

SPEAKER 1: Dr. Stavropoulos' fourth case will be endoscopic full thickness resection for an appendiceal orifice polyp using the OVESCO full thickness resection device.

This is a 71-year-old woman with history of hypertension, diabetes, hyperlipidemia who's presenting for a removal of an appendiceal orifice polyp. She was found to have a 10 millimeter intra-appendiceal orifice polyp during surveillance colonoscopy for a personal history of colonic polyps. As you can see, as pointed out by these arrows, this is the polyp inside the appendiceal orifice.

She's planning for an endoscopy full thickness resection of the appendiceal orifice polyp using the OVESCO full thickness resection device. The benefits of this technique include minimally invasive technique, provides appropriate histopathologic assessment of the polyp, including margins, and eliminates the risk for polyp recurrence.

STAVROS Close up on the-- see that polyp? Is this it? This is it, right?

STAVROPOULOS:

SPEAKER 2: No, pull back.

STAVROS Yes. I'm not pulling anymore back. That is it.

STAVROPOULOS:

SPEAKER 2: That's it.

STAVROS OK. Where is a grasper?

STAVROPOULOS:

SPEAKER 3: And have you pressed the recorder?

STAVROS The recorder.

STAVROPOULOS:

SPEAKER 3: [INAUDIBLE]

STAVROS Give me some lube. OK. Yeah, lube.

STAVROPOULOS:

OK. Now, are they watching?

SPEAKER 4: We're watching. Yep.

STAVROS I have the small polyp and the appendix. As we discussed, getting negative margin with DSD is not always easy,

STAVROPOULOS:and these are usually small ones which fit perfectly in the FTRD cap. So we found this to be ideal for this modality.

So we're going to grab it and pull it in to the cap. So there's the appendiceal at say 11:00. The polyp is at 5:00. But some-- is it serrated?

SPEAKER 2: Not biopsy.

STAVROS Not biopsy, But see, he has a serrated pattern, very difficult to see. You see, it's where my forceps is pointing. I
STAVROPOULOS: don't know if it's easy to see under these conditions. Open, close, open. So we have to center the forceps onto the pole right there. Close all the way

OK, now I'm going to push in the scope, try to make it come as much as possible. We're not supposed to suck, well maybe a little bit. There you go, that's good. So you see the polyp pattern next to the grasper on the top?

SPEAKER 4: Yeah, we can see that.

STAVROS So we are very nicely centered on it. That's part of the difficulty with a cap is that very limited visibility, but it--
STAVROPOULOS: this looks good. We have quite a bit of cecum around it, right? So I think this will be nice, so we can deploy here.

SPEAKER 4: This is like doing an omental plug.

[LAUGHTER]

STAVROS So you have to account for the fact that when the clip goes out it's going to push it away.

STAVROPOULOS:

SPEAKER 4: Yeah, so you're trying to pull as much as you can in.

STAVROS I'm obsessing a little bit here, right. But I don't want to rip off the tissue, but here I think we're good. Right
STAVROPOULOS: there. OK, I think that's as much as we can get, so I'm going to deploy it. See, it's pushing away already a little bit. I've disarticulated this. This happen. I disarticulated the knob. OK.

OK, now I deploy. OK, where's the snare? You have it? You want to close? OK, close. [INAUDIBLE] So now see we'll close the snare.

DMITRIY We're concerned with second [INAUDIBLE].

KHODORSKIY:

STAVROS There, OK. So let's see what it looks like, right? So we're coming out. So the time consuming part is putting the
STAVROPOULOS: scope with this device, but now let's see the full thickness specimen. All right, there we go. Oh, there you go.

Now we need to remove this or use another-- yeah, let's use another scope. So this sheath that it has around the scope, I don't know if you can see it, is taped meticulously because it protects the cable of the snare that runs outside the scope. Because you need to use the tunnel to pull the polyp.

It's a little annoying setting it up with all this tape, so I tried to use it without the sheets thinking that I'm smarter and better. But I got there, I pulled the polyp up, and you see polyp into the cup, I closed the nitinol clip, and then the snare wouldn't close probably because of some kink in the catheter.

So basically now you can see which way it comes. The sheath is accordion, and after you place the cap with a nitinol clip at the end of the stent, then you unfurl this accordion sheath which creates a bit of friction. So I think that in the German study, about 10% I couldn't get all the way into the deep right colon, which we'll call a technical failure. So you have to lubricate as well, and it needs good colonoscopy skills. And I'll show you the specimen.

So there's the full thickness cut. You can see here fat and. Appendix. This is like the appendix here. You can see from the side the tubular appendix with fat around it. Now, if we spread it a little more you can see here the layers, the mucosa, and then full thickness cecal resection with fat and a probably five millimeter segment of appendix, which obviously should have got in the specimen.

So on the other side, this is the appendiceal orifice here, and this is the polyp over here. You see it's all completely resected. Lateral margin are zero. Now, this wasn't going very much into the appendix. I have to say with some good DSD skills and proper injection, you could have gotten a margin, but would have been definitely slower than this kind of resection. But for polyps that extend into the tubular appendix, this thing is invaluable as a very fast and reasonably safe technique to ensure a negative margin on the appendix.

So that's it for this. Now I am on my last case. Any questions? You want to-- we can go-- since they're changing the other room anyway, we can go in and see our handiwork with better optics. Dr. Khodorskiy was the colon difficult?

DMITRIY Nope.

KHODORSKIY:

STAVROS Dr. Khodorskiy, my ex-fellow, put the device in. So how long did it take to insert the device all the way to the **STAVROPOULOS:**secum?

DMITRIY 10 minutes.

KHODORSKIY:

STAVROS 10-- OK.

STAVROPOULOS:

SPEAKER 5: Good afternoon, everyone. This is Dr. Kantsevov's second case of rectal endoscopic submucosal dissection. This is a 54-year-old woman with a strong family history of colon cancer, one first degree relative and two secondary relatives with colon cancer, and had diagnostic colonoscopy for rectal bleeding.

She had two prior colonoscopies appeals which were incomplete due to suboptimal bowel prep, the last colonoscopy being in 2017. These are the images of the polyp. As you can see, they're consistent with Paris 1sp as well as a kudo pitt pattern five lesion. It's two centimeter proximal to the anal verge. The pathology was positive for tubulovillous adenoma with high grade dysplasia.

Given endoscopic morphology, there's significant concern for carcinoma despite biopsy showing high grade dysplasia, so we are going to proceed with ESD. The benefits are this is a minimally invasive technique to assess as to pathology, we can resect and block to ensure zero chance of recurrence, R0 resection in case carcinomas present with proper depth assessment to risk stratify for lymph node metastasis.

SERGEY Hello again. So this is the lesion, and definitely it was already attached. I can see some scar tissue there. So we **KANTSEVOY:** are going to inject ORISE. Needler please. Can you inject? Please inject. Please inject. Stop, stop, stop.

STAVROS Take all the FTR.

STAVROPOULOS:

SPEAKER 6: This is what you needed.

SPEAKER 3: Tell your own wife.

STAVROS OK, so this is what it looks like. You can see nice layers, right? Mucosa, fat, and there's the appendix right there.

STAVROPOULOS: So this is the clip, we're sitting very nicely. When the [INAUDIBLE] started, I did have to delay perforations where presumably the clip maybe necrose the mucosa and fell off a little too soon since they say that in the majority the clip falls off anyway at some point.

So my view on this case is to keep them a few days in the hospital because if this falls off while they have food, and they eat, and regular diet and they have stool in the colon, I think a delayed perforation could be life threatening. So generally I keep them because of those two delayed perforations, I'm always worried about the clip, but this clip is perfect. I don't think maybe 48 hours.

Dr. Cordusky did an EMR there, that's what this is before we came on the camera to do this. So it looks good, yeah?

SPEAKER 7: Yep. The audience has a question, Stavros.

STAVROS Yes?

STAVROPOULOS:

SPEAKER 7: Go ahead.

SPEAKER 8: So you resected the base, but it seems like the tip of the appendix is remaining. What's going to happen after?

STAVROS Yes, I think in the German study they had something like 17 cases that were up in the CL like this, and I think **STAVROPOULOS:** they got maybe one appendicitis. And I think they said somewhere that once they start instituting an antibiotic treatment for a day or two after the resection, they didn't get anymore. So I think interestingly, it's apparently of a low likelihood possibility.

So we'll keep her on antibiotics for 48 hours, observe her, then send her home. She's also older, so why don't-- apparently, as I said, this is not as common as you would think after this. OK, so I guess you can return back to Sergey.

SERGEY OK, so we have suction. We're not connected. What about now?

KANTSEVOY:

SPEAKER 9: Might want to try two?

SERGEY Can you hear me, guys?

KANTSEVOY:

SPEAKER 4: Yes, we can hear you, we can see you, and we're watching your handiwork right now.

SERGEY Rectum always has a lot of blood vessels, so that's not unusual to expect some bleeding-- some degree of the **KANTSEVOY:** bleeding.

SPEAKER 7: There are several requests from the audience to see the speedboat case. That's getting ready, will take about 10, 15 minutes.

SPEAKER 4: OK.

**SERGEY
KANTSEVOY:** Chris, can you hear me? Chris? I don't think they hear me.

SPEAKER 9: Are you able to hear Dr. [INAUDIBLE]?

**SERGEY
KANTSEVOY:** I don't hear anything, either.

SPEAKER 9: They're just not responding, they can hear you.

**SERGEY
KANTSEVOY:** The microphone is not working properly. I cannot hear any questions.

SPEAKER 9: Nobody's responding-- they're just not responding to you, but they can hear you.

**SERGEY
KANTSEVOY:** OK. So I'm just gradually working on the polyp from the anode side. So I got more than half circumference on this side.

SPEAKER 4: All right Sergey, I'm back. I'm watching your every move.

**SERGEY
KANTSEVOY:** OK. Can you close the knife, please? And once again, the rectum has a lot of blood vessels, and especially if there is a fibroid just like this. So you have to move relatively slowly.

So now I want to look from the other side. It's very important to see how bendable is the endoscope. I did not check it, but it looked like this particular endoscope doesn't bend that much. You see, I cannot reach it in retro flex, so we'll have to work from a large distance.

SPEAKER 4: Are you using an HED scope?

**SERGEY
KANTSEVOY:** Yes.

SPEAKER 4: Yeah OK, the cables are probably stretched.

**SERGEY
KANTSEVOY:** Yeah.

SPEAKER 4: Yeah, that can be a real problem. Are you going to be able to do it, Sergey, with that scope?

**SERGEY
KANTSEVOY:** Yeah, I am. I will just do most of the procedure from the front then. You see, usually it's very easy. You go from the back as much as you can, and then you meet yourself on the front. Here because I cannot reach it, I will have to do most of it from the front.

So I pull the scope out to see how much it bends. Yeah, it doesn't bend all the way, you see? That's down go. Can we clean the tip? So we will do most of it from oral direction. It's not a problem. No no, I want this.

So we will go from here and move in that direction instead of doing it in retroflex. Retroflex in the rectum is much more stable position, but I cannot achieve it so I will do it from front. Can you open please?

SPEAKER 7: Sergey, can you speak to the risks of perforation in the rectum?

**SERGEY
KANTSEVOY:** The risk actually much lower because if it is below the peritoneal reflection, so it will be contained in the retroperitoneal space. But I will still suture it. I don't leave anything unsutured, especially in the rectum with the big blood vessels.

So it's very important to get my proximal margin, oral margin done before, otherwise I will be cutting unnecessary in that or cutting too close to the polyp. So those things needs to be established before I complete the dissection from the front. So I will be just gradually going from here and expanding it, and expanding it.

SPEAKER 5: Stavros, I'm going to make a couple of announcements while you're working, so just not to distract you. We're going to be cutting-- ending the course from this side in probably 15 minutes or so. We're going to keep going now until Stavros starts the case with the speedboat so you can get-- see, there's been a number of requests coming up to see the speedboat tool in action. So we'll have him start the case, start using this the speedboat, and then we're going to stop at that point.

**SERGEY
KANTSEVOY:** I understand, I'm just warming up people for Stavros, right? That's what you essentially said.

SPEAKER 4: Yeah, I know, it's-- there's always a sucker in the crowd, right?

**SERGEY
KANTSEVOY:**

[LAUGHTER]

SPEAKER 4: So I missed the start of this. Is the lesion as large as it was advertised, or is it larger?

**SERGEY
KANTSEVOY:** No, it is probably the same size. That's adequate. This is adequately assessed size. I want to retroflex to see how much more I need to go before I connect it. Still have to go. You see that?

SPEAKER 4: Yeah, you have a ways to go.

**SERGEY
KANTSEVOY:** Not my preferred way to work from such a distance, but I cannot flex the scope enough to get there otherwise. So best position which I can achieve is like this, going from the bottom and dissecting it from here.

SPEAKER 9: Are we getting adequate injections?

**SERGEY
KANTSEVOY:** I tried to inject with that. So you can see how much adhesions are here. I cannot even get any bluer. Let's try the needle again. We used the dual knife, it's not enough strength to inject anything.

SPEAKER 4: Yeah, you got a fairly minimal submucosal plane to work with there, don't you?

SERGEY Yeah, this is my submucosal plane, but I need to expand it to see better.

KANTSEVOY:

SPEAKER 4: Yeah.

SERGEY Can I have a needle?

KANTSEVOY:

SPEAKER 4: Give you a lot of fibrosis, too.

SPEAKER 1: Dr. Stavropoulos's fifth and final case will be a rectal endoscopic submucosal dissection with a ORISE TRS and Creo speedboat ESD knife. This is a 61-year-old man with history of metastatic melanoma on his second cycle of immunotherapy which was noted on surveillance PET scan to have metabolic mass with an SUV of 1.3 in the rectosigmoid colon suspicious for a primary carcinoma. He underwent a colonoscopy which showed a three centimeter Paris IIa plus IIc rectal lesion 15 centimeters from the anal verge. Pathology was consistent with a tubulovillous adenoma with high grade dysplasia.

This patient now presents for endoscopic submucosal dissection. The benefits of this procedure include a minimally invasive technique to assess histopathology, resect and block to ensure zero chance of recurrence, and provide an R0 resection in case carcinoma is present with proper depth assessment to risk stratify for lymph node metastasis.

STAVROS Hello. So let me show you the polyp while we get the cap. So this-- Yep, they did it quick. Wait, where is the

STAVROPOULOS: polyp? OK, so it's not the lower rectum, it's right where the turn is. There it is.

SPEAKER 4: Yeah, very nicely positioned, right?

STAVROS No, it's terribly positioned.

STAVROPOULOS:

SPEAKER 4: That's a great way to end your day.

STAVROS Worse than Sergey. Anyway, so this is our path. Unfortunately this is 15 centimeters, so it's after that turn. So

STAVROPOULOS: this is the lower rectum, and it's after this turn. I mean, the whole idea was to use the ORISE, and it looked kind of straight in the referring pictures.

Well Look, I had six rectal lesions, this was the straightest looking one that was not at the dentate line. So we'll see whether we have to use the ORISE, you know? So first, what I'll do is I'll use the speedboat to do a circumferential incision, and then we'll try to use the ORISE to do traction. I mean, the ORISE would have been perfect for a lesion right here. I'll go do an imaginary lesion. OK, so we'll put the cap on, yes.

SPEAKER 4: Well, you can quick run and do Sergey's case.

STAVROS Well no, because that's too close to the dentate line. See, that was the problem with that one. This one was the

STAVROPOULOS: one-- the other three that I had was at the rectal sigmoid junction, so it wasn't a collapsed lumen area. So that would have been completely impossible. Here we only have to overcome a single turn with the ORISE, so it may be possible. We'll see.

So first I'll do the incision, and then we'll try to apply it. So this is the single channel therapeutic scope. It has a 3.7 millimeter channel because the speedboat is a little on the fat side. OK, so here let's-- so here we go. Now we're going to start-- I'm going to probably start injecting on that distal side using the speedboat needle and the ORISE gel, and then we are going to hit it from the anal side.

Well, I showed you on the slide, which is much better, I think you're better off seeing it-- they want to see a close up of the speedboat. I think it's better to see it inside with the endoscope because it's too small for the camera to really-- yeah, so there it is. So now Dacina's going to rotate it. Or if you want you can rotate it, but I don't think you're better than Dacina.

[LAUGHTER]

SPEAKER 10: Absolutely, absolutely agree.

STAVROS Because you are the recipient of rotation, not the rotator. So this is the speedboat, nice golden sacrifices. So
STAVROPOULOS: that's the top electrode, and-- the

SPEAKER 10: Down the throat to the lower [INAUDIBLE]. That's the wide margins. It's an active one. That's it. [INAUDIBLE].

STAVROS Right, so this is an insulator here, and then there's a ceramic plate between the two electrodes. they're white.

STAVROPOULOS: So basically the ceramic white plate is sandwiched between two electrodes. Now, let's see the needle. So this is the needle. OK, we're back in.

SPEAKER 10: [INAUDIBLE] And as you go in, so use the whole device to inject. You can actually--

STAVROS Right.

STAVROPOULOS:

SPEAKER 10: --of the device. [INAUDIBLE] but you have to stop it here.

STAVROS OK, where-- I lost the polyp. There it is. OK, so I'll advance the needle. That's all the way, yeah. OK, let's see.

STAVROPOULOS: Color inject. What's happening? Hold on, hold on a second. What happened to the injection? OK, inject. There's a lot of dead space, so let's see. Where's the injection? Well--

SPEAKER 4: It looks like the material's coming out behind the needle.

STAVROS Yeah, that may be. Stop, stop, let me use the other injection because I don't know what's happening with this

STAVROPOULOS: one. Maybe it's too viscous, but it shouldn't be. It could be a defect with the knife, so let's try a regular needle.

We put a whole syringe of gel without anything coming out on the other side, so might have maybe a leaky knife.

Open, inject, go. Stop, let's do this side here. Inject, stop. Inject, inject, and stop. And this is the back. So we can inject, inject, OK. Inject. OK. Now inject, OK. Inject, inject, OK.

So we can do the back incision-- actually, let's inject this a little and then come to the front. The knife is working now, so we're going to do the front injection with the knife. Inject. OK, so let's cut the back.

SPEAKER 4: Stavros, we're going to shut it down on this after you've made that incision. And folks wanted to see the speedboat, but we also have to close course on this end.

STAVROS Well, you can wait a little because I want some of the ORISE also to whoever is left there. I assume somebody's
STAVROPOULOS:left. I'll try to do it expeditiously.

OK, so now basically you turn it like this. So both-- sorry-- both surfaces are there. Now I'm using the microwave to mark. OK, so let's start cutting. OK, so there you go. OK now. OK, turn it.

SPEAKER 7: There's a stream of audience requests coming in to stay on and so on and so forth.

STAVROS That's the-- look at that live audience right there.

STAVROPOULOS:

SPEAKER 5: Stay live.

STAVROS So we're going to deepen it a little.

STAVROPOULOS:

SPEAKER 4: So what's your take on this as you're using it, Stavros?

STAVROS It's very safe. See, the insulator is towards the muscle so it's very safe. And you know, whenever I've used it, the
STAVROPOULOS:crater of the resection is pristine. No dings, no burns, you know, it's very, very nice.

All right, Dr. [INAUDIBLE] says there's no carbonization, it's very-- OK, now put out the needle.

SPEAKER 4: Now, Bipolar has historically been always dinged for being poor at hemostasis.

STAVROS Inject. But they have a totally different technology for that with the microwave, inject. OK, close. All right, so

STAVROPOULOS:we're going to try to proceed here, Dacina, now. OK, so we're doing the back here. And now we're going to go to the sides, and this is the easy side. So we'll do the gravity side first, which has all the liquid collecting there.

Let's suck the liquid, and then we're going to inject and come around here. And normally I do the pocket technique, but with ORISE you complete the incision because it helps to have the back incision completed as you use the traction and you go front to back. But if I don't use the traction device like the ORISE, I go from the front and just do pocket technique, which is very nice.

So let's do this gravity side now right there. Next time put lube on it. It's extremely hard to put down. This needed lube. OK, open the needle. So we're going to go right there, inject. OK stop, what happened? Inject, stop. OK, let's inject right here. Give me the injector because it's-- I need something that I can suck around.

OK, open, inject, OK, stop. Inject, OK. Inject, OK. Inject, OK. So let's cut the front, the edges. OK. Oh.

So yeah, this scope can also not suck with this knife. And given that it's a 3.7 channel-- OK, there you go. Very weak. OK, so I start over here somewhere. Have to turn, have to turn. Doesn't work very well under water. OK, push it out a little. OK, yeah. That's enough, please.

SERGEY Yeah no, but you see I cannot put this. No, we have defective suture in device, we will need to change. I cannot
KANTSEVOY: push the needle on it, you see?

STAVROS OK. OK, we need to make these two incisions meet, see that? If we can suck the water out. OK, there. So turn it.

STAVROPOULOS:No, I need to go like this. Well, yes. Turn.

SERGEY OK, guys. I'm just showing the suturing portion of it. So we removed the polyp. It was extremely fibrotic,
KANTSEVOY: somebody injected [INAUDIBLE] ink under it. So I could not even see any submucosal there. I will show you here, you see it's all [INAUDIBLE] ink. But we removed it all in one piece, and now I'm just doing closure.

SPEAKER 4: All right Sergey, it's nice. Did a nice job with this. We didn't even see you finish it.

SERGEY Huh?
KANTSEVOY:

SPEAKER 4: You were really fast with this. You weren't using the speed boat now, were you?

SERGEY No, no, no. Just traditional way. Dual knife I think is a genius device, and practically almost every ESD you can
KANTSEVOY: finish with it. Yes, sure, sure, sure.

STAVROS OK, we're almost done with a circumferential incision here. That's the final cut on that side. OK, so this is done,
STAVROPOULOS:the circumferential incision is done here. There's a little bridge here, let's finish it.

SPEAKER 4: You have pretty good one to one rotation with the device?

STAVROS Uh huh.
STAVROPOULOS:

SPEAKER 4: And what about-- how do you select the power settings on what you're cutting with? It's pre-established, or you kind of--

STAVROS Yeah, it's pre-established. The question is, how do you select the power settings of the device?
STAVROPOULOS:

SPEAKER 10: [INAUDIBLE]

Yes, so it's pre-established and they have obviously their own generator.

SPEAKER 4: Right. Are these products-- are they commercially available in the US?

STAVROS Yes. It is commercially available as of a few weeks. So it's commercially available in the US right now?
STAVROPOULOS:

SPEAKER 10: Yes, it's FDA approved for [INAUDIBLE]

STAVROS Yeah, it's FDA approved and commercially available.
STAVROPOULOS:

SPEAKER 4: Somebody wants to know how much it costs. So can we say that on--

STAVROS Can we say how much it costs? Dr. [INAUDIBLE] doesn't know. And I don't think I know either. Actually, I know.
STAVROPOULOS:The knife is approximately \$700, which is very similar to the hybrid knife. But I don't know, the generator I think we have on some sort of lease or loan, so I don't know about the generator.

SPEAKER 4: You can probably look it up on the company's site online maybe. Might be a price list.

STAVROS The knife is similar to to a hybrid knife, I believe. So where's the-- is anything bleeding there? I don't know. I

STAVROPOULOS: think in the interest of time, we should try to show-- if we can show the ORISE. So usually I dissect more of the flab before introducing the ORISE, I create a better flab. Here we'll have to catch the very edge of it. But let's see if we can make it work, right?

OK, let's give it a try. It's not an easy location. If it doesn't work, then we can continue with-- let me coagulate this vessel with a microwave. Let's see that microwave in action. There's a little vessel that is trying to bleed. So we're just going to put the microwave on. So we do about 10 seconds. Yeah, you watch it boiling. And that is stopped the bleeding, I hope. Yep. Looks good.

Let's see how the how we're going to make the ORISE work, or if we're going to make the ORISE work. It's a very tough location. There's something still bleeding here. There's something still bleeding. There's something that starts bleeding and stops bleeding, I just can't see where it's from.

OK, so what are we going to do? Let's try-- so we're taking the cap off. Normally you can put a cap on, but on this therapeutic scope with a cap we're going to not put it to the ORISE. Generally for the ORISE it's not really necessary to have a cap because the traction makes it more like a surgical procedure with triangulation where you don't need the cap to push the tissue and find the plane.

So the ORISE is here. We all saw the slides that we saw there's an over tube, it opens and closes this basket at the end. There's the basket open-- what happened? There you go. That's the basket. Can you see it, can you zoom out a little?

SPEAKER 4: Oh, this is Sergey's LumenR modified, right?

STAVROS Yep.

STAVROPOULOS:

SPEAKER 4: It's a new version.

STAVROS Right, so that is the whole thing. And then it has two channels over here, one too that you can put the graspers

STAVROPOULOS: in and they ride the basket. So you cannot see pretty good triangulation at the other end. We're going to put one of the graspers. That was a question which one, the right one or the left one? Let's say the right one. Why not?

And these graspers have a premade 90 degree angle. They also have 45 degree angles. If you zoom a little, you can see this is the 90 degree. It's an instrument sheath, and it points the grasper at an angle as you will see. So let's put the grasper.

OK, so there's a grasper coming out at an angle. Let's put it-- how about we put it out so I can guide it? Pull it out. Yes. Extractor. All right, there we go.

So can you focus on the basket? So we can see now-- turn it up-- so the grasper can grab the edge of the flap and move it around while the basket serves a very stable operating field there. And then you can rotate it like this to put traction on the flap, and you have an instrument for a second grasper if you so desire. It just gets pretty complicated for that system to manage.

So anyway, so that's it. So let's pull it back, so let's put it in and see how it will handle that proximal rectum location. So let's put the grasper back in there. OK, so we're putting the scope through this overtube, and that will guide the device in.

So there, so the scope is through the whole overtube. After we put the overtube in, then we'll withdraw the scope into the operating zone in the basket. And normally in the rectum use a gastroscope which ensures a lot of space to work, but here because of using the speedboat we'll use this single channel therapeutic scope, which is much fatter.

OK, we'll put some lube. Get this closed, so we'll try to-- what's happening, [INAUDIBLE]? He's waking up. He's waking up and trying to push the ORISE out of the rectum. We'll be paralyzing him soon again, so I'm waiting for him to relax a little. OK, there we go.

OK, so I said it, I'm waiting for him to be paralyzed, [INAUDIBLE] is paralyzed, and then I'm going to start withdrawing. Sergey wants to show something for 30 seconds.

SERGEY
KANTSEVOY: Hi, so you can see, this is how it looks completely closed. The whole lesion was removed, and that's the end of the procedure. We are not leaving any holes or anything behind. No bleeding, everything is clean. And this is the lesion. So everything removed in one piece, it's about 3 centimeter big lesion. So we're done, guys. Thank you.

SPEAKER 4: All right, Sergey, nice. Thanks for all your work today.

STAVROS
STAVROPOULOS: I'm trying to guide their ORISE tip beyond the polyp. I brought the scope back to the very edge of the cab to try to use the bending force of the scope to make the ORISE go beyond this polyp in that turn. It's kind of stiff.

This should be closed. This should have been closed, right? OK, almost there. There we go.

So we made it to 18 centimeters. So we may be OK here, I think we made it beyond the polyp with the basket. It takes a little bit of manipulation to do that right there. OK, so we're beyond. Now I'm actually a 20 centimeters, the polyp is at 15. So I'm going to pull down the scope back into the basket, and see what we have here.

Probably going too-- let's open the basket a little bit if possible. And then we need to find that-- we need to find that polyp, so I'm going to withdraw slowly. Let's see, where is the polyp? So if the polyp was right here it would be amazing, right? [LAUGHTER] But the polyp is not here, so let's withdraw.

See, I'm worried that I may not be on the same wall as the polyp, so I'm going to withdraw a little more. I'm at 18 now. I'm trying to rotate the basket, see, all the way around to look at where this polyp may be before we fall below it. I don't see the polyp yet, so I will pull the scope a little further back, take a look. Oh, and what do you know? Somewhere I turn the basket the little. There you go.

OK, so we positioned the basket around the polyp. Now we need to grab the edge and exert traction so we can maybe try to open the basket a little more. Oh, maybe not. So now the question is where is the edge that we need to cut here? Yeah, the turn is keeping us from opening the basket completely. I'm going to turn it a little more. OK, There we go. There.

So where's the grasper? So let's introduce the grasper. We cannot open the basket to its full extent. So now pull the grasper back a little, there you go. So we're going to turn it, OK extend it, there you go. Extend it, open. Close. Now rotate as needed it to do that, OK? But then you have to keep the rotation. You have to keep it.

SPEAKER 9: Here.

STAVROS You have to remember which torque you have there. OK, so there you go. So now let's trying to inject some gel
STAVROPOULOS:there because the plane is not ideal, but that's what we have. you see?

SPEAKER 4: Yeah, we see it. You know, part of what I'm seeing is I'm seeing the basket compressing things and pushing it up. And so in doing so it also squishes, more or less, the submucosa. So I don't really think you're going to need a lot gel to get an effect there.

STAVROS Because I wasn't well injected. Do you remember when I finished the incision it looked terrible, it was rolling
STAVROPOULOS:downwards. And would have been quite the feat with a tapered cup, and a gastroscope, and a hook knife to get going. But here I have a chance if the injection goes well to go ahead and start dissecting fairly easily. Open, inject, Oh, yeah. Stop.

See, it's still rolling downwards. That's the problem with these pedunculated ones, they do this. And they have a lot of fibrosis, as well, because of prolapsing and getting ischemic. Inject there, now inject, OK. And how about there? Inject, OK, let's try. Oh no.

SPEAKER 4: Looks like you've got a pretty good cushion there.

STAVROS It had to hit a vessel. OK, let's do the microwave thing.

STAVROPOULOS:

SPEAKER 4: So can you inject that needle to use it in someone who has a mini water jet?

STAVROS Don't know. Open, we could try.

STAVROPOULOS:

SPEAKER 4: So you're just using the scope forward water jet, right?

STAVROS Yep.

STAVROPOULOS:

SPEAKER 4: OK.

STAVROS Inject. Yeah see, it's leaking out. Not good. OK, see it doesn't lift very well. That's not uncommon with these
STAVROPOULOS:pedunculated lesions, so I'm just going to go closer. And then Matt, we have to do something else with a forceps. Let go. Maybe pull it back a little like that. That's a little better.

And you know what, at least until I start this going, the speedboat is not going to do it. It's a very difficult lesion, I'm going to have to use a hook knife because I can't suck anything with a speedboat in this therapeutic channel scope. So we really need to use something else. OK, let's go.

SPEAKER 3: Is that set OK?

SPEAKER 11: Leave it.

STAVROS OK, open. OK, what happened to this?

STAVROPOULOS:

Yeah, this is difficult. My movements are very restricted.

SPEAKER 11: Release some tension?

STAVROS No. See, I'm popping around. There's no way, this scope is too big to do this case.

STAVROPOULOS:

SPEAKER 11: Probably because I tore-- how did this get down there? I don't know what happened.

STAVROS Why is this sticking out so much? Let go. What happened with this? OK, you got to hold it like that. Can you hold

STAVROPOULOS: it like that?

SPEAKER 11: Yep.

STAVROS Yeah.

STAVROPOULOS:

OK. Can see the benefit of traction, all right? What?

See, now I'm hampered by the lack of cap because I need to get underneath there and coagulate that vessel. But if I get underneath there, I'm too close and I have no cut to do that. And if I do it from here-- but the traction-- the ORISE is working great, but the therapeutic gastroscope is too huge and doesn't allow me to use a cap through the ORISE. And overall it's a loss here, so I may have to change to a gastroscope.

But I think you see at least the great advantage of the traction here. Hello, anybody there? I guess no? Get me a gastroscope with a cap.

SPEAKER 4: Oh sorry, I was engaged in intense conversation-- distractive conversation. You asked me a question?

STAVROS Yeah, the traction works very well is what I'm saying, and I'm changing to a gastroscope which is usually the

STAVROPOULOS: scope you should use unless you want to use the speedboat.

SPEAKER 4: All right.

STAVROS I mean, there's just too many moving-- too many new technologies here between the ORISE and the speedboat,
STAVROPOULOS: but the ORISE is working great. I thought it would be the other way around, but we're not going to be able to use the ORISE because it's after the turn and that does not go with the speedboat.

But now the ORISE is doing excellent traction, so I'm just going to put a gastroscope with a cap. That will make my life 10 times easier. And with this traction, I'll do a little demonstration of the traction with a gastroscope. I think-- what time is it? OK, five minutes of the gastroscope with cap through the ORISE with traction. So the benefit of that, and then we're done.

SPEAKER 4: All right, very good.

STAVROS I don't know what happened with [INAUDIBLE] EFC.

STAVROPOULOS:

SPEAKER 4: The patient woke up and ran out of the unit. [LAUGHTER]

STAVROS Oh we don't have access to video but he's doing it. OK, so let's put the gastroscope through the ORISE. How

STAVROPOULOS: about some lube? Where's the lube? Oh, look at this beauty. This is wonderful. Excellent traction.

So anyway, so let's go cutting. OK, open.

These brown bundles with the whole vessel, so we're going to try to use the spray-- the [INAUDIBLE] spray method through this bundle, this brown bundle here. Hopefully we're going to get through it back to blue, and there's some big vessels here. I think that's enough. If they start bleeding, we're going to cut off there.

SPEAKER 4: Yep, here you go.

STAVROS It start bleeding before I even touch them. Let's give it a valiant effort here. What do you know? Brown bundle

STAVROPOULOS: gone. You see that bundle?

SPEAKER 4: Yeah, we can see it.

STAVROS And that's another red bundle.

STAVROPOULOS:

SPEAKER 4: Yeah that's a red one.

STAVROS The brown bundle didn't stay put.

STAVROPOULOS:

SPEAKER 4: Sergey would say gently, you have to coagulate that gently.

STAVROS This one gently or not gently, I think we're not going to get lucky. But we'll consider this our sign that we should

STAVROPOULOS: stop the transformation. OK, I'm sorry. God doesn't want us to stop the transmission.

SPEAKER 10: [INAUDIBLE]

STAVROS This is great. See on the left side the basket is around the polyp, so it's very nice and easy. On the right it's not,

STAVROPOULOS: so after we do this side we'll rotate a little the basket to get the other side. There's another vessel here.

Vaporized. Something else is bleeding.

OK, so let me show you that rotation and then I think we have to quit. Hold on, what's bleeding? That vessel right there. OK, so let me rotate-- so see the basket is very nice here on the left side. You can do this in a jiffy, really. See, you can see the traction is excellent.

So once you get done with this side, you rotate the basket to the gravity side. And now we can attack this side, as well. And we've also reposition the grasper, or even use the other-- see if we can move that grasper further down to the right of the edge of the polyp, and that's it. I think we can quit now, I guess. All right, so that's it.

SPEAKER 4: All right, you have a beautiful crowd here.

STAVROS All right.

STAVROPOULOS:

SPEAKER 4: Good night.

STAVROS Good night.

STAVROPOULOS: