Introduction and Guest Background

Hello everyone, and thank you once again for coming to the Prostate Cancer Summit. I'm your host, Doctor Geo Espinosa, and it is my great pleasure to introduce to you Doctor James Wysock, who's a colleague, a friend.

We literally work right next to each other at NYU. Doctor Wysock is the assistant, professor, department of urology at NYU School of Medicine. He his clinical practice focuses on management of urologic urologic cancers.

His research efforts concentrate, on prostate cancer diagnosis and treatment, including MRI, ultrasound, fusion, targeted prostate biopsy, transfer, perineal biopsy, partial gland ablation, and minimally invasive surgical techniques.

He serves as the principal investigator on the NYU perspective, Partial Gland Ablation, and Focal one High School registries, and is a member of the Focal Therapy Society.

Jim, thank you so much for being on as you drop off your kid to play flag football. And here you are in your car. I couldn't ask for a better if you were two dressed up with a white coat and I was like, I'll come on you.

You're boring. Now. This is way more exciting. Thank you so much. Well, well, thanks to you for having me again. It's always a pleasure to be, engaged with this guy in discussion with you.

I really appreciate these opportunities, and I feel it's refreshing. And, yeah, it's a little bit of a slice of real life, you know, trying to, coordinate our busy schedules.

And here we are. I'm actually between games. And so I appreciate you taking me on and in more of a casual setting, but, you know, happy to, to to engage in this discussion and have some, some stimulating conversation.

Yeah. Look, I'll make sure to get you let's get you back, as soon as possible. Here. We don't want you to miss your kid's touchdown or something, right.

That, you hopefully somebody videotaped it, if that happens. Oh, yeah. There's plenty of video going on. So we are, you know, you and we are part of this institution and NYU Department of Urology, and, you know, we are ranked like number two in the nation now, which is so amazing.

It's amazing. Now, when I was in institutions and in scenarios where I wasn't ranked, I used to say, well, these U. S news reports, that doesn't mean anything.

You know, that's all B. S. now that you know, we're up there, thanks to our everyone that works here and obviously the our leadership with Doctor Laporte.

You know number two in the nation. So we're there's something happening that's right I think you're a part a big part of that. Partially because of all the research you do.

And, and I can see it firsthand is is always a matter of how do we get this right? And this is this, like, insatiable effort of how do we get it better, how do we do it better, how do we do it better?

Prostate biopsies and figuring that out is something that you and the rest of the team has done. Incredibly early. I've had been incredibly focused on.

So let's let's take it a step back. So and and again, to our audience here, they're all over there have been diagnosed. They're curious has never been diagnosed. So and I think as you can imagine, I and I as I can imagine,

most people that are going to view this are going to say, no way in hell I want a biopsy.

Right? I there's no way, you know, all these things that they're reading on the internet, some of which we can talk about. So give us an a little overview of how by y biopsies.

How do they work. Why not an MRI that says yep there's a lesion there. And let's you know, let's treat it or let's not treat it. Why biopsies. Yeah, that's a great question.

Why Prostate Biopsy Is Needed

I think what you're hitting on, Joe, is that there's a tremendous hesitation, for men as we get older to say, hey, let's go get checked out for something like prostate cancer, because there's many aspects of that evaluation that are frightening, whether we want to admit it or not, it's a scary concept, and it's an uncomfortable concept because it strikes at the heart of our, our, you know, viewpoint as men and in our, some of our vulnerabilities.

So I think that starting there, you know, the biopsy and why the biopsy strictly comes down to, hey, we need to be, ahead of the game when it comes to prostate cancer.

Prostate cancer remains the number one solid tissue that we die. Cancer that we diagnose in men worldwide. It is still lethal for many, many men every year.

And so it's something that is a real public health concern. And it's a real health concern for all of us who are still healthy and still have many years of longevity ahead of us.

And that really starts in our 40s. Now, the screening recommendations are around 45 to begin. And so that's actually an eye opening number for a lot of men.

You know, we feel pretty young at age 45. We feel pretty healthy. And as a translation from our earlier years, we probably feel pretty, invincible. But the reality is it is a problem that will continue to be present in our lives as we age.

The prostate grows and there's a risk of cancer development. And so this is an important part of our health maintenance. It's part of preventative health maintenance.

I think everyone is on board with colonoscopy as an important tool to help prevent colon cancer and death from colon cancer. Well, this is all part of the concept with prostate cancer.

So prostate biopsy remains our tool and is still, despite our aspirations, that we have a better way to do this. The required tool to make the diagnosis of, prostate cancer.

But before we even get to the biopsy, there are many important steps that have to be, assessed. And it needs to be done very thoughtfully. And I think if we embrace that, and then we'll also be a little bit more willing to say, yeah, let's go down that pathway.

And I like to think of it as, you know, we need to update not just how we do biopsies, which is part of the revolution that's occurred over the last 10 to 12 years in that I've been lucky to be part of at NYU is improving the way we do biopsies.

And what I mean by that is making them more accurate, making them safer, making them more efficient for men. But not just that. We need to take a step back and say, what is the modern step to actually determining who needs a biopsy?

Because, you know, we used to, you know, just say, okay, well, here's a PSA. And most men actually still get this a report on your PSA from, say, your primary care.

You check in for your annual physical and you get a number that says, oh my goodness, my PSA is over four. That's out of the normal range. You and your primary care physician might say, you know what, you need to go see a urologist.

And then his cascade of thoughts are, oh, biopsy. Well, maybe not so simple. So we take a step back and we need to be very thoughtful about who actually needs a biopsy and then how that biopsy should be done most effectively.

And so the whole realm of modernizing the diagnostic strategy, there's many aspects that we're working on to try to improve that. And really the biopsy is that endpoint where we're going to say, okay, you do need it.

And then I want to do that as safely and as efficiently as possible and most importantly, as comfortable as possible for men. You know, many institutions and of course, including NYU, do everything possible.

I see you guys right. Do everything possible not to biopsy you, actually. So you have your system in place, and only when certain things are a lot of red flags coming up.

Exactly. Look, we have no other choice. What's your system? Before you say. Yeah, listen, we have to. There's no other choice. We have to do a biopsy.

What's your approach? My approach is, look, the PSA as a blood test is what brings you in the door most of the time. Right. It's somehow been marked as elevated by one of you, the physicians that referred, whether it's your primary care physician or some other physician, picks up on this and says, you know what?

Your PSA is a little bit off. I want you to get checked or someone's done an exam. Hey, your prostate doesn't feel exactly normal. You need to check in with the urologist.

So, you know, the first thing is to say, look, the PSA is a test that really only tells us one thing. You have prostate tissue. If you're measuring PSA in the blood, it only tells one thing with accuracy in that there are prostate cells that are making the prostate specific antigen, which is the PSA test.

And therefore that's all I can really say with certainty. So my my approach is let's take a step back and get a few other pieces of information about the PSA and what could be causing it to be the number that it is.

And one of the most important and first steps on that is how much prostate tissue and how big is your prostate? More prostate tissue makes more PSA. Therefore, your PSA could be very high and it just related to a large gland.

So the first test that I like to refine the PSA is called the PSA density. And that is normalizing the amount of PSA you have for how much prostate you have.

So in simple calculation, take your PSA and divide it by your prostate volume. That gives you your PSA density. Well guess what? Most of us have no idea what our prostate volume is.

So how do we do that? How do we do that? So that's step one. I need to sort of get a sense of how big the prostate is. And there are a few pathways for doing that, one of which is the digital rectal exam.

But that only gives you a very rough estimate. When I do a digital rectal examine a man, I'm able to feel half of the prostate, basically the half of the prostate that faces the rectum that quick exam will give me some sense of a prostate size, but by no means is it an accurate number.

I'm missing out again, but it is a good start for many, many reasons because it allows me to sense, you know, a few other aspects of the prostate. Of course, I can check for an abnormal finding, meaning a nodule, but the idea is how big is the gland?

The real way to know how big the gland is is through imaging. And I have two different pathways for that, one of which is, you know, an MRI which we can talk about in more detail because an MRI is going to give you a really

good picture of the prostate.

It's going to give me a size on the prostate. And that test actually has embedded within it the ability to assess for cancer as well. And that's a really nice test.

And so a lot of time you come in with an elevated PSA.

PSA, PSA Density, and Initial Risk Assessment

I do an exam. I'm thinking do you need an MRI as well. Now I don't jump to that. But it's I'm thinking is that that's one of the questions. The other is an ultrasound a trans rectal ultrasound test.

And I know that sounds scary in many ways to have a ultrasound probe in the rectum, but we have a tool at NYU called the micro ultrasound or Exact view, which is a highly, precise resolution ultrasound.

And that test simply on its own as a first step to say, hey, why don't we just take a look at your prostate under ultrasound and get a sense of how big it is?

I can measure it and then I can take that PSA and I can say, well, what is your PSA density? And if your identity is elevated, let's say it's over 0.15.

It's a benchmark. It's not the end all be all, but it is a benchmark. Then I say, you know, now you now you weren't getting an MRI. Now the other way you can approach this is before you even do any of those assessments.

And I think this is important also repeat the PSA. A few questions around when that PSA was obtained. Was sexual activity occurring within a few days or even around the time of the PSA drop that will cause it to be elevated and then need to be aware of that when you're going in knowing that you're going to get a PSA, be abstinent for about 72 hours, try to.

Was there a lot of constipation? Were there any changes in urinary symptoms around the time where you were urinating more frequently? Was there any burning with urination?

All of that clouds the accuracy of the PSA for cancer, because PSA will go up for things such as prostate inflammation. And certainly if there's a prostate infection or a urinary tract infection.

So all of these are important features. And so part of the discussion when I see a man with an elevated PSA is, hey, what's going on with that urinary tract.

Yeah, function etc.. And so I put all this into an initial evaluation to see what is going on with that PSA. And therefore where do we go next in the prostate evaluation.

That's beautiful. Look PSA you mentioned PSA density. What a nice and very inexpensive tool. I mean the data is very good on PSA. Density is a really good tool to know if you need to go to the next step, whether the next step is an actual MRI or a biopsy.

The micro ultrasound. So I've had trust issues with ultrasounds in terms of what's the right volume, for accuracy reasons, I just never thought that the accuracy was on point.

MRI much better. But let's just say the micro ultrasound, if you have access to that, is that much better than the normal conventional in terms of what this is what you really have in terms of size of the prostate versus, I don't know, whatever other standard ultrasound is available.

We'll look ultrasound as a tool can give you a good estimate of the volume of the prostate as a starting point. Micro ultrasound to achieve that result is probably not any better than conventional ultrasound.

So micro ultrasound gives me this extra layer of looking at the glandular structure of the prostate. It does have embedded within it a tool to sort of assess for cancer as well.

That's tricky for me because that is a learning curve. I'm learning how to interpret micro ultrasound. We as urologist, this is a new tool. There are some urologists out there who employ this all the time.

Maybe they don't have as much access to MRI. And this becomes a tool that allows them to get a better look at the prostate tissue on my approach. So I'm still in the phase where I want to see what it looks like and and back it up with MRI, but I use it as an initial screen for some men who have never had any imaging to say, hey, I'm going to go ahead and get a rough measurement of your prostate size it.

But I'm also going to scan you with the micro ultrasound and say, hey, does anything look off? And believe it or not, you know, I've picked up a couple areas on micro ultrasound and then I get an MRI and they correlate.

And that's a very powerful tool because then I could say, hey, I can see it on the micro ultrasound. I could see it on the MRI. Well, then my biopsy I feel is going to be more, more accurate because I would be much more confident that the lesion will be targetable accurately. And that's another discussion.

But my goal, which is and right now is just a tool that I think we're learning, we're going to gain experience with. It may enhance our ability to do an initial evaluation with ultrasound imaging.

You're right. There are pitfalls to ultrasound. For example, if there's stones in the prostate, they block an ultrasound signal and make it inaccurate in measuring the volume.

And there are a few of those components. And I still use as my my most important imaging study that mirror. Yeah. Micro ultrasound again. You know, I guess I'm not so human while I try to be objective and control my emotions and excitement with new things come out.

Right. But at the same time, I mean, you know, academic institution, I want to be neutral in a, objective. But, man, it starts getting exciting when you see the, you know, the images of Michael ultrasound versus other other tool, other ultrasounds that were out there is I even I can you know, and this is not what I do.

I even move my naked eye. I can see things a little bit better. With PSA density. You should touch on that a little bit. I wonder what you think of this. My approach.

I kind of narrow my ranges depending on the overall picture, of course. So I go my my range is from point one to.15, as opposed to a 0.10, 2.15. Just kind of to kind of keep it a little tighter and missed, you know, there's less than 0.1, more, you know, more I feel more confident to say, all right, maybe we don't have to move forward.

But between point one and.15, of course, it depends on other factors. You know, in other words, I just don't wait for it to be above 0.15. I kind of keep it keep it tight.

Your thoughts on that? Do you do that or might just crazy. No, no, not at all. There is a spectrum here and there is no absolute cutoff for PSA density.

I kind of use as.15 my initial thought process, but that between 0.10.15 is a little bit on the higher side. Certainly when you're below 0.1 or 0.10 or lower, let's say it's.07, for example.

That's a it's a number, often 0.06, you know, where there's a fairly big gland and, you know, you get the PSA and it's like six, but the guy's prostates, you know, 150 cc's, you know, then you know, wow, that PSA density is pretty low.

That's very reassuring that that six PSA is really not that alarming for that size of the gland. But when you get into that 0.12 range one three and you know, it does sort of send a signal that you may be catching something along the earlier side.

And that's where I bring in other biomarkers, because there are some other easy biomarkers essentially based off of either blood tests or urine tests.

They can then strengthen that evaluation positively or negatively and all. Of course, heading towards that big question, do we need to do something like a biopsy.

So if you can briefly you know, we we've had we have had few other experts talking about the all these other biomarkers that are used briefly. What is it because not everybody is in the same page.

Right. Some people use a urine test, some people don't. Only the blood test, only the 4k score, not the 4k score. So what's your approach once you have PSA velocity PSA absolute value density.

What what's that next tool that you use. Yeah. So look I think it's very important for your your your viewers, your listeners that there's no set standard here.

These tools are all out there and there's a mixture of them. They all have some strengths and weaknesses, and they all are trying to aim to improve our specificity of this test.

And what I mean by that, they're all trying to say, yes, you are at risk for cancer. Therefore you need to go further down the diagnostic pathway. What I like to do is this if you've had a PSA test, one of the next steps is to repeat the PSA test.

One of the easiest ways that I can envision it. Repeating your PSA test with just a little bit more information is the poor case score, because it's pretty readily available, and the 4K score will give me a new PSA.

It's embedded in it. That's the one of the four case. Then the percent free PSA, which is also embedded in the poor case where it could be useful to give me a little stratification.

Then there's two other Icer forms there, but that all gets conglomerated on a test that not only gives me your repeat PSA, but a risk level. And so then I get it.

I get a nice good next test where I'm going to embed that repeat PSA. You could just simply repeat the PSA which is which is valuable as well. But when I do the 4K I get some PSA and some additional information.

Biomarkers and Deciding on Biopsy

So that's step one. Now let's say you've had a number of PSA and they're all kind of bouncing around and they're not entirely clear. Well this is where I bring in a non PSA derived test.

And in that realm that's where the urine based test really comes to the forefront. Because a urine based test says, okay, look, we know that the PSA signal is clouded by many different other features.

Let's check it with something else. And this is the Z test, which I like as my my reflex test in this setting because it's non PSA tagged, but it's completely separate and agnostic.

For your PSA. It's going to look at mRNA in the urine. That might give you a signal for prostate cancer. And then that's going to give you a risk level.

And so that sometimes takes these confusing PSA test which could be all over the place puts them aside and said, let's take a look at the prostate cancer risk from entirely different perspective.

And that also can augment my thought process in a lot of ways. So that so now they they've had all these, results back. And it's very much indicative that they did a biopsy.

And that's the gold standard. There's no other way of diagnosing someone with prostate cancer. The few times I've

ever heard a patient say to me, Doctor Geo, I mean, I had a biopsy with, with with the doctor and it it was actually okay.

It was it was actually even pleasant is when they cut one of yours under your patient. I'd never thought I hear those words from anyone's mouth. I, you know, typically 90% of the time.

That was horrible. Oh, my God, that was a worst experience. I'll never want another biopsy again. They do it with you. Some have said no. No, a much better than when I thought actually.

Or that was that was actually okay. You know, it was I was like, what is doctor? Why stop doing. So what is your approach so that these patients are okay with doing biopsies or after doing biopsy with you?

Well, let's take a step back and just say, look, a biopsy is an unpleasant experience for any man and there's no way around it. Okay. And I think taking that on as the first step helps.

Right. So we we go into the biopsy room together. We've made the decision. This is necessary. We got to acknowledge this is not going to be easy for anyone.

Right. And I like to sort of preface it with with men that look think of this as a bad trip to the dentist office. Right. You're going to be uncomfortable when you're at the dentist.

The doors open, you're lying in the table, you've got needles, you've got drills, you've got fluids in your mouth. There's just no way around it. It's not a comfortable experience, but it can be done in a way where it's not going to be horrific.

The same holds true with the prostate biopsy. Part of that is setting an expectation, saying, look, I'm going to walk you through every step of this before I do anything that's going to be painful.

I'm going to let you know that you're ready for it. Then I'm also going to do a thorough job making sure the local anesthetic works. Think about when you see the dentist.

They make sure they get a good block in there. First thing, they let that block take effect. One of the nice aspects about of doing a targeted biopsy, which is the which is the mainstay of how I do biopsies, is we give a block first, and then I have to do a lot of work on the, imaging to get it all lined up so that we're going to do an accurate well, that gives the block time to take effect.

That's valuable, that let's that anesthetic really sink in. Now, the other thing that I really do work on is before I'm going to take the actual samples of the biopsy, first of all, I prepare them and I'm like, look, we're going to take the biopsy.

Now you're going to hear a sound. That sound everyone remembers. No one forgets the sound of the spring from the biopsy. And that is like embedded in their heads.

So before I take that, I warn them. I give them an example, and I actually apply a little local in many instances to the it right before I take it. So that we get a little additional anesthetic and you work through it with them in step by step.

And I try to just like, make this as easy as I can so I don't have us a secret sauce to make this an easy prostate. Prostate, biopsy. But it's it's we have to engage in an open discussion.

Say, look, this isn't going to be easy, but we're going to get you through it. You know, I think that part of it is that you understand where they're at.

So even if you're doing your 10th biopsy of the day, it's almost like when you see a Broadway play that you go that on that eighth show and they still are fresh and they still look and it's like, how do you do that? Is your eighth show.

You have this also, I believe, and of course, I, I'm always I'm always looking I'm always watching. What is what is Doctor Wysock are doing? You have this ability of keeping it fresh and kind of going through the same thing.

And now, well, this is the 10th patient, all right? And not going through your spiel. Interlude is where you're going to feel this is the click and kind of.

So now they have an expectation. It seems there's always a psychological element to that that might help. You mentioned MRI fusion biopsy. Give us a very brief explanation of what that is and how is how is it that is so much better than the standard biopsy that, by the way, I think, you know, I mean, I still see people that are just getting, you know, ultrasound biopsies. Right?

For many reasons. I thought those days would be long gone. But I still get those biopsy results. And they to me, they're hard to and they're hard. It's hard for me to, know if that's, you know, if that's what it is.

Right. I guess I've been spoiled with working with the people from our team and experts from our team. So MRI, fusion, biopsy, what what is it and how is it that is so much better than, just an ultrasound biopsy.

Well, that takes us back to, you know, how biopsies evolved historically. But the bottom line is one of the most important advances in prostate evaluation was ultrasound, because it allowed us to see the prostate.

The problem with ultrasound is that historically, it's not been a accurate tool for differentiating normal prostate tissue from abnormal prostate tissue.

And it doesn't exactly make sense. I think most of us would inherently believe if we could see the prostate. Why can't we see where tumors are? Well, we're working in this space where we're catching things very early.

In small. Yeah, there's a big tumor. The ultrasound can tell me that there's a big tumor there, but oftentimes you can feel that tumor and it's pretty advanced.

Making Biopsy More Comfortable

So what we're really looking to do is catch cancers small early where they're not necessarily going to be obvious on ultrasound. So MRI really came into the forefront and was a massive improvement because it could tell us what parts of the prostate looks suspicious.

So a multi patch parametric MRI really does three things. First it does it tells you the anatomy very clearly which is where we also get that accurate prostate size.

It can tell you hey this part of the anatomy doesn't look quite normal. Its features on anatomical configurations are a little different from the normal prostate or the rest of the prostate.

Then it can tell you what's called diffuse, which is density of the tissue. In essence, where is it thicker? Where is it more dense? Because the neoplasm or cancer is growing faster than the normal tissue.

And so it's going to have more cells and it may be a little more dense. That's what the idea of a knowledgeable or a bump or a blunt. That's right. And then it also looks at blood flow and tumors because they're growing faster.

They're starved for blood flow. They want as much oxygen as they can get. So they bring in more blood flow. And so then the multi parametric MRI tells you hey this area's got a little bit more blood flow to the rest.

All that goes into a picture to say hey this area right here is suspicious. It's on the right side of the prostate. It's a little bit above this portion.

Dendrites a few millimeters from here or there. And that gives me a target. A biopsy that has a target is so much more accurate than a biopsy. That's completely random.

And historically, because the ultrasound could not differentiate normal from abnormal, it was a random sampling. It was a blind biopsy. You are correct, 100%.

If we can avoid taking blind biopsies, it would be tremendously valuable for all men in the world. But we access to good MRI is still evolving. Bottom line is it's incredibly helpful because now I can target.

And that's what MRI, ultrasound fusion is. That makes your biopsy that much more accurate if your MRI has no target. Well, that's a very good question on whether you need a biopsy.

Yeah. But if you have a target I need to be able to get to it accurately. Yeah. I remember back in the day, before the MRI fusion where, you know, a patient came biopsy negative PSA rising another biopsy, you know, six months later, negative PSA rising.

So they kept missing. And then later on at something like by the eighth biopsy or show or so sometimes not even they either show up with now metastatic prostate cancer that was missed because they didn't have the right tools at the time.

Or eventually they get it and like, yep, they got it on the eighth time or so. So all those biopsies. And so now you can reduce the amount of times that you need to get biopsy, particularly if the PSA rapidly rising.

And you can you can target it better. As the name implies trans perennial versus trans rectal. Is trans personal reduces the risk of infection to almost zero.

As opposed to trans rectal which it's about 3%. But once again, if you go to good institutions, I see I, I don't remember the last time I've seen, an infection from, a trans rectal, at least from our institution or to be objective from other good institutions in New York and even California.

So is it that much better trans perennial then trans rectal, other than maybe is it more comfortable? I'm just maybe images. Right. But I'd rather not have something up my rectum.

And if I could do it in a, you know, in the perineal area, I think I would like it more. So what's the psychology there? What's the, what's the science there to support one versus the other at this point?

Such a great question. I'd say we do roughly 90 to 95% of our biopsies at NYU. Trans rectal. When it comes to a diagnostic biopsy, meaning, are we trying to find out if there's cancer or not?

We are still using primarily trans rectal. Trans perineal has become more popular. It has become more employed because of those infection risks. And those infection risks are real sepsis and severe infection.

When a man develops a sepsis after a prostate biopsy and needs to be in the hospital, it could be life threatening. So this is no way something that I would never downplay.

I still feel safe using trans rectal biopsies, using our approach, where I check every man's rectal culture prior to the biopsy because I need to know, do they have an inherent resistance to the antibiotic regimen I want to use to try to keep that sepsis risk as low as possible?

MRI Fusion and Targeted Biopsy

And if I detect resistance on the rectal culture, better do it transparently, because the infection risk from not putting needles across the rectum will be much lower.

It's never zero. Zero is not a reality in medicine 100. You know, if you hear. Telling you zero anything, run away, run out the. Door or 100 anything, you've got to be you've got to be very cautious with this.

But it is going to be lower than the trans rectal rate. So that's my initial step. Now there's a few risk factors that

we've learned by looking at the men that we've obtained risk rectal cultures on.

And one of the important things that probably needs to be understood for men who are being evaluated for this is if you have diabetes, your risk of having resistance in your rectal culture is higher.

And if you've had any prior urinary tract infection or manipulation, whether it's a cystoscopy, prostatitis, you've been exposed to some antibiotics, your rate of having resistance in the rectal culture is going to be higher.

And so if you're going straight into a trans rectal biopsy, you are running a higher risk of having that infection in that setting. So those are important concepts that men need to understand.

Now trans perineal. Let's be very clear. Trans perineal still requires an ultrasound in the rectum. You're going to feel that the same as if you had a trans rectal biopsy.

But it is needles that are going across the perineal skin. And for men who don't know, the perineum is the skin behind the scrotum just above the rectum.

It's got many different names in the vernacular, right. And that, that and that area has to be anesthetized for me to pass needle through it. So just putting local anesthetic into that area, meaning needles into that area, that's going to be painful and uncomfortable initially, just to get that numbed up.

And then I have to put that anesthetic all the way from the skin to the prostate. Now it's a direct shot to the prostate, and that can work great. There are plenty of scenarios where I will use trans perineal when I think the risk of infection is too high.

There are not very many scenarios where I think transparency is going to give me a better diagnostic biopsy. I have yet to find where transparency is better at determining the cancer than trans rectal, but but there are going to be some scenarios where I think it's a better approach for the infection risk.

And so it's a it's an individual decision and I'm absolutely happy to offer both, but it is going to be a little more uncomfortable for the transparency.

And I think the studies that are out there bear that out as well. And you got to do a little bit more passing a needle through some tissue that has nerves where the rectum, you put the probe up to the prostate and you pass needle.

You may not really feel much. So from a diagnostic perspective, the trans anneal is not superior to the trans rectal. You would think that just even if you don't know the anatomy well, that just positioning the the where the butt where the, needles are going through, you would think that you have more access to a particular part of the, of the prostate versus trans rectal, which you have, access to another part of the prostate, right, to keep it simple.

And you would think that, perhaps the areas that are harder to find. Right? So there is, like, maybe 10% chance of having prostate cancer in an area that's not the peripheral zone is some other zone where, where it's typically harder to get from the trans rectal.

You would think that from a trans perennial biopsy you can get to those harder areas, is that not it? So bottom line is I've looked at my own data on this for a few years, where I've had men that had both the trans rectal targeted biopsy and the trans perineal targeting biopsy to the same target, and I found no accuracy changes between the two approaches.

My conclusion from that is that what's so much more important than the approach is the accuracy of the targeting. Yes, there are going to be spots of your prostate where the target is in an area that may be a more direct shot with a transparent approach, or a trans rectal approach.

But if you do a lousy job with all the targeting, you could still miss it with either approach. So my, my my sense is, is that yes, there are going to be times where I will get a more accurate biopsy with one direction versus the other,

and I will take that into consideration on some targets.

But it really does matter that you're doing a good job with the targeting either way. So if you have a good fusion targeting practice and trans rectal approach and the lesion can be identified and the target can be accurately sampled, I don't think that it's been going to be superseded by saying, oh, let's take a transparent approach.

You need to take the best approach that you have. The targeting system for. So for example, if you have a trans rectal targeting system and you don't have a trans perineal targeting system, my feeling and there's not a lot of data on this.

So this is not backed up by what it might be doing, is you're going to still do a better job of the trans rectal targeting system. Now if the infection risk is too high.

Absolutely. You got to go to transparent because the worst case scenario, no matter what, is a sepsis event. Well thank you for breaking that down for us.

Last question is this is there a few. Do you foresee a future where a biopsy for the prostate will not be necessary to diagnose prostate cancer. And of course this is based out of conversations with our colleague Doctor Emberton, but also from the study from Germany that looked very small, study that looked at, you know, this group did a SMA and MRI only, no biopsy.

The other group had biopsy. They, they, they followed the, Footsie Weber had cancer and there was no difference between the two groups.

Transrectal vs Transperineal Biopsy

And in other words, that the imaging group only PSM, Pet scan and MRI imaging was as good as the as the as the as the group that did the biopsy. I'm probably butchering some of that, but that's kind of the takeaway.

I think that leads me to believe that there is a future where a prostate biopsy will not be necessary. And of course, a lot of people that are listening to this, they're reading things on the internet and they're saying, wait a minute, doesn't a biopsy spread the cancer through seating?

Right. So a lot of people have a lot of men have those concerns. Your thoughts on spreading by, cancer through seeding and your thoughts of a future without a, without needing a biopsy to diagnose prostate cancer?

Okay. So a lot in that, absolutely. I'll take the, seating portion of that first. Look, I 100% understand the logic behind that concern. And I discuss this with men quite often because it gets presented to me as a real concern.

Like, hey, if you stood a needle in a tumor, aren't you going to potentially spread the cancer around? And there is absolutely a logical concern about that.

If you look at the data using modern needles, which are very small and very precise in what they tissue, they don't disrupt a lot of tissue. I've not seen any reports.

And this occurring. I've looked and I keep an eye on it. Now, if you look back in an era when cancers were being diagnosed late, large tumors and the techniques were sampling the tissue with what we call a tree cut big needle, taking a lot of tissue.

There are some reports of that. This is 30, 40 years ago. I think what we're dealing with now in the diagnostic phase is, look, these are very small regions that we're checking.

The tumors are small, they're early. They're very unlikely to have this event occur. I have never seen it. Okay. So my reassurance to men is that, look, I think that's a valid concern.

And I don't discount that. I've never seen it clinically. I've never. And I've done thousands of biopsies. I've never seen that happen okay. Could it happen hypothetically? Yes.

I think there's a rationale there, but I just do not think it's likely to happen. I mean, there are all sorts of cancers that we biopsy in the body, and we do put needles in many, many, many of them.

And we cross all sorts of tissue cones. And it's just not a phenomenon that we see very commonly. So it is a real concern. I don't think it's a reason not to get an answer as to what's going on in your prostate.

And then that leads you to what you mentioned, a future without biopsy. My vision right now, do you say yes? At some point we could potentially get enough information from imaging biomarkers, molecular imaging that yes, you may be able to characterize a cancer completely.

Noninvasively. My vision right now, though, is that's to two steps ahead step to get to that point. First is the most efficient single biopsy. A man comes in.

And right now we're still doing 16 to 20 samples of the prostate just to make a diagnosis. Let's get away from that. Let's address and attack the problems with the biopsy right away, which is inaccuracy in the target.

We know that the target is already going to carry some risk of cancer in it. Let's say it's a highly suspicious target 90% of the time that target has cancer in it.

We we're all ready to that level of accuracy. And you're correct that could you could take the next step and say, well we don't even need to biopsy. Well, we're not quite there yet because we need to know how aggressive that tumor is.

Well, my vision is you just need one needle in that biopsy to tell you what in that grade of that cancer and therefore guide your treatment decision. That is where I would like to go.

Let's get rid of all this extra sampling, which ultimately probably only picks up disease we don't need to know about and puts the man at risk of infection.

So my vision is before we get to the no biopsy, let's get to the single needle biopsy. Now that single needle biopsy will give you some information. And then you can make a decision as to what the treatment needs to be.

If you're needing to have your prostate removed, you don't need another biopsy.

Future of Prostate Cancer Diagnosis

You don't need 12 cores around your prostate because you're going to have all of that tissue. If you're going to have your prostate radiated, you don't need to have 12 for an under affected parts of your prostate to have it effectively radiated.

But if you're going to have a partial gland ablation or a focal therapy, as we call it, you do potentially need to know where that tumor extended. And that man might need more sampling, but it doesn't necessarily need to be done at the diagnostic point.

Meaning do you have cancer or not? So my vision is that's the next step. And then beyond that, potentially, potentially we can get to an era where we will just get an imaging, some bloodwork, some urine based tests.

And yes, we know exactly exactly what you need. But for now, I think that's a couple steps ahead of ourselves. My vision is the most efficient single core biopsy, and that's where I would love to be able to move this, because let me tell you, biopsy would be a lot easier if it was one click for everyone.

For everyone. Yeah. Beautiful doctor James Wysock, thank you once again. Thank you. Thank you for being on on

this Saturday morning as you, hopefully your son's game is still going on and you can, watch him get, getting that that touchdown.

Thanks. Thanks for for for being such a great, not only colleague, friend and expert where my go to in this type of diagnosis with prostate cancer is always you.

And I know you always bring the good. So I appreciate you being on this part. Summit prostate cancer. Something and on my podcast, because you've been there numerous times before.

Where can people find you? They want to find if they want to find you? Well, look, I'm not a big social media presence. So I, I primarily, you know, kind of quiet on that front.

You can't. There are so many for me. Some of my presentations and talks are out there through the NYU, platforms and tags, if you will. Thank you for having me here.

You're probably giving me the most, platform that I got. And so I really appreciate what you're doing and want to give you a shout out, because I think what you're taking as an approach here is very helpful for the men that I see.

They reflected back to me and good work. Keep it up. And I really appreciate it. So you're you're you're the you're you're the conduit for men to find good, accurate information. In my perspective, I don't envision myself becoming that active that much more active on the social media platforms.

Really, that's not my nature. But I'll keep putting out the good work. Well, listen, anywhere that I'm involved in as it relates to prostate cancer, whether it's my podcast summits or anywhere else, you're my main guy.

So if that if that's all it is, hopefully that serves you well. And I think not only serves you well, serves the patient well, because I always feel when I, when I refer patients to you that they're in good hands.

So thank you for doing what you do. All right everyone, thank you so much again for watching this amazing episode. All the actors that or many of you, I don't I wouldn't call it a masterclass in diagnosing prostate cancer, but it's pretty close.

It's pretty close. Answers a lot of your questions on that process from one of the best in the country. Thank you for watching. Keep watching. There's more to come.

Doctor Geo Espinosa is here signing off. Talk to you at the next episode.