

[167: Dr. Jill interviews endocrinologist Dr. Angela Mazza - treating thyroid nodules without surgery](#)

Dr. Jill 0:12

Well, hello everybody! Welcome to another episode of Dr. Jill Live. You may notice we're rebranding; we have a new name. So as this comes out, the new name is called *Resiliency Radio: Hope, Health, and Healing with Dr. Jill*. Either way, wherever you hear this on iTunes or Stitcher, please stop and leave a review if you like.

Dr. Jill 0:31

Our guest today is a very special guest. I'm super excited to learn from her. Let me give you a brief introduction and then we'll dive in. Dr. Angela Mazza is triple board-certified in Endocrinology, Diabetes and Metabolism, Internal Medicine, Anti-aging, and Regenerative Medicine. Her broad medical background includes significant research in both the basic and clinical realms of endocrinology. She's the founder of the Metabolic Center of Wellness in Florida, where she spends a great majority of her time caring for persons with autoimmune thyroid disease, thyroid nodules, or thyroid cancer. She's currently the only physician in Central Florida performing radiofrequency ablation. That's one of the main things we're going to talk about today. I cannot wait to dive into this. [It is] a non-surgical option for some thyroid nodules.

Dr. Jill 1:17

Highly regarded for her individualized approach to patient care, Dr. Mazza empowers each patient to achieve their unique goals by providing education, lifestyle management, and support. She believes that hormonal changes that happen in women and men as they age play a huge part in their overall health, longevity, and quality of life. And she has a passion for helping her patients achieve metabolic and hormonal balance. Dr. Mazza, it is so awesome to have you here.

Dr. Angela Mazza 1:43

Thank you so much, Dr. Jill.

Dr. Jill 1:45

Welcome! I'm so excited! As you know, I know, and our listeners know, [there are] many, many, many people with thyroid issues. I think it might be one of the most

prevalent—number one autoimmune disease—dysfunctions in general. I would say the majority of my patients have thyroid dysfunction versus not having it, right?

Dr. Angela Mazza 2:03

It's becoming more and more common.

Dr. Jill 2:06

Yes. So let's talk a little. We talked a little about my audience. There are a lot of women, but then they also drag their husbands over so there are women and men. I would love to know your thoughts on statistics, but I think it's more common in women, especially the autoimmune version, because we see more of the autoimmunity version. But what are you seeing as far as the landscape, even compared to maybe 10 or 20 years ago with thyroid issues and women in particular?

Dr. Angela Mazza 2:28

Right. I've been in practice—I don't want to say completely how long I've been in practice—outside of fellowship since 2008. So that tells you. And I've been seeing more and more thyroid issues emerge. I don't know if we're looking a little more closely for them. That might be part of it. But they're becoming more and more prevalent. Whereas I would have to say the majority of my patient population probably, like you said with yours, all have some sort of underlying thyroid issue, if not just positive thyroid antibodies. I think there's a lot to it.

Dr. Angela Mazza 3:00

I think, like I mentioned, probably we're looking for a little bit more, screening a little bit better, maybe looking and digging into labs a little bit more, at least in the integrative and functional community. [And] I think we're really good at doing that. But I think we're exposed to so many things that influence underlying inflammation, because that's the key thing, right? Inflammation is the root of all evil. The thyroid is so sensitive to inflammation, whether it's toxins we're exposed to in the environment or things that we're taking in in our diet. Stress is a huge one. That's a big one. I'm sure you have to tackle that with your patients too. I think one of the toughest ones is the inflammation associated with stress. But put on top of it, other medications—it's just a lot of things that we're exposed to that the poor thyroid is just trying to do its thing, and it's super sensitive.

Dr. Jill 3:52

I love that part because I feel [like] that's exactly what I'm seeing as well. I think of this as like a little sentinel organ, right? It's a little [inaudible] saying: Hey, what's happening? I mean, obviously, it regulates metabolism. We can talk about what an ideal thyroid function does. But interestingly, in my own history, I had—[I was] 25 years old in medical school—breast cancer. And my sister—I don't always talk a lot about her—at 28, so three years after I was diagnosed with cancer, was diagnosed with thyroid cancer. So we have two girls in their 20s in the same environment and [inaudible] genetics too who had endocrine-related cancers: One in the breast, one in the thyroid.

Dr. Jill 4:27

My mind was always like, "Oh, that was related." Number one, the genetics; we probably had poor detoxification and maybe issues there. But the environment plays a huge role, right? We both grew up on a farm. There were all kinds of organophosphates and chemicals. And many people listening may not know the fact that these chemicals in our environment, like pesticides, herbicides, Roundup, phthalates, and parabens, have a huge effect on this little gland, don't they?

Dr. Angela Mazza 4:49

Right. Exactly. And they can impact every single step of the way. Our thyroid makes thyroid hormone. So from the way it takes up iodine, not to mention how our gut is taking up our micronutrients—that's a whole other ballgame, selenium—it affects how our iodine is taken up. It affects thyroperoxidase, the enzyme that incorporates iodine. It affects how it's released into our system and how T4 is converted to T3. Every step of the way can be influenced in some way by these toxins.

Dr. Jill 5:18

Yes. Obviously, tyrosine and iodine are used to make T3 and T4 and then selenium. What are some of the core nutrients that people, if they're maybe not getting in their diet, could have thyroid dysfunction [because of] just based on nutrient deficiencies?

Dr. Angela Mazza 5:32

Yes. Iodine is number one, but it's the trickiest one because I don't want everyone to go out and start taking iodine. There is a narrow window for iodine. Too much can shut down the thyroid. It can go into overdrive, especially if you have underlying autoimmune thyroid. That may or may not be diagnosed. And if you don't have enough, you just don't have the raw material to make thyroid hormone. Over-the-counter iodine supplements are my pet peeve. I have everyone come in when I see them for the first time [and say], "Bring in all your supplements." And darn it, if there isn't a thyroid supplement with a ton of iodine! So I just check those levels right away. That's what I would recommend people do before starting anything as far as iodine.

Dr. Angela Mazza 6:22

My number two would be selenium. Selenium is so, so, so important. The thyroid is dependent on selenium, not only to make thyroid hormone but [also] to protect the thyroid from everything we're exposed to. It's kind of like the great protector. Not to mention, with Hashimoto thyroiditis, it helps bring down antibodies. But you can't go wrong with selenium. And you don't have to check selenium. You're not going to become toxic on selenium—200 micrograms a day or two Brazil nuts, you're good.

Dr. Angela Mazza 6:53

Iron is the other one. That's kind of my third one because, especially in women, how often are women found to have low iron? And how often do we even check if we're not thinking of it? If they're not endemic already, we're not checking for iron. So iron is so important for the enzyme within the thyroid, thyroperoxidase, to work better. It's a heme protein enzyme, so if we don't have iron, we can't make thyroid hormone. Even if you're not anemic, I would say get your iron checked at least once because replacing those micronutrients could be the difference between just being put on thyroid hormone replacement and not. So if you replace the micronutrients that the thyroid needs, it can usually work if there's not something else going on, depending on where we're at.

Dr. Jill 7:43

I love that because I would agree. You and I are probably checking. Let's talk about labs in just a moment, but we're probably checking antibodies at the very least. And [inaudible] and I see still a normal TSH and free T3 and free T4, usually, the first

thing I'll think of is: "Let's try selenium and a gluten-free diet" or something like that.

Dr. Angela Mazza 8:00

Oh, yes, definitely. A low inflammatory gluten-free diet.

Dr. Jill 8:04

That's what I was going to say. So if you see just thyroid antibodies and the doctor is like, "Okay, everything's normal"—which we know may or may not be true—what would you do as a first step before you do any thyroid replacement if TSH, T4, and T3 are pretty normal and the thyroid antibodies are up?

Dr. Angela Mazza 8:18

I would just replace the micronutrients and remove any sort of inflammatory [foods]. The diet we can control—we can't control everything else, but the diet we can. And I'm at a little bit of a luxury too because I have a thyroid ultrasound in my office. If I put my thyroid ultrasound probe over the thyroid and I see long-term changes, that makes me a little more suspicious because that tells me I don't have a lot of time. So I'm going to monitor that person a little bit more closely, especially if they're kind of in that not-optimal thyroid range. But if I didn't have that luxury, I would go for the micronutrients and the low-inflammatory gluten-free diet. And then reach out in six to eight weeks. What do you have to lose?

Dr. Jill 9:00

I totally agree, because often you'll see those either go down... In the traditional sense, our conventional training says autoimmunity is irreversible, right? And you and I both know that, with the right circumstances, we can see... I always tell my story [from] 20 years ago with Crohn's disease. I don't have it anymore. That's like unheard of in conventional medicine because the truth is, when we give the right nutrients, when we reverse the inflammation—it's not all cases but sometimes—we'll see these cases of thyroid [disease] where they're early and the thyroid hasn't really been damaged and you can actually reverse or decrease those antibodies.

Dr. Angela Mazza 9:29

Exactly. Exactly. And I get into a little bit of a debate with some of my traditional endocrinology friends, where they'll say: "There's no need to check the antibodies once they've been checked. They're there, so there's nothing you can do about it." And then that's when people end up on levothyroxine for the rest of their lives, and they never get taken off of them. If we don't have to put someone on medication, I'd rather not.

Dr. Jill 9:54

Absolutely. So let's talk briefly about labs, because you and I probably check a lot more than average. The average [inaudible] just check TSH. Tell us a little bit about the very basics of TSH and free T3, what the panel labs would be, and why it might be important to look a little bit bigger than just the TSH.

Dr. Angela Mazza 10:11

Yes. If it's the first time I'm seeing someone, I order the most amount because I figure I don't want to add things in later. I'd rather just check everything out once. And I warn my patients too: "Be prepared. Go well hydrated to the lab" because we don't have a lab here in our office. So just be prepared; they're going to draw a lot of labs. The basic labs [are]: TSH, free T4, free T3, and reverse T3. I'll check a random urine [sample] for iodine and creatinine. There's no great lab test for iodine. Probably the best would be a 24-hour urine collection for iodine, which is a pain to do. Nobody likes doing that. So if you get a random urine iodine with a random urine creatinine, you can extrapolate out of 24-hour urine and then that tells you where you're at.

Dr. Angela Mazza 11:07

Thyroid antibodies—anti-TPO [and] thyroglobulin antibody. Those are my basics. Depending on my suspicion of this history, that's where I'll start with getting a complete iron panel with ferritin. I'll kind of go from there. If I'm suspecting something like Epstein-Barr, then I'm checking for reactivation. It all depends on the story I'm getting from the patient. Say they're having real issues with weight, then I'm adding in insulin levels and going from there. But the basics, when it comes to thyroid, are those—the first group of labs.

Dr. Jill 11:44

Fantastic. I couldn't agree more. Now let's talk a little about TSH because the other thing we taught in medical school was: "Don't touch it until it's over 10." I start to think of issues [when it's] above 3. And I don't always treat it depending on where they're at. Where would you say the numbers for TSH should be, ideally? Or when should we think there may be an issue?

Dr. Angela Mazza 12:03

Yes. I shoot for between 1 and 2 or 2.5. But 3 is reasonable too, because we now have data outside of when those rules for TSH and subclinical hypothyroidism were made. We now know that people have metabolic issues with the TSH that's above 4 at least, [and] cardiac issues that can happen. We're already seeing homocysteine issues. There are things that are happening in the considered safe-subclinical range that we have the luxury of this data now that we didn't have then. But unfortunately, we're still going by that same guideline.

Dr. Jill 12:44

Right, we're like 20 years behind the times.

Dr. Angela Mazza 12:46

I know. As integrative doctors, we're trying to educate and we're ahead of the game on everyone. So it's our goal to spread that information. My big thing is that I don't want something bad to happen to my patient when I have the foresight to know the potential to shift it.

Dr. Jill 13:11

I agree. And when we're thinking of integrative or functional medicine, we're always on this trajectory. I always say it's not like Tuesday you're fine and Wednesday you wake up with diabetes. That never happens, right? So it's always that we're walking towards metabolic dysfunction or thyroid dysfunction. So you and I are like: Where are you at on that timeline, that trajectory? And if you're starting to walk in the wrong direction, we're like: "Hey, let's go back."

Dr. Angela Mazza 13:33

Yes. You're closer to falling into the river if you're so close.

Dr. Jill 13:38

Good. Good, good. One last thing, and then we're going to go on to nodules, which is your area of expertise. I was going to ask about symptoms. Again, people probably know this, but for those who are just listening, what might people feel if they're just starting to creep up or they're developing Hashimoto's? What are some of the basic symptoms that they would expect or that you might ask them for in hypothyroidism?

Dr. Angela Mazza 13:59

Got you. Well, when I first started practicing, there were symptoms where I would have said: "No, that's not thyroid. That's not thyroid." But now [that I have been] doing this for so long, I can—depending on the person—see how things that wouldn't make sense as being thyroid actually are thyroid, because thyroid affects pretty much every system of our body. But probably the main ones are fatigue—just feeling zapped as far as energy. Brain fog is a big one. I don't think we address that enough because our brains are so rich in thyroid receptors. Especially as women, we push through a lot. But if you feel like your brain is not firing, then get your thyroid checked, especially with Hashimoto's thyroiditis.

Dr. Angela Mazza 14:46

Feeling cold [is another symptom]. In Florida, we don't have that so much. So I always say, "This is a loaded question, but are you feeling hotter than normal or colder than normal?" So that's kind of a tough one down here. Hair loss and changes in skin and hair are big ones. Having trouble losing weight, even though you're like: "Hey, I've not been veering off track with my meal plan. I've been exercising. I've been trying to get sleep. But I'm still tired in the morning. But I'm trying to get sleep." Those are kind of the big ones. If we look back into the literature, hoarseness is always listed. I don't see that as much anymore. You actually have to be pretty far along to have a lot of hoarseness. But probably fatigue, weight gain, brain fog, and skin and hair changes.

Dr. Jill (pre-recording) 15:38

Hey, everybody. I just stopped by to let you know that my new book, *Unexpected: Finding Resilience through Functional Medicine, Science, and Faith*, is now available for order wherever you purchase books. In this book, I share my own journey of overcoming a life-threatening illness and the tools, tips, tricks, hope, and resilience I found along the way. This book includes practical advice for things like cancer and

Crohn's disease and other autoimmune conditions, infections like Lyme or Epstein-Barr, and mold- and biotoxin-related illnesses. What I really hope is that as you read this book, you find transformational wisdom for health and healing. If you want to get your own copy, stop by ReadUnexpected.com. There, you can also collect your free bonuses. So grab your copy today and begin your own transformational journey through functional medicine and finding resilience.

Dr. Jill 16:34

I totally agree. And we see those a lot. Okay, let's shift to nodules. Let's talk first [about] what causes a nodule. What might someone notice? Is anything different or specific with labs or what you'd see clinically? And then we can talk about some options for treatment.

Dr. Angela Mazza 16:50

Yes. Nodules are very, very common. If we ultrasound everybody that walks down the block, about one in three persons—sometime in their life—is going to show up with something. So they put it in perspective how common they are. You may not have any symptoms at all. Lots of times I have patients sent to me for thyroid biopsies where they were found accidentally for imaging for other things. Like, they went in for imaging of their neck and they were found to have a thyroid nodule. They had a chest x-ray, and somehow a substernal goiter showed up. But some people may feel a little lump on their neck, their doctor may feel it, or a close loved one may see it. But we see that sometimes too.

Dr. Angela Mazza 17:33

Now, as far as what causes them, that is a great question because we actually used to think, "Oh, this must have been iodine-related" sometimes. And it could have been. The thyroid is so sensitive to iodine. But what we're finding more and more: We're seeing an increasing rate of nodules in the setting of inflammation. Again, the poor thyroid is getting hit hard with inflammation. We see a lot more in obesity and insulin resistance now.

Dr. Angela Mazza 18:10

Cancer is what we want to not miss with thyroid nodules. All of my recent thyroid cancers have been in the setting of insulin resistance, diabetes, and obesity. So the thyroid is so exquisitely sensitive to it. Most nodules are benign. We have certain

criteria here where we look at them a little more closely as far as biopsy to make sure that they're not cancer. Most nodules don't cause a problem at all.

Dr. Angela Mazza 18:36

Some of them can grow depending on what they're made of; if they're more fluid, they're more solid, and they're more vascular. And that can become a problem. It can cause compressive symptoms because your thyroid sits right on your trachea. So you might have trouble breathing if your nodule is giving you grief. You might have trouble swallowing because your esophagus runs right along the left side of the trachea. Some people have trouble just coughing. That's when we see hoarseness of voice because the recurrent laryngeal nerve runs behind the thyroid.

Dr. Angela Mazza 19:11

But again, most nodules don't cause any problems. We follow them and it's not an issue. But for the ones that were up until recently, within the past years, our only option was surgery for a lot of them.

Dr. Angela Mazza 19:27

Now, there are nodules that make too much thyroid hormone. Those are what we call toxic nodules or overactive nodules. Those folks have symptoms as far as feeling overactive, so it's the exact opposite of what we're talking about: hypothyroidism. They can feel anxious, sweaty, [have] trouble sleeping, or [feel] shaky. Toxic nodules can be very symptomatic and life-disturbing for some.

Dr. Jill 19:53

Yes, I've seen that.

Dr. Angela Mazza 19:54

But also, other than surgery, we have medicine. Up until recently.

Dr. Jill 19:58

Excellent. That's a great overview. We don't have to go into detailed radiology—confirmation—but what are some of the basics as far as size? Like, when you think, "Okay, we can follow this every six months, it's probably benign," are there a few criteria that people might know about or hear from their doctors that would lead you to believe it's benign versus more serious?

Dr. Angela Mazza 20:19

Yes. So [there's] no size in particular [that] we can say, because lots of times when we find nodules, we don't know how quickly they got to that point in time. They may have grown very quickly to be one and a half centimeters. One and a half centimeters is kind of our go-to for a biopsy, making sure they're not cancer. And one and a half centimeters is pretty small. It's like half the tip of your finger, so most people don't feel them. If we biopsy a one-and-a-half-centimeter nodule and it's benign, I usually say you repeat it again—an ultrasound in six months. If that's stable, then maybe one year, every one to two years.

Dr. Jill 21:02

So you look at the rate of growth basically, right?

Dr. Angela Mazza 21:05

Yes. I kind of have a baseline. I always like to have a baseline. Now, there are sonographic changes on an ultrasound that make us a little bit more concerned. Nodules that are a little more vascular mean we've got to look at them a little more closely, especially if they have vascularity in the middle of the nodule. That's a little bit more concerning for cancer or cancerous growth. You might hear something about microcalcifications. Nodules that have microcalcifications make us a little more concerned, so we follow them a little more closely. And nodules sometimes have weird borders and they just look [like], "Eh, I don't like the look of it." Then I just say: "You know what? I feel better just following a little more closely."

Dr. Jill 21:57

That makes sense. And again, [inaudible] you're actually able to do that when you want to. Awesome. That makes so much sense. Okay. So say we've decided they're likely benign, there's a very slow rate of growth, and you're really confident that you're not dealing with cancer. Let's talk about radiofrequency ablation, because that's something that you do that's unique and that's incredibly powerful. There are not a lot of doctors out there that are doing this. Is that correct?

Dr. Angela Mazza 22:20

Yes. Yes. It's becoming more accepted and we're trying to get more education out there because, still, people are unfortunately needlessly having their thyroids taken

out every day. And we talked about all the things that the thyroid does. If we're doing surgery to take out a thyroid nodule that's benign or not causing any problems, then we've just traded one problem for another. Basically, we haven't really solved anything. You have someone who's going to be on thyroid hormone replacement for the rest of their lives. So radiofrequency ablation—you might have heard of it in terms of other tissues. It's been used for years for small tumors like [in the] prostate, liver, lung, and even in the cardiac world for heart disease.

Dr. Jill 23:04

Like for [inaudible] ectopic beats and stuff, right?

Dr. Angela Mazza 23:08

Yes. Back in 2002, it was first used in South Korea for benign thyroid nodules. And all across the globe, this has been accepted as a treatment option for benign nodules. That includes overactive nodules. But it wasn't approved in the US until the end of 2018. I got trained—right on board. I took care of so many people who had their thyroid taken out and were having trouble getting their thyroid levels on track for so many years. I was like, "This is a no-brainer." It's done in the office. You don't have to have surgery. You don't end up with a scar. It's effective. It's safe. There are no complications associated with surgery. I look at it as an honor to be able to offer this service. We've had people come from all over the country for this procedure. They want to look for other options other than surgery.

Dr. Jill 24:07

Yes. I believe it. [inaudible] I was so excited to talk to you because I think the more I can help you get the word out, the better. I'm such a fan. What happens in medicine—I'm a cancer survivor, so I know this well—we cut, we burn, and we treat. And there's nothing wrong. It saves lives. It saved my life. But I look back and in relation to what you're talking about—the chemotherapy, the radiation, and the surgeries that I had—the cancer was easy. I was through that in about nine months and I've never had it again. But in the past 20 years, what I've dealt with has been the side effects of the treatments, which is what you're doing. No regrets. I would do the same thing again. However, I realize how toxic a lot of those things are. And that's just how our system works. And again, it saves lives. But it's very relevant to the thyroid because I think the historical bent has been to take it out and remove it.

Dr. Angela Mazza 24:57

To take it out. There are great surgeons out there. I love my surgeon colleagues. But if you're going for an option from someone who that's what they do with surgery, then that's probably going to be—

Dr. Jill 25:08

Yes. That's their option, right?

Dr. Angela Mazza 25:11

That's their recommendation. But I think getting the word out more... We actually have more surgeon colleagues who are doing RFA as well, because they realize it too.

Dr. Jill 25:23

Yes. Are you teaching or talking more about this outside of a podcast episode?

Dr. Angela Mazza 25:28

Yes. I'm trying. I'm actually at A4M. I presented on RFA. I'm trying to do more—just more local education and getting the word out there. We have episodes on our YouTube channel and things like that. But I have to say RFA has been very patient-driven. The patients who have referred themselves to me sought out this treatment. It wasn't the recommendation of their doctors. So I think, especially in the integrative community, we have to be aware of it as an option to really say: "Okay, here you go. This might be a way for you to save your thyroid and not have to go through surgery."

Dr. Jill 26:11

That makes so much sense. That's why I'm so excited to talk to you. For me too, I'm like, "Oh my goodness, this is such a needed option." I don't know that there's anybody in my area doing it. So are there any times when you do an ablation and it recurs? Is there a small percentage of failures where you need to do another treatment? Tell us kind of like a spectrum of successes and never needing treatment again versus maybe something else happening.

Dr. Angela Mazza 26:35

Right. So, [with] larger nodules, we can only ablate for so long if we want to keep things as safe as possible. But we're getting some very, very large nodules, like 65-milliliter nodules, where I can only do the procedure for so long. Patients are awake. We're monitoring their voice, just for the sake of time. It can be a lot after a while. So those are patients that I say: "You know what? We can shrink it..." Our goal would be to get it to 70% to 80%. But if we can at least make a difference in how you're feeling, it's not causing compression issues... It's still going to be there. You probably need another treatment to get more decrease in volume. So those are cases where I have to be really upfront with people. The other case is these overactive nodules. These overactive nodules are very, very vascular. When they're more than maybe 10 or 12 milliliters in size—that's not that large of a nodule, that's like two by three—they oftentimes need another treatment because it's just [inaudible].

Dr. Jill 27:49

So you just have to repeat it. Is it done for low-risk cancers? Can you actually treat low-risk thyroid cancer too?

Dr. Angela Mazza 27:54

Yes. This has been an exciting thing for RFA within the past year or so. Very small cancers are called micropapillary cancers. Those are the most common types of cancers. Micropapillary means they're probably around one and a half centimeters. The chance of micropapillary growing over time is very, very low. The American Thyroid Association even realized that these cancers grow so slowly; do they ever become a problem? So then we gave the treatment option of just observation. So you're telling a patient, "All right, you can either have your thyroid taken out or we can just watch it every 6 to 12 months." The observation part is very anxiety-producing for a lot of people because they're like: "I'm just going to watch the cancer that's in my throat and I'm not going to do anything?"

Dr. Angela Mazza 28:48

So now we can offer RFA for that. The results are great. Again, we have to follow it over time. We still follow closely, but at least it's something that [makes] the patient feel like they're doing something for the cancer and that they're not just watching it. Lots of times, when we look over time with the observation data, patients end up having the surgery anyway because they were so anxious about the cancer.

Dr. Jill 29:16

Wow. Amazing. This information is so needed. Is there anything else on the horizon that may not be standard yet but that you've seen that has any other future things that you're looking at or seeing besides this actual treatment of cancer?

Dr. Angela Mazza 29:31

There are some different therapies as far as non-surgical options that are coming up on the radar for different types of cancers, but we just don't have enough data to say the safety long term. But there's a lot coming up.

Dr. Jill 29:43

It makes sense because a lot of them are not super aggressive—and maybe I'm saying that wrong, but I would say in general—versus pancreatic cancer.

Dr. Angela Mazza 29:53

They're very slow growing. There are a couple that are fast-growing, but those are very rare.

Dr. Jill 29:58

Which is nice because then there are other options as we go. How exciting! Well, thank you so much for your information. Tell us a little bit more about what other places people can find you. Where's your website? Any other podcast?

Dr. Angela Mazza 30:11

Sure, thank you. Well, I actually have a book coming out called *Thyroid Talk: An Integrative Guide to Optimal Thyroid Health*, hopefully within the next week or so.

Dr. Jill 30:23

Oh, that's coming soon. Wonderful! When this podcast comes out, it will probably be available. If you're listening, wherever you're listening, look at the show notes because I will link to wherever you can buy the book or preorder. Are they able to preorder now?

Dr. Angela Mazza 30:38

Oh, yes, they are. This was something I never thought I would do. But when COVID hit, I had a little more time. So this has been a work in progress since then. I'm so happy for it to be out. And there's going to be a masterclass that kind of goes along with it shortly thereafter because I realize that lots of people don't have access to endocrinologists. They don't have access to the information that you and I have that we can spread. So that's the masterclass. We have a podcast called *Thyroid Talk with Dr. Angela Mazza* on all the streaming channels. And Dr. Jill, I would love it if you would be a guest on our podcast.

Dr. Jill 31:20

Yes, I would love to.

Dr. Angela Mazza 31:24

And then finally, we have our website, metaboliccenterforwellness.com, Facebook, Instagram, and TikTok—although I don't dance.

Dr. Jill 31:38

Me neither. Awesome. Very good. Well, thank you again for your great information. Thank you for being a leader, because it takes someone who's cutting edge and pushing the envelope a little to get to the places where we need to be with patients. But when you're the pioneer, sometimes it's a little lonely out there. So thank you for being that pioneer in this field.

Dr. Angela Mazza 31:58

Oh, and thank you for being so supportive and helping to spread the information.