SPEAKER 1: We've been using this particular needle now for, what, about a year, I guess, a year and a half, whenever it was first-- became at least available as a trial program of using the device. And so why? Why did we-- you know, what it in the world do we need a new needle for?

So some of the things-- and I'll tell you, because this is what the next few slides are going to be, some of the highlights that come from the company. But I'm going to-- I'll reiterate from our own use whether I think they're correct or not. It's made from cobalt chromium and it does-- because of that, the sharpness and the shape of the needle are sustained. And I'll demonstrate that in another minute.

The handle is not as easy to move it very reliably penetrates the node. And it's the sharpness that's going to come up over, and over, and over. And if you've used other needles and when you work later on our models, you will notice the market difference in the sharpness. And then I would see consistent diagnostic yields I think ultimately we'll talk about this later.

One of the things that Jeff commented to me-- and I don't want to put words in your mouth, but you tell me if I'm right. We had switched needles without telling anybody in pathology. So I earlier said, you should communicate, but I clearly failed to do so.

And he asked me what I was doing differently. And I said, well, why do you ask? And he said, your samples have a whole lot less blood in them now.

You know, you're still making diagnosis. There's still lymphocytes. There's still tumor, yada, yada, yada. but there is overall just less blood on the slides. What are you doing differently? I mean, remember that?

And it was we changed needles. So let's talk about the durability. This is that you'll notice after 18 passes, you know, if you've seen this over and over and you take multiple passes from as you're staging through the mediastinum, needles tend to get a bend in them after a while. And they're no longer firing off as straight.

After 18 passes, that doesn't really seem to be much in the change of an angle. So you get a lot of easy pushability and a lot of resistance to needle damage. And the wall of the needles is very, very thin.

It's easy to deploy. My, probably, feature that I like the most is the fact that it rotates on the sheath. The sheath itself will rotate around. So no matter what angle you're approaching it, you can spin around the hardware to easily fit your hand.

And, again, we're going to play with this, and you can see it. The rest you can read about, but it is obviously very smooth. But I think more importantly is the sharpness.

The very first comment I made to the folks of Boston Scientific, after using this needle for the first time, was that it was going to require me to actually adjust my technique ever so slightly. Because I was used to a level of a jab to penetrate the tissue. And it requires a whole lot less. It requires a whole lot less force to penetrate the tissue.

So how do we make sure we get a good sample? So part of that I think is equipment base. And that's one of things that, you know, you're here about. And I will tell you, we have we've switched over at our own institution-- my partners as well-- to using this 25 gauge Boston Scientific needle.

And all those samples I just showed you are from 25 gauge. And I was raised that bigger was better. So you know, you need the biggest possible needle ever.

And so the idea of going to a 25 gauge felt like committing a mortal sin, because I was going the exact opposite direction that I'm supposed to be going. And yet, less blood, more sample, better adequacy of tissue, quicker bronchoscopies is as what we've been seeing at our institution.

And I think, as we talk about it, Jeff said it on that one slide. If you have a whole bunch of blood and a scattering of lymphocytes, I don't know if that's a lymph node. For all I know, I just did a blood sample.

There are lymphocytes circulating, obviously, right. But on a sample that has got tons and tons of lymphocytes and very little to no blood and no bronchial cells, we've got adequacy. And of course, the bloody specimen also makes it difficult for genetic profiling.

SPEAKER 2: Yeah, because if you're looking for a certain number of cells, tumor cells on one smear, we may never get that because of the blood. We may be sampling the lesion, but because of all the blood, especially with using a larger needle, it causes more trauma. So you get more blood. And every subsequent pass after that is usually going to be very bloody. So it may be impossible at that point to get an adequate smear from molecular studies.

SPEAKER 1: Well, you and your colleagues inside of pathology-- like if you're examining your patient in clinic and you palpate an obvious node, supraclavicular, et cetera, Jeff and his colleagues will come to our clinic and do an FNA right there at the bedside and stage the patient, diagnose them, without us even having to take them to the bronc suite. It doesn't come up that often, but it does. And what size needle do you guys use for that, or for like thyroid when you guys do thyroids as well?

SPEAKER 2: When we do thyroids, breast, lymph nodes, we always use 25. That wasn't always the case. We started using different size needles. And it varied depending on the procedure.

But after a while, we did an informal study and found that the 25 gauge needle was almost always better. The other 22 gauge, which we used to use every once in a while, was a lot bloodier. We wouldn't get any more diagnostic material, but we get a lot more blood.

SPEAKER 1: And this is a regular needle. This is not an EBUS needle, but this is--

SPEAKER 2: Yeah. And when we have new residents starting in pathology and we're teaching them to do fine needle aspirations, they always assume right off the bat that, well, bigger is better. So why not use a bigger needle? And once they start doing their own-- and any pathologist that does their own FNAs would know this, because they're going to start learning what needle size is going to give them the best material.

SPEAKER 1: The other thing obviously in as far as improving your sensitivity just from an EBUS technique perspective is the classic move from capsule to capsule. So penetrate the capsule, clear out your needle, and then pass it. And we pass ours without suction from capsule to distal capsule back to proximal, usually three to five passes, needle out, spread onto a slide. Adenocarcinomas can have just sub-capsular involvement. So if you jab through to the middle of the node and are just sort of jimmying it on the distal part of the node, a quote, "negative lymph node," you may have missed tumor that was in more of the proximal portion of that lymph node.

So coast to coast as I like to call it. There it is, fancy little video. The other thing, of course, and why we've-- you've had the same experience I've had, when someone's got very fibrotic nodes or tissue around it. So when it has been radiated before, for example.

That smaller gauge sharp needle actually is preferred. Again, this was the thought that I've got a really stab at this thing with something massive. But you actually want that tiny needle to be able to penetrate that very, and especially one's that so sharp, that very dense fibrous tissue.

And again, we know that from outside of the lung. So we've definitely used the 25, especially for anyone who's had prior therapies. So it comes all down to this coordinated sequence of events of obviously collecting the pertinent data, the needle sampling the abnormality, and then ultimately specimen prep and staining, and interpretation, and communication. This is a concerted effort.