm like, I can't say that's my thyroid. When someone complains of something. So yeah, the thyroid issues, like I mentioned, are epidemic and proportion.

The number one cause and I is that we treat and I take care on a daily basis is hypothyroidism so underactive thyroid and really the number one cause of hypothyroidism is Hashimoto's thyroiditis.

So that's an autoimmune issue of the thyroid gland. So essentially the immune system starts mis recognizing the thyroid and starts destroying it at that level it's architecture.

Now some patients with hypothyroidism might not have any symptoms, especially with Hashimoto's thyroid, but some may have overt symptoms. So symptoms of fatigue.

But when it comes to are women with PCOS, they may have menstrual irregularities, they may have cysts on their ovaries, but they also have metabolic issues going on.

Well, maybe you could go into that a little bit more. I know that everyone goes to Dr. Google and they see different things about thyroid, but maybe you could just do like a little once over of what are some of the sort of like most severe symptoms of hypothyroidism and maybe some of the more subtle ones?

Oh, right. No problem. So some of the most common symptoms that patients may complain of and what I see are really fatigue. So energy metabolism is affected.

I'm just not feeling rested upon waking. So that actually can be to me if you're making too much thyroid hormone or not enough thyroid hormone, because not enough is going to affect your energy metabolism.

But too much runs through our energy stores and makes us fatigued that way. Sleep disturbances are really common, so either sleeping too much. In the case of hypothyroidism, if you're making too much thyroid hormone, your sleep can be disrupted.

Brain fog is a big one, which I think is under under-recognized. So brain fog, we're not just talking like forgetting where you place your keys every once in a while.

It's like trouble finding words, feeling foggy, feeling hazy. But that's very tightly linked to thyroid because our brain is rich in thyroid receptors.

So if we're not making enough thyroid hormone, our our mental focus isn't there in our ability to learn it. Remember is affected G. I. wise big one for thyroid so not just from a functional aspect like constipation or diarrhea, but our guts a huge part of our our our semi impermeable barrier that protect us from the external environment to our internal environment.

So if our gut is affected, it causes inflammation and that makes thyroid issues worse. In in here, women complain all the time about skin and hair issues with thyroid, and that's huge because it's very distressing when you see your a lot of hair you're losing and you don't know what's it's going to stop or it's going to keep going on.

But that's a big one that a lot of women will complain of. But those are kind of the biggies. Of course, every now and then, too much thyroid hormone can cause chest pains, palpitations, anxiety.

And then in the case of PCOS, they probably women probably come to you with complaints of menstrual, irregular. Maybe you could explain like so what is the relationship of the ovarian cycle to thyroid hormone?

How does that work that having low or high thyroid production can interfere with menstrual cycles? Okay. Well, I kind of always look at when it comes to hormones, our body is set up in a hierarchy of survival.

So the hormone we need most importantly to live is cortisol. So cortisol is our stress hormone. So cortisol helps us fight infection, get through stressful situations.

Too much cortisol for a long period of time isn't good. Short bursts of cortisol are actually beneficial, but that's our most important hormone. So that's our body is going to maintain that, that most thyroid is kind of second in line to cortisol.

So if cortisol is okay, our body wants to maintain thyroid levels because we have that importance of metabolism. And when it comes to reproduction, reproduction tends to fall lowest on our bodies radar.

So if our thyroid up, it is going to impact menstrual cycles. So too much thyroid hormone can do that. Not enough can cause that too. So it's the body has to be in balance in order to maintain that the estrogen progesterone cycle that needs to be so perfect in line.

And how about lab testing so say a woman has symptoms, you know, that match a lot of the symptoms that you just ran through. So she goes to her doctor.

Should she bring her own little like list on the side of. Well, these are the tests I really like you to run. That's a great question, because I'm very much for building that doctor patient relationship, because I think we're at a time where, like you mentioned, Dr.

Google, it's it can be offputting for some physicians that for a patient to come in with hey, this is I did my research and this is what I want to do.

But I think it's a good idea. I mean, being prepared for your visit actually helps facilitate your care. You have to be your own best proponent of your health.

And there's there's nothing wrong with coming in with the list when it comes to thyroid. I mean, TSH yeah.

How Thyroid Hormones Affect Menstrual Cycles and Fertility

TSH is not the be all and end all by stimulating hormones are really meant to be just a screening test but really looking at routine for routine. So those are your circulating active thyroid hormone people I guess converted to decrease or T3 is really the active thyroid hormone.

But even looking at reverse T3, which we can talk about thyroid antibodies which go along with Hashimoto's Thyroiditis, I think it's a good idea to go into your visit prepared and say, Hey, this is what I want to have a dialog about with for my health.

Now you mentioned like Free T3, free T4. So what, what is the difference in terms of the function in the body between T3, T4, what does that number mean?

Three Does that like you're discounting or is there some significance to that number other than you're just, you know, like doing a numerical order and what what did they do?

Do they relate to one another? And in what way? Great question. So and thyroid mainly make it cheaper so cheap was really it the name T4 comes from its actual structure and there's got iodine on it.

So as iron lines get cleaved off, one iodine taken off becomes T3. So T4 itself doesn't have a whole lot of it's really a pro hormone. So when but we do make a little bit of T3 in the thyroid just a very small percentage it's 134 is released into the system that's the diode maces.

These are the enzymes that convert T4 2 to 3 take effect. And that's a huge area of research right now is Dionysus these enzyme but T4 must be converted to T3 in order for the tissues to use it.

So some people don't convert T4 83 very well. Some people convert T4 into an inactive form of thyroid hormone called reverse T3. They more preferentially do that.

And I, when I describe this to my patients, I'm like reverse T3 is like the alter ego of active T3. It looks exactly like it, but it has one iodine that's placed in a different area, which makes it so it really can reverse T3, can really kind of gum up the gears because it's so similar in structure where it can block the receptor from active T3 getting in to do what it needs to do and reverse T3.

That's a whole nother conversation. It's it's a reflection of our mitochondria. But so the three main hormones as far as activity T4, T3 and reverse T3.

Now when you're thyroid it makes T4. So where does this conversion take place from T4 into T3 and what sorts of things can interfere with that conversion and like like what controls it?

Good question. So, so as far as control, we're kind of set up like an axis. So at the level it starts at the level of our hypothalamus. So that's a T that makes t r age or thyroid broken, releasing hormone.

So then our hypothalamus stimulates our pituitary, which is another part of the brain. It's really the we used to call it the master plan, but it turns out now that the brain itself is the master plan, but the pituitary does does make important hormones.

So the pituitary makes t S-H or thyroid stimulating hormone. And that in turn stimulates the thyroid to make thyroid hormone. So when there's more thyroid hormone circulating, it feeds back to the brain to say, hey, we don't need so much thyroid hormone.

Thyroid Lab Testing and Hormone Forms

If there's not enough thyroid hormones circulating, this axis gets upregulated to in turn make more. So it's a negative feedback. Now the actual conversion of T4 happens at the level of the tissues.

The main ones are like the liver, liver and muscle, although some studies do show that we do see some conversion at the level of the brain as well. So that's where the research and the concerns about brain fog come into play.

But it's really determined by the tissues needs. But the other hormones in our body also are going to impact this axis as well. Well, it does sound very complex now in so many different areas.

In functional medicine, it comes down to some degree of nutrients. You know, nutrients play a role in just about everything. So definitely are there specific nutrients that play a role in thyroid health or in the conversion of T 43?

And are there specific supplements or, you know, foods that we should be eating for better conversion or better thyroid production in the first place?

That's a great question as well, because lots of times I'll have patients come in to me on thyroid hormone replacement. We address their micronutrients and then we're able to get them off of thyroid hormone.

So number one on the list is iodine. So iodine is needed to be taken up by the thyroid because it's incorporated into 23. Iodine is kind of a slippery slope because too much iodine isn't good for the thyroid.

Not enough isn't good either. So this is kind of my my major thing when it comes to island is to not take extra iodine outside of your normal diet unless, you know, if you're low, because especially people with underlying autoimmune thyroid issues or undiagnosed thyroid issues, they can either cause too much thyroid hormone production cause hypothyroidism actually can shut down the thyroid to make not not any thyroid hormone.

This can be transient or can be permanent. So I always recommend checking your iodine levels before any sort of iodine replacement. The number two most important micronutrient for thyroid is selenium.

So selenium I kind of call like the thyroid superstar because selenium helps protect the thyroid. So if you think about it, thyroid hormone per doc production, when you look at the chemical reactions that are involved in making thyroid hormone, it's actually a very oxidative process.

So oxidation causes inflammation. And inflammation is like the root of all evil, right? But selenium actually helps protect the thyroid in that oxidative process that's going on.

Also for patients with autoimmune thyroid disease like Hashimoto Thyroiditis Selenium has been shown to decrease thyroid antibody titers, so that improves the immune or autoimmune attack upon the thyroid.

So selenium, you can't go wrong with it. That's not something that's going to hurt you if you take it. Ions. Ions Probably third on my list of importance for thyroid hormone production.

And we always think of iron or, you know, red blood cell production and oxygenation to the tissues, but iron is part of the enzyme that makes thyroid hormones.

So thyroid peroxidase is what we call him heme protein. So it actually has an iron modi in it and we need iron in order for thyroid hormone production to be to go about.

So those are kind of the biggies. I mean, magnesium is important as well. Zinc is important. So there's never any harm. And I think you probably would agree, is it doing micronutrient testing?

Because that will tell you exactly what what your body's in. Because if we can give our body what it needs to make the thyroid hormone, then then you don't need to be on thyroid hormone replacement.

So so foods kind of would kind of go along with iodine rich foods. You know, we can get iodine in our diet. Used to be so easy to get iodine because things were iodized, right.

You bought ate iodized bread and we don't need a lot of bread as much anymore. Use iodized salt. So things like kale, I mean, seaweed has a lot of iodine.

Certain fishes have iodine even iodine as far as iron you're going to get, then your green leafy veggies. I'm not a fan of pushing red meat unless you like to eat red meat.

I mean, that's that's a whole nother discussion. But I'm trying to get iron in your diet. And spinach is a great, great form. Having a spinach salad every day is a great way of getting some iron.

And then selenium you can get to Brazil nuts. A day is enough selenium for the day. So Brazil nuts are very rich in selenium, but also certain seaweed or seafood is rich in Valencia. So yes, getting it in your diet is ideal, but supplements also help out if you're running.

Sure. Now, you mentioned like micronutrient testing. That is certainly not, you know, run of the mill when people go to their doctors. But that is available. Correct.

And also iodine, I don't think any conventional doctors are ordering iodine. So maybe you could just go into like how would somebody access these tests like checking what's my iodine?

Or like you go to your doctor, they say, I don't test selenium. What are you talking about? So how how could patients, like, help their health care providers to know what to order for them?

Do you have any suggestions? Great question. Now, iodine, you can get in routine labs. So iodine, if you ask your doctor to order a random urinary iodine, that's probably the closest thing you're going to get to.

We used to do like 24 hour iodine collection. That's pretty labor labor intensive. So if you get a random, you actually can extrapolate what your your your iodine level is or 24 hour.

But say your doctor isn't a functional doctor and it doesn't do micronutrient testing. You actually can there's some really good ones online that you can order for yourself and you can do them from labs.

So I mean, I try and test out all the all the labs. So I kind of like done a my own little research on it how, how good they are. I mean, the micronutrient testing is pretty accurate.

So I mean, you can now you can order these things yourself. Well, that's great. Definitely. You have to be proactive for your own health care and like you mentioned, iodized salt.

So why did they come up with that idea? Did that have something to do with goiter and what is a goiter anyway? Good question. Yes, I mean, goiter is the term goiter is really any enlarge, any abnormality of the thyroid gland itself.

So I think whenever anybody thinks of water, they think of like this horrible like this horrible thyroid enlargement. But really the term goiter, we we use it in terms of multi nodular bone or nodular goiter.

So any abnormality or thyroid nodules are going to be called goiter. We're trying to get away from that term because it's it's kind of got a negative connotation.

So we just instead of multi nodular gwerder, we call this thyroid nodules, but goiter can be any sort of enlargement or abnormality in the gland itself.

And the iodized salt came into the play of when I people in landlocked regions didn't have access to high line. So they were they were very the iodine belt were in the Midwest where a lot of people didn't have access and they developed a lot of thyroid issues.

So iodized salt came into play in different countries. They still do iodized water. And it's I mean, that has its own connotation as far as you have to follow along on a country level to see what's going on with thyroid.

But yeah, it's still practiced very widely in certain countries.

Nutrients, Iodine, and Thyroid Support

Well, it's really interesting. And you did mention like a cautionary kind of a of a voice about taking too much iodine. I know there are some doctors out there who are mega dosing in iodine, so that's a very bad idea.

Very bad. Yeah, very, very bad. It's I really caution against anyone starting a thyroid supplement that has I if you don't know what your iodine levels are, there's only a couple out there that don't have iodine so they're fairly safe to do you don't know tried and levels are but you're kind of you're you're taken a risky chance because it can not only cause thyroid dysfunction it can cause nodule growth.

It's it's I recommend checking your levels first. Now wasn't very long ago just in the last very few years that it became mandatory that prenatal vitamins in the US include a certain amount of like minimum daily allowance of iodine.

So that implies that wait a minute, maybe iodine is important for fertility and for pregnancy and thyroid is involved maybe in women of course, would PCOS have problems both in terms of getting pregnant and pregnancy related complications?

So maybe you could talk a little bit about just thyroid aid and fertility and pregnancy and like what's going on in that whole arena. Okay, great. Well, you know, first off, thyroid hormone is so important during pregnancy, especially if you already have a thyroid issue to be monitored throughout pregnancy because baby's thyroid is going to be kind of dependent upon baby.

It's going to be routine on mom's thyroid up until at least 21 to 24 weeks when they can. The vital organs are fully

formed, including the brain, and their own thyroid can kind of take over.

So my, my patients who have who have known thyroid issues, I follow them very closely once they're pregnant. We do lab testing every 4 to 6 weeks up until that 24 week mark.

Then I back off a little bit because I feel like kind of we're it in a clear because there's hormones there but the baby makes them that go along with the pregnancy that are going to affect the circulating thyroid levels.

So it's kind of a moving target throughout pregnancy. And if someone is on thyroid hormone replacement or more likely than not, they're going to need it increase.

And when it comes to fertility, you know, when we have a thyroid issue like Hashimoto thyroid and PCOS, the fertility issues and risk of complications do increase.

So it's kind of like alone. They're one thing separate, but when they're together, they make they make the risk of complications worse. And I know they've changed some of the numbers in terms of what TSA should be in order to be optimally fertile and during pregnancy.

Maybe you could comment on that because not everybody keeps up with that sort of thing. Right. So TSA during pregnancy, optimal is going to be between one and two, maybe two in.

If you can keep between that one and two, you're you're you're in good shape. The circulating levels I don't think they're followed as closely during pregnancy.

I mean, as as a O'Bagy I knew you would know more I just kind of follow for my end because I'm a little a little anal throughout trying to see as an endocrinologist.

But is the guidelines more focus on just the TSA. And in terms of thyroid replacement, so many women with PCOS do have diagnosed Hashimoto's. They have low thyroid and they're put on some sort of thyroid therapy.

So there are different forms of thyroid out there and it can be very confusing. Also when women, if they become pregnant or they're trying to get pregnant, would that sort of indicate a different form of thyroid that should be used?

So maybe you could sort of just do a little overview of what is given when you take thyroid hormone as a replacement or a supplementation. And what should you be thinking about when you're told that you need them?

Sure. So there's two main distinctions when it comes to thyroid hormone replacement. So there's synthetic and then there's what's considered more natural.

So that's desiccated thyroid hormone. So the synthetic, there's actually two different forms. There's T four. That's the most common synthetic form as far as replacement for it, just in general.

And then there's T three. So essentially you're giving a pro hormone plus or minus the active thyroid hormone. Now when we talk about synthetic T4, that's a label thyroxine So there's brand name label those brand names and then there's generic.

So over the years there's kind of been different forms of brand name and there's multiple different forms of generics. So the difference, main difference between any of them is they're all a little, little different.

They have different fillers, they have different coloring in them. Aside from one in particular, there's it's more of a capsule form. So patients it can have sensitivities to different types of synthetic thyroid hormone replacement.

Now, as far as desiccated thyroid hormone, desiccated thyroid hormones considered natural because it comes from an animal or C source. The good thing about desiccated thyroid hormone and there's different brand, there's only a couple different brand names on that. One is it's got all parts of the so it has t 43 and when we get into

people who don't convert very well from cheap or two teeth rate so they're getting the whole of whole of the thyroid extract, then these can do compounding.

So compounding is a whole nother whole nother ballgame. I love compounding because we have patients that require very specific dosing. So in that case, we can formulate whatever we want.

We can do a natural, we can do it synthetic combinations. We could do it in a capsule that sustained release. We can make whatever we want.

Goiter, Iodized Salt, and Iodine Caution

So I kind of approach things as everybody's a little bit different people will come to see me have pretty much already tried synthetic hormones and just t'pau and T4 may or may not be the answer for that.

But unfortunately, like I said, it's a little bit trauma. Some people do really great with synthetics, some people do better with natural. It's some we just kind of have to find what fits.

And that's kind of the art of this part. Now is is read less the other part of your question. Oh in in pregnancy. In pregnancy. So pregnancy the guidelines are really focused towards levothyroxine.

So synthetic T4 we don't have a lot of studies on T3 replacement in pregnancy or maybe it's not as ideal in pregnancy. Same thing with desiccated thyroid hormone.

The way I kind of approach things is if I know that we're going to be following a patient closely, if they're at the optimal range at the beginning of pregnancy, I'm not going to change them.

So we may have to adjust the dose, but if they're doing well, I don't want to start over with something. So say they were on like a desiccated thyroid hormone where yes, the guidelines say levothyroxine, but we're already like six, eight weeks and I would have it's not a 1 to 1 conversion, so I just follow them fairly closely.

So but in ideal guideline situations, it would be okay. And in terms of you mentioned the gut, okay? And the everything in functional medicine has some involvement with the gut.

So maybe you could go and like take a couple of steps back and talk about the origins of autoimmune thyroid. You touched on it a little bit, but it's so important for every woman out there with PCOS to understand that she does have a higher risk of this.

This has been shown compared to the general population of women. So what do you think is going on?

Thyroid Health in Pregnancy and PCOS

I know in functional medicine we always say it's the gut. What do you know about spell? But yeah, I mean, you make an important point. I mean in the general posture population Hashimoto Thyroiditis manga implants there you look at is between four 9%.

When we look at our women with PCOS, that rises to 20 to 40%. So it's that kind of that's that exponential increase. So when it comes to autoimmunity, I always talk about the autoimmune.

So there's there's genes, there's certain genes that kind of predisposes. So I mean, autoimmune diseases in general are on the rise. So I mean, I think it's it's good to get a good steady handle.

On what causes autoimmune in general. Can't change our genes. I mean not yet anyway. Right. But then there's things we're exposed to over time. So that's the second point of the triangle.

So there's illnesses, viruses, medications, vaccines, toxins we're exposed to on a regular basis, biotech. Since I

you could even put in stress, that's a big one.

And even with maybe PCOS like high estrogen levels, I mean, that's inflammatory. So that's the second part of the triangle. But then there's the gut. So the gut side, very important semi permeable barrier, which I mentioned, if we if we can at least control the gut, we can't exposed we can't control the past exposure if we can't control our genes.

But if we can really work on decreasing inflammation at the level of the gut, that does take care of that inflammatory fuel, if you will, that we're putting on the fire.

So things that help with that are probably you talk about your patients all the time. It's decreasing inflammatory foods. I mean, that that's fairly straightforward.

We used to say was just do gluten free, but it's really an anti-inflammatory meal plan and increasing our antioxidants. So if we increase our antioxidants, it helps our body better, better handle that toxic load and get rid of the inflammation. But Hashimoto's thyroiditis is is just makes all the metabolic issues with PCOS worse.

So we can kind of handle that autoimmune triangle that makes it better. And what would be the antibody test because I just many doctors are not routinely testing for antibodies and particularly in women with PCOS who have such high rates, like you mentioned, really high percentages, they're still not testing for it.

So if they're going to be proactive and go into the doctor, what particular antibody studies should they have on their list to request? Yes, so great question.

So that's there's two thyroid antibodies. Look for there's antiviral peroxidase, like I mentioned, thyroid peroxidase is that enzyme that convert that helps us make thyroid hormone.

So so it's anti tipo that's most sensitive and specific for Hashimoto's thyroid. You're going to find that in about up to 98% of people with with Hashimoto's thyroiditis, then there's thyroid globulin antibody so far and globulin in essence is really just the substance of the thyroid.

So thyroid gland one is a measure. If you get it by regarding level, it doesn't really mean anything by itself. If you have a thyroid, but a thyroid globulin antibody tells you if you are having thyroid destruction.

So that's less sensitive for Hashimoto thyroid because it can be influenced by a lot of other inflammatory issues that may be going on in the body. And I would say, yes, I think if we can make that part of a screening test for PCOS, it really should be done.

I mean, I know a lot of people, if you met a lot of physicians like you mentioned, don't see the value in it. But I think it really just gives us a heads up to, well, what we're dealing with down the line.

So if you have someone, we'll say a PCOS woman who has some elevation definitely in the elevated category of like anti TPO, but her TSA age is not considered elevated and you know, I'd like to ask you, in a non-pregnant population, what you even look for for a PSA age, but say it's in that category that you don't feel it's elevated.

But she does have antibodies that are positive. Is that something a person that you'd say, hey, wait a minute, let's do something, let's take some action here.

And then what would you do? That's I mean, that's kind of like the right time. It's like you can intervene before there's enough there, before the thyroid itself is destroyed.

Easy thing would be to start that anti-inflammatory diet. So cut out, you know, I mean and everybody's going to show sort of inflammation from whether you can recover from it in a timely fashion.

I think it's a good idea to cut out gluten, pasteurized dairy. I don't overdo it on soy. That's where doing food sensitivity testing might come into play too.

Autoimmune Thyroid Disease, Gut Health, and Antibodies

So because to see what your own inflammatory reactions are, start a good probiotic to support the microbiome. Because studies show that that that the microbiome of people with Hashimoto's thyroiditis and autoimmune thyroid issues are different than people with that.

So supporting the microbiome adding in selenium, you can't go wrong with that. So the selenium is going to help bring down the thyroid antibodies in addition to decreasing our bodies inflammatory load.

If you do those three things, I'm I'm willing to bet if those antibodies aren't through the roof when you start, they're going to come down. And that's preservation of the thyroid itself.

So I think what I, I follow all the antibodies and all my patients with Hashimoto's. All right. Because that gives us an idea is what we're doing, right?

Are we missing something? I mean, there's other things you can add there a little bit. Yeah, it vast. But if you can preserve the thyroid function by doing those two steps then then that's that makes a big difference.

Well that is such a fantastic advice because that's the ultimate of functional medicine, is being proactive, not just reactive. So all of you out there, make sure you have you know, you have PCOS, make sure regardless of even how you feel, you have a high risk of having this autoimmune issue involving your thyroid.

Just get the blood test right. Just get your antibodies tested and and see where you are because you can actually reverse this, which a lot of doctors never think you can reverse autoimmunity.

And and in the earlier stages particularly you definitely can and because TSH is such also like oh what is a right to say anyway and that's been all over the place.

Like what at what level of TSH thyroid stimulating hormone should that be a red alert? Like maybe this isn't ideal and it really. Is there any consensus on that at all?

I, I don't think there's a lot of consensus. You know, I kind of look at an optimal TSH somewhere around one, but everybody's a little bit different as far as you're looking at circulating T4, T3 levels. So generally subclinical hypothyroidism falls into like a TSH greater than four and a half and less than ten.

So that may be kind of the window where some physicians may say, well, let's just wait and see what happens. I would say that the the courses is out of bar by that.

So if you're grading getting greater than three, then you got to start being proactive because studies show that especially in women with PCOS, even subclinical hypothyroidism, we see increase in metabolic markers so that either just PCOS alone is an inflammatory state or you put on top of it subclinical hypothyroidism the markers for insulin resistance go up, markers for inflammation go up dyslipidemia.

So it's better to be proactive and don't just watch. Well, I can't tell you how meaningful all this information has been for everyone out there, because women with PCOS are so special with their thyroid, you know, they're particularly like this is like an epidemic, like you mentioned in the very beginning.

But women with PCOS even more so than the average population of women. So this has been really fantastic. Now, a lot of the viewers out there may say, well, I'd love to come and see you.

Is it even possible? I know you have a brick and mortar practice. Is that doable? And what if they can't? Is there any way they can follow you or get more of your wisdom?

Oh, well, thank you for asking. Well, I actually have a book coming out called Thyroid Talk, which really just focuses meant for motivated practitioners and patients.

But I'll also be having a master class that's going to be available as well. So we'll be having modules that really dove deep into thyroid on many different levels.

We really focus on gut health and common complaints of persons with thyroid issues as well as we'll be having monthly online sessions though. So we'll be able they'll have access to me even though they can't see me.

We have podcasts thats called Thyroid Talk with Dr. Angela Mazza We were kind of myself and my co-host. We kind of talk about thyroid matters from a patient doctor perspective on it.

TSH Targets, Treatment Strategy, and Closing Resources

We have Instagram, Facebook and and even I got into Tik Tok, Felice Not, I haven't yet. But that's great. Well, I can't wait to see your book coming out.

That is so exciting. And can do you have a website that they can get all this information from? Oh, definitely. It's metaboliccenterforwellness.com Well, that's an easy one and so spot on with the label.

So once again, thank you so much. It's been fantastic. Everyone is going to want to listen to this at least two times. I'm telling you, go ahead and probably take your course because odds are if you're listening to this, you need it too, because you probably have a thyroid issue.

I mean, just tell and yeah, I know. I actually just, you know, I, I reversed my Hashimoto antibody so I know it can be done and you got to work on yours if that's what you know, you have.

And if you don't have it, that's great. Let's let. Let's keep it that. Way. Keep it that way. Exactly. So thanks again, Angela. You are just fantastic spreading all this wonderful information about thyroid and metabolic health.

Thanks again. Thank you, Felice.