Welcome to this OR Live webcast presentation brought to you by Zimmer.

Good evening. I’d like to welcome the audience to Norton Brownsboro Hospital here in Louisville, Kentucky, where we’re going to have a live webcast of a direct anterior approach to a total hip arthroplasty. This evening our surgeon that will be performing the operation will be Jonathan Yerasimides from the University of Louisville. My name is Hari Bezwada. I am an orthopedic surgeon from Philadelphia at the University of Pennsylvania School of Medicine.

The directed anterior approach utilizes the Smith Peterson approach as the interval for this operation, and it has a unique benefit of being an intranervous and an intramuscular approach to hip arthroplasty, giving patients an early benefit from recovery of their hip arthroplasties. So as we go to Jonathan, you’ve got the patient there prepped and draped. Can you go over the patient’s history and the X-rays for us.

Thanks, Hari. I’m Jonathan Yerasimides. Thanks for joining myself and my team here in Louisville, Kentucky. We’re going to perform an anterior approach total hip replacement today. This is a 62-year-old female with a diagnosis of primary osteoarthritis of the hip. The patient's in a supine position on the OSI Hana orthopedic table. The patient's arms are straight out to the side. We've got legs and individual leg spars that will be controlled by an unsterile assistant off the table. And the whole surgery will be performed in this position. We got -- oh, go ahead, Hari.

I’d like to just go to the slide here and just give a little picture of the stems look like of the Fitmore stems, if we could go to the slides. The look on your left is a Fitmore A, and on your right is a Fitmore C, and the different between these stems is really offset. If we can go to the slides again, I'll go to the next slide, which will demonstrate how, when the stem is implant, how the force is distributed in the proximal femur. Now if we go to Jonathan, he could show us the X-rays and the templating for this patient.

We have -- if we turn the camera over to the x-rays that I have up, we've got the templating that was done preoperatively here. Those are an example. On the left side is the B family stem, and on the right side is the C family. And we can see that -- it’s a little hard to see by the camera, but this patient has an extremely high offset, and so I templated both just to show an example of the difference of the B and the C family. I think we'll probably use a C family class on this. But as we prepare the femur, I'll explain a little more on our thought process and preparation when we go to determine length and offset.

Jonathan, I know you like to use the table. I’d just like to show a slide of this operation set up. We're not using the table. The options are table or table less, and if we can go to the slide, I prefer to do this operation without the table, and there are some options to do that. And the operative side needs to get figure for it underneath the non-operative leg. And if you use a foot rest, this will present the patient from sliding down. The other option is to use a patted mayo stand under the non-operative side. When we go back to Jonathan we'll show the benefits of using the table in the positioning that he already reviewed.
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We’ve got the patient with the patient supine like we described previously. The benefits, I think, of the table are, number one, that you are the legs being individually controlled by an outside assistant. So the table itself works as an accessory assistant to you to help control the leg and hold the leg. Secondly, we have the femur lift on the side of the table, which, as I’ll show you later, will help support the femur when we’re ready to prepare it for the broaching and then final implantation of the stem. So, again, the table works as basically another assistant to help hold the femur, which is the most difficult part of this exposure.

Jonathan, can you go over the landmarks for the case and what you’ve marked out for us.

Sure. Absolutely. We’ll go up to the top camera here, and what I have is a square prep over the proximal thigh and lower abdomen. I have labeled here the anterior superior iliac spine, which I have drawn out in the pelvis, and then I use an incision based approximately two to three centimeters direct lateral to the tip of the ASIS and angled in line with the fibers of the tensor fascia lata muscle.

So we have based the incision laterally as to avoid the lateral femoral cutaneous nerve, which will be traveling in this orientation, and we travel with the fibers of the tensor fascia lata muscle to facilitate the dissection into the interval and also to confirm that we’re going to be over the belly of TFL. If your incision drifts a little too far medially, number one, you will get injury to the femoral cutaneous nerve, number two, you can get some confusion on your interval and end up in a place where you don’t want to be.

So we’ll go ahead and start the case here.

All right. I’ll take a knife. The incision’s about ten centimeters to start, and that’s my basic incision. Now during the case you will see me extend it proximally or distally, just dependent on what I need. If it’s exposure of femur or its insertion of the acetabular component, I’ll extend this up and down. I’m not real particular on keeping the incision small, keeping it at ten centimeters. Some patients will prefer a small incision and they’ll mention that preoperatively, but I don’t spend a lot of time talking about incision length with the patients or trying to keep the incision necessarily small.

I agree with you, Jonathan. The length of your incision here has to be at least a couple centimeters bigger than your cup size. But the length of the incision is not as important since you’re intramuscular and you’ve got a good intraneural plane.

Right here we have, so we’ve got through the skin, the subcutaneous tissue, and you see the fascia here, the fascia lata over lying the tensor fascia lata muscle. Now this should be nice and blue and translucent like it appears here. As you travel laterally, this fascia is going to blend into the iliotibial band, which is going to appear very thick and white. And if you’re too far medial, again, you’ll get over the interval where there’s fat, and again, thickening and whitening of the fascia, so you want to see a nice blue translucent fascia when you come down. Knife.

And if you incise this little too medially, the risk would be of getting into these branches of the lateral femoral cutaneous nerve.

Check, again. So we’ll go right in line with our incision. We’re just going to go through the fascia, so you can see we’re just going through this fascia, this very thin layer of fascia, take it up. We’ll take it down to the bottom part of our incision, extend it a little bit. I usually clamp the medial edge of this with an Alice clamp.

Now you can use whatever you’d like, but I usually just use an Alice clamp, and then it’s basically a blunt finger incision. Now this should be very easy. If this is difficult, then you might not be in the right spot. But you should be able to bluntly dissect the TFL off the fascia lata, and you can see my finger just kind of falls into the interval. So I’ve gone over TFL, I’ve fallen into the interval,
and now I’ll drop my finger down onto the lateral aspect of the femoral neck, underneath the gluteus minimus, and then we’ll put our first retractor, which I use a blunt cobra.

So this blunt cobra is now over the lateral aspect of the femoral neck; is that correct?

That’s correct. That’s correct. So we’re in the interval. This is over the lateral aspect of the femoral neck. What we can see inside the wound here is this is rectus femoris muscle right here. So we’re going to sweep off the top of the neck of femur. And make sure when you’re doing this move you want your Cobb to be pointed in an inferior and medial direction. Your femoral neck is in this orientation, so you don’t want to point your Cobb directly medial or else you’ll risk going over the anterior border of the pelvis, and, again, into your vascular structure. So you want to perpendicular to the neck, clear the rectus off the anterior femoral neck here, and then we’re going to replace that with another blunt cobra.

And this retractor is going around the medial aspect.

Around the neck, yeah. Get a Hibbs.

Okay. Now Jonathan, when do you deal with these ascending branches of the lateral femoral circumflex artery?

That’s what we’re going to do right now. So I’m going to put this retractor in so we can see, and let me get a tonsil, please, so I can dissect these out for you. So we can see them. I’m hoping that the camera angle is good to see them right here.

You know I find this to be a constant thing where there are two veins and an artery running exactly in that position.

This is a fairly big robust group right here. I don’t know if we’ve got a good -- if we can see them in the camera. Can you see those, Hari?

Yes.

Okay. Beautiful. So there they are. So I use a bipolar cautery to take care of these. So we’re going to come in with the bipolar. Now these you can clamp with a Bovie and cauterize. You can do a formal tie with suture ligation. During my fellowship, we tried, for brief stint, vascular clips, which didn’t seem to work very well. They tended to fall off. So I’ve gone back to just good old cautery, and I’ve had good luck with it using this Aquamanis device. Now what we’ll do here is go through the vessels. You know you can see the stumps are pretty well cauterized, but I’ll touch them up again. You may want to revisit them so that you don’t run into a little bit of bleeding later.

Now underneath those vessels you have what’s called this “no-name fascia,” so this is fascia on the underside of the tensor, and so we’re going to release this fascia, and you can see how when you release that fascia the muscle belly of the tensor -- let’s come out with that one -- the muscle belly of the tensor falls out of the way and it helps out. So we got a little bit of a bleeder in here. We’re going to go in here and cauterize this.

I find that sometimes those edges do retract. It’s worthwhile spending an extra minute or so to really get these coagulated.

Yes, no doubt about it. They will retract into the muscle and then they’ll just pester you throughout the whole case with a little bit of bleeding. So if you can get on top of them, you know, right off the bat, you don’t have to worry about them for the rest of the case. So right here we see some fat that overlying the anterior hip capsule. This is time where I will usually replace this anterior retractor, so I will put it out, and I’ll put this back over the medial neck and kind of pull
away some of that fat. It’s an option at this point in time. If you want to take out all that fat you can take out all the fat. But I usually just leave it on. Give me the Hibbs back please.

And what we see now in our anatomy is I’m going to put this retractor and retract back tensor fascia lata. This is vastus along our intertrochanteric line. So we’ve got up here, we’ve got a reflected head of rectus femoris right here. We’ve got vastus. We’ve got anterior hip capsule. We’ve got the tensor fascia lata. So now it’s going to be time for a capsulotomy.

Jonathan, you’ve always done a capsulotomy rather than a capsulectomy or excise that capsule.

Yes, I’ve always done a capsulotomy. I don’t cut out the capsule. I just make an L-shaped capsulotomy, which will be cornered right here. I come down the intertrochanteric line, and then I bring the capsulotomy up the femoral neck, and I’ll actually go across reflected head of rectus. Some people like to preserve reflected head, and that’s certainly an option. I tend to just go straight across it. That was the way I learned it, and I haven’t had any real issues with it. It gives you a nice exposure to the acetabulum.

So we’re going to proceed with our capsulotomy. I’m going straight down the intertrochanteric line just above the vastus. I don’t want to get into the vastus because you can get into some bleeding, and then we’re going to take this and come straight up the femoral neck. I’m approaching the reflected head rectus. We go straight across it. And, Hari, do you preserve the reflected head or do you take it?

I actually try to elevate it off the anterior capsule because I would do an anterior capsulectomy.

Yeah.

And one of the things that’s interesting is you have to spend a little time sometimes to get that reflected head off. It doesn’t want to come off so easily. So I’ll take a Cobb or sometimes a sharp knife to elevate it off the anterior capsule.

We got some bleeding here. As we made the capsulotomy there’s a little bit of bleeding. All right. So I’ve made my L-shaped capsulotomy. So now I’m going to tag the corners here because we’re going to preserve this thing, so I’ll take the first stitch.

And these stay sutures, then, you’re going to pass them over your retractors and kind of hold them out of the way?

Yeah. These stay sutures will just help control my capsule, my anterior and my lateral capsule, and then at the end of the case, I’ll use them to do a semi capsule repair. It’s not a formal repair but a semi repair. So this retractor, this medial retractor is over the top of the capsule now. We’re going to change that and put that inside the capsule, and we can immediately see the osteophytes on the neck and head of the femur here, so cook some more vessels that are bleeding here a little bit. Okay. We’ve got a pretty good dry wound so far. Another stitch.

So then the second stitch is going to go on the corresponding edge laterally here, and just through the capsule. It looks like we still have a little oozing from -- there we go. Now, Hari, this is --

You know it’s not too uncommon to get these bleeders right there off the capsule and these -- I think there are additional branches off the ascending circumflex, and it’s worthwhile, again, Jonathan, spending this time, because the last thing you want to do is to compromise your visualization when you’re about to perform your neck osteotomy and, you know, when you’re preparing your acetabulum.
Without a doubt. And this, Hari, is something -- this next move here is something that I found to be really helpful, especially when trying to elevate the femur later, and for exposure of the saddle region. So after I tag this lateral capsule, I’m going to release the capsule from inside the saddle. So this is the saddle. This is the head, neck, it comes to the saddle. It comes out to the trochanter. So I’m going to release that capsule from inside the saddle. So we’re going to release the capsule from inside that saddle.

This is the key maneuver, because the saddle really represents to you that junction of the lateral neck as it gets into the trochanter to really get a sense of where you osteotomy should be.

So now that I’ve released that, we’re going to put this retractor inside. So now we’ve got this inside and we’ve got the saddle appropriately exposed for the osteotomy, which is getting ready to come up. This is the point in time where I’ll turn to release of the medial neck. So I’ll externally rotate the femur. So you’re looking at about 45 degrees of external rotation, so we get that externally rotate. Give me a narrow Hohmann, please.

I’m going to take a Hohmann to protect our vastus. So we’re going to wrap this. We’re going to put this Hohmann around the vastus. Okay. Let’s get the arthroscopic camera in there so we can really see this release. This is another important release here.

So this medial capsular release, you release around to the level of the lesser trochanter?

Yes. Yes. So I’m releasing around, so this is the anterior iliofemoral ligament, part of the Y ligament of Bigalow here. So we’re going to come, we’re going to release this. Release it back, this is medial neck. Release it back. There we go. Okay. So I have released the medial neck now, so I don’t -- come out with this. So I’ve got I can run a finger down the medial neck now and all the way back to the lesser trochanter, which we can’t see right now because it’s posterior. But I have completely released the capsule off the medial neck. I have released the saddle. I’ve my L-shaped capsulotomy. And now it’s time for me to do the neck cut. So switch placing with me here.

So the neck cut with an anterior approach, the neck cut is going to be a little different than what people are used to -- turn just a little bit here -- than what people are used to that regularly perform posterior/anterior lateral approaches because you don’t have the lesser trochanter as a landmark. What we’re going to use as our landmark is going to be the saddle of the femur. So you can see here this is the saddle of the femur is right here, so I’ve got the saddle.

That’s why it’s critical to make that exposure to really see where that neck is.

It is. It really is. And we’re basing the osteotomy off the saddle, the edge of the saddle. So I’m going to put one edge of my saw blade up at the corner of that saddle, and then it’s just a matter of knowing the angle, depending on what implant you’re using, the angle that you use to cut. So when I make my osteotomy, I cut through the anterior cortex first, and then I’ll cut all the way through the medial Calcar and posteriorly on the medial side. I don’t angle the saw blade to cut laterally and posteriorly for fear of cutting the edge of the trochanter off as it wraps around.

That’s a key thing. The other thing is to make sure that the leg is not externally rotated, because if it’s externally rotated you can run into the trochanter.

The same thing, again, uh-huh. We internally rotate it a little bit after the medial capsule release to prevent that, and now we’re going to make our cut. So I typically will make the osteotomy and then just twist the saw blade to finish off that lateral neck region. So now we can externally rotate the leg a little bit. Good.

And so what’s your trick to get the head out, the head and neck?
I use a single cut, so I don't -- some people will do a napkin ring double cut.

Yeah, I use a napkin ring, and then that give me room to take out the head segment.

I use a single cut, and you'll see I run this in, so I'll put the corkscrew into the neck, the cut neck, and then I'm going to roll this up. So what you see now is -- get you to hold that one there -- what we see now is this head that's been rotated up, and you can see capsule attachments on the back of the neck and head.

Now you're just going to release those posterior capsules.

Yeah, just going to release that. Okay. So that's done. Now you come out with the retractors. So come out with the retractors. I give this thing a couple good turns to try and make the ligamentum teres go away, and then we're just going to pull out the head. Okay? So there's our head. The head's out. You know, we can look at this thing and see, you know, the arthritic changes on the femoral head. No cartilage at all on the top. It's got that shiny marble appearance to it, you know, with rim osteophytes that run all the way around. So the head is out, and now we're ready to move onto the acetabulum.

Do you check your level of your osteotomy with fluoro here at all, or do you just run your finger around the lesser trochanter to see your comfort level with the level of your osteotomy?

I don't check it right now, but I do check it when the C-arm comes in to prepare the acetabulum because I use fluoro to do the reaming. I'll look at it at that point. Now if I'm having difficulties getting the reamers in and out because my neck cut is too long, then I'll also bring fluoro in to do a check.

What I'll generally do is use that tool of the guide of the lesser trochanter, and I like to be about a finger breadth of from there, and you can at least feel to see if you're high or low to figure out where you're at.

Yes. And you can, you should be able to reach around now and feel that lesser trochanter. Now the exposure of our hip socket here -- and let's see if we can get a switch onto the --

Jonathan, tell me about where you placing these retractors. You have an anterior retractor.

I use two retractors. I put one retractor. This is a right hip, so this being 12 o'clock, I put one retractor down around 8:00 o'clock, and I put another retractor down around 4:00 o'clock. So I use two retractors, one anterior/inferior, one posterior, and then I don't use the inferior retractor. I don't use a third inferior retractor. Some people use a third inferior retractor, but I just use these two to get my exposure. And you can see her whole hip labrum is still intact, so we need to incise that hip labrum, and we need to cauterize this soft tissue in the colloid fossa. So let's cauterize this fossa.

I use retractors similarly. I'll put one anteriorly, one posteriorly, and my third retractor is at the level of the transverse acetabular ligament to really give me just so I know best where my colloid fossa is for medialization.

Turn the camera there so we get good. Good. Theirs is our orientation there.

Jonathan, give me the orientation there. What's up and what's down. What's anterior?

This is 12 o'clock. This is like you're looking at the patient, like I'm looking at looking at the patient. So 12:00 o'clock is right here, so superior, inferior, anterior, and posterior. So this is where the ligamentum teres is. We're just cauterizing there. I'm trying to get that acetabular branch of the obturator artery fully sealed off so that when we ream we don't unroof it. You can
see this is the cut neck of the femur. This right here is just some inferior capsule. This is inferior/posterior capsule, and then, of course, the hip labrum, which goes all the way around.

This neck cut may be a little bit high. I’m just eyeballing it. But with this stem, with the Fitmore stem, you do want your neck cut a little bit higher than normal. So this was a neck cut for the Fitmore that might look a little high and funny, but it may end up being perfect for us.

Do you have the leg in a bit of traction here?

I’ve got a little gross traction on it. So I just have like a little gentle pull and the leg locked. So I haven’t added any real traction yet, any turns, but I’ve added just a little bit of gross pull and locking so that we can get the neck out of the way. I’ll take a pituitary long-handle knife.

I’d like to go to a slide for a second, Jonathan. I just want to go over the cups here that you have as options. If we can go to the slide, and this is a continuum shell. It has trabecular metal coating, and the idea behind the trabecular coating is to create a great friction surface that’s bone friendly. And Jonathan today is going to plan on using a no-hold shell. The options are limited hole and multi-hole for screw options with it. The benefit of the trabecular metal is that it’s very bone friendly. It has a surface that’s very similar to that of cancellous bone, and it has a high friction value as well. This shell has modular inserts that are available. The locking mechanism is that of a taper, so you can have the option of using the polyethylene, in the future, perhaps ceramic and also metal inserts with this as well. Once this is in, are some dimples that are really for orientation, and it’s a flush liner, but there are options for offset or lip as well. Let’s get back to Jonathan. Jonathan, tell me about how you’re going to prepare reaming the acetabulum.

Okay. So we’ve got the acetabulum. The acetabulum is ready now for reaming, so, you know, what we’ve done is we’ve gotten all the soft tissue off of it. Let’s get this cleaned off here. So we’ve gotten the labrum out. Turn that a little bit, Joe, to get the orientation a little bit better. Oh, you got far on it. Turn. Okay. Get it in there. There we go. So we’ve taken the labrum off. So the labrum’s all the way off around the edge of the socket. I’ve cauterized in here in the colloid fossa of the acetabular artery. Now I’m going to bring in the first reamer. So we have templated her to a 50, so let’s get our first reamer.

So what are you going to start with then?

We’re start with a 45. I usually plan on using three reamers. So we’ll go -- and I ream one under. So if I planned on a 50 shell. My final reamer is going to be a 49, so we need to start with a -- put the camera back in there. So we’ll start with a 45, and we’ll --

And this 45, Jonathan, you also use to medial appropriately to get to that floor of the colloid fossa?

Yeah. I’ll medialize this a little bit, and you can medialize it with an open just to get your orientation and see. Typically -- I typically won’t ream the acetabulum in an open fashion like we’re seeing here. I’ll typically ream under fluoro, unless it’s a case of dysplasia. If it’s a case of dysplasia, I’ll ream open because it’s a little bit harder to see the orientation of where you are anterior/posterior. But with a straightforward socket, most of the time I’ll just ream under fluoro because I use a big enough reamer to start with that I get pretty centered in the cup and I don’t have to worry about a center reaming. So that’s the first reamer, so this the 45. So we’ll come out and we’ll see. We’ll just check our depth of reaming. Danny, give me a little internal. There we go. Okay.

So look in here, and I really haven’t reamed very deep. Bring the camera back in. So I haven’t reamed it really deep. You can see there’s still some sclerotic bone. There’s still some sclerotic bone there. I still haven’t gotten to the base of that, you know, medial wall. So what I’m going to do is I’m going to put this reamer back in. I’m going to ream a little more and I’m going to add C-
arm right now. So we’re going to bring C-arm in, and I’ll show you how I check my depth of reaming and ream under fluoro.

So you’re going to use the 45 again.

Yeah. Because I think I need deepen it a little built. So we’ll go back in. We’ll come out with the retractors.

So your plan with reaming in this case would be 45, 47, and then a 49, then plan a 50.

That’s correct. So bring in fluoro. Fluoro Comes directly from the other side of the table, perpendicular to the bed. So the first shot on fluoro, if we can show the fluoro shot image, is right in the middle of the pelvis. So we’ll get this pelvis flipped. All right. Now I’m going to center up the C-arm here a little bit. Image.

So what I’m looking at here is I’m looking at the symphysis versus the coccyx. I’m also looking at the obturator foramen and the relationship of the teardrop to the ilioischial line. In this patient, the pelvis is listing to the right, listing away from me. So I’m going to have the table – airplane the table left, please.

You know, Jonathon, while we have a second here, people have been emailing questions, and one of the questions that was emailed in was about leg lengths, and now you’re using fluoro and it’s a perfect time for you to demonstrate how you’re going to reproduce leg lengths here with the image.

And what – image – and what we’ll do is I’ll show that in detail at the end of the case when we get the trials in, I’ll show you exactly how we do the leg lengths, because I use fluoro for leg lengths, comparing one side to the other. This right here, the image of the pelvis we have now, you can see the symphysis is in line with the coccyx. There’s symmetry between the relationship of the teardrop versus the ilioischial line. And so I’m happy with where we look at it now. So I’m going to push in a little bit. Image there. We’re going to look at our neck cut and see what our neck cut looks like. The neck cut looks a little high. We’ll probably trim a little off that later. Mag it up one field. Okay. Image. Okay. Lock everything right there. Okay.

So now we’ve got a close-up picture of the hip. Image. And now I’m going to ream it. I’m going to medialize. We can see the level of the reaming that I did open wasn’t close to the medial wall, so we’ll deepen that a little bit. Image. Deepen it a little more. Image.

So, Jonathan, you’re just taking a spot image here each time?

Just a spot image, yep.

Until you see where you are up to Kohler’s Line.

Yeah. Image. There we go. Now we’re getting close. Image. There we go. Now we’re medialized. So I’m pretty happy there. And what I’m doing here too, is we’ll go to the 47 reamer. I’m also looking at my hip center of rotation. Ideally I’d like the bottom of my acetabular shell to be at the level of the bottom of the teardrop so that I’m not raising or lowering the hip center any.

You know, Jonathan, I noticed you’re also using full hemisphere reamers. I have a tendency to use these cut-away reamers.

Uh-huh.

What’s your preference with this?
I use the full hemispheres so I can see my anteversion on the reaming.

Uh-huh.

Image. So I can tell – image there. So I can look that’s about the anteversion I normally like, maybe a little bit less as far as reaming. And as far as abduction angle goes -- let’s do a couple of clicks clockwise.

So what he’s looking for the abduction angle is the angle from the side, when we’re looking at this reamer. The anteversion is really, if it’s open or not too open, that’s what he’s really trying to assess based on those X-rays.

Image. Good. So I like that. Now what I’m going to do is I’m going to – at this point in time, when I’m one reamer, I stick a finger in to feel my reamed edge, and I feel like we can go up one more, which would be good because that would put us right at -- see, that was a 47 reamer. Actually, let’s take a peek at it now. Let’s look at it now.

So you’re just putting your finger to make sure you haven’t thinned out the walls too much?

Exactly. Exactly. And let’s put retractors in now and look at it. Back the C-arm out for a second. Now this is a step that I would normally skip, but I just want to show before we put the implant in. We may end up going to a 48, as opposed to a 50. And I just wanted to show the reamed socket. Irrigation.

So what are determining factors you look, when you’re looking in there, that you’ve got a good ream?

Yeah. So I’m just looking in right now. I just want to see that I’ve got – okay – so I’ve got reamed bone, I’ve got bleeding bone all along the posterior wall and the dome. I’ve got a really good edge, a really good rim both anteriorly and posteriorly. So at this point in time, I’ve reamed through the subchondral bone, so I’ve got bleeding bone, and I’ve got a good rim. I’m at 47-millimeters. I can put in a 48-millimeter shell right now, which is probably what I’ll go ahead and do. So we’ll go ahead and get a 48 shell, no holes. If I needed to ream up one more, I could, but I don’t think it’s necessary, and so we’ll just stick right here.

I agree with you. You’re right in between where you’ve got good spots of cancellous bleeding bone, and you’ve still got a couple areas intact rim, and so you might risk going up just to get another size of losing some of that continuity.

Yeah. And it’s not going to behoove me any, as far as head size or anything, so, you know, there’s no benefit at all.

There’s little advantage to going up.

Yeah. So we’ll just stay there. I’m going to cauterize just a little bit more of the acetabular arteries to make sure that’s not going to bleed on me, but we look pretty good. So I’m going to use an offset cup inserter, and so we’ll get our – we’re getting our cup loaded up now. But I’ll an offset cup insert, or I’ll put the cup in with it open like this, and then we’ll bring fluoro for our final seating.

One of the things, sometimes I find that there are edges of soft tissue that want to catch, and that’s what you’re going to really kind of sweep out of the way, some of the posterior lip of soft tissues and the lateral ledge.

Absolutely. And especially if you haven’t done a good – if you haven’t removed the labrum well, that labrum will catch in there and there will be little wisps and fingers of it that kind of sweep in to
block your good seating. But I think we look like we’re doing pretty good here. This stuff, inferiorly, I don’t think is going to be in the way, so we’ll leave it alone. And I think we’re ready to go.

I also want to just remind the audience that if you have any questions, feel free to email them in and we’ll go over them, certainly during the case and, at least, if not, then after the case as well.

Now what I would normally do if I didn’t put the – because I don’t put the cup in with the retractors around there, I just wanted to show everybody, you know, what the reaming looked like. But I’ll use a piece of plastic like this, it comes off an instrument pouch, and I’ll wet it in some water, shield it over my cup, and slide it into the opening of the acetabulum to get it past the muscle so that soft tissue doesn’t stick to my cup. So get that wet, slide it in, and then this just slides out from behind when you have it a little wet, and then your cup is ready to be impacted without any soft tissue or junk on it.

I’m going to call that the “Yerasimides Maneuver” for when I use it.

That’s right. I need a patent. I need a patent. So we’re going to put this in. All right. There we go. So now the cup is sitting, you know, right in the opening, it’s ready to be impacted. So let’s bring in C-arm, and we’ll do our final impaction under fluoro. So we’ll bring C-arm back in. There you go. Image. Back towards you, yeah. Image. Image. All right. Let’s lock everything right there. So what I’m looking at is –

So you can see that there’s a clear space behind that cup, and now you’ve got to actually impact it down to put it in.

We’re going to get it in. And my goal, what I do for my abduction angle is I aim the apex of that cup towards the bottom of that SI joint. If you can see that SI joint right there, the bottom of it, I aim the apex of that cup at the bottom of the SI joint and that gets me right about 40-, 45-degrees on a very consistent basis. The anteversion, I have to use the plane of the floor versus the plane of my inserter to obtain that. So I usually try for about ten to 15-degrees of anteversion, and I shoot for about 40-, 45-degrees of abduction angle, so. Image. Giving it little taps. So you can see it seating, so I’m liking that. I may get a little more horizontal. Image.

You can see how it’s bottoming out that clear space now.

Yep. Image.

John, that’s a pretty big mallet. How heavy is that mallet you use?

I use a three-pound mallet, and I’ll start – I haven’t wailed on it yet, but we’re going to get to that point if it won’t seat soon. Image. All right. So it’s slowly seating. And we’ll give it the – we’ll let it breathe a little bit. We reamed one under so, you know, we should be pretty good. I’m not worried about having to get it fully seated yet. If it doesn’t start seating here in a second, we may re-ream it, but that probably won’t happen. Image. All right. A little bit more. Image. There she goes.

So we’ve got about a millimeter or two left before it’s completely seated, and I’ll let it breathe. You know, sometimes if you get it to this point and it’s really stuck and it’s not going to go any farther, you know, you may be able to just leave and you’ve got a good rim fit, you know, I’m rocking on the pelvis here, the pelvis is moving with the cup, so, you now, we’ll give it a couple more blows, but I don’t want to break anything.

The other thing, sometimes I find, Jonathon, like this, is when I take off the inserter, I’ll use a ball impactor to really get at the dome a little bit better, and it just kind of finishes it, kind of like what you’re getting to now.
Yeah. And it looks like we got it finalized here. So let me give it a couple more love taps. Image.
Yup, she's all the way down now, so. The cup, you can see it's fully seated. That's one of the
advantages of fluoros. You know, your cup position should be right on the money every single
time. Image. All right. You can print that and back out. Let's get our retractors back in here.

And now we'll do our check and I'll show you with the arthroscopy camera. We're going to look
and see where our cup is compared to the anterior border of the bone and soft tissues. And you
can see right up here, you can see there's the anterior labrum, and border of the bone is right,
just barely overhanging the cup, meaning that we got the version on this pretty close to spot an
anatomic. It looks real good.

I think that's perfect point I, like you, use these anatomic landmarks, you know, the socket tells
you where it wants to be. And if, for instance, you had a centimeter of overhang over the front,
then that would be suspicious that you've got way too much anteversion on your socket.

Yup. So, now, what we're going to do is I'm going to plug the hole. So I use a no-hole cup and I
use a hole plug, so, plug the hole, cups in. Irrigation again.

Are you going to put your final liner in now?

Yeah. We go ahead and put the final liner in. I always use a neutral liner.

Yeah.

So we'll go with a neutral liner. So the liner, I find it easiest to go in kind of upside down, tuck it in
inferiorly, and then it will fall in. So that one went in pretty easily.

And the key is what you're doing now. The dimples are all lined up, and now you can just go
ahead and –

It all looks good.

Impact the force.

That's it. And you can see when this liner seats, it just fully seats all the way flush to the edge of
the rim there. It looks real good. So the cups done, now we're ready to move on to the femoral
side. So I'm going to take –

Now that you're going to prepare the femur, I'd like to go to a couple slides, just to demonstrate
and demo of the technique here with the Fitmore. First, we have a slide that shows canal finder
in a lateral rasp. And the concept here with the anterior approach is that we really want to
introduce instruments from the front heading towards the back. And these instruments really
ease and make things easier for the placement of this -- of the final implants.

So if we can go to our models here on the table, I'll show you, we've got some saw bones that
have been prepared. And the first example is once we've made the cut, we use this canal finder;
the idea behind this with the canal finder is to really get our orientation and find the initial pass.
And then after we've done that, we'll do it a couple more times to increase that area, enlarge it a
little bit more. And once it's enlarged adequately, we use this rasp to really get in a little more into
the trochanteric bed, and along the calcar area, to open this area up.

And once it's opened up adequately, you have a variety of different handles, but we use this
starter broach then, to go in and then sequentially broach up until we get to the right size, fit, and
fill, and then the idea behind this stem, again, it's a C-shaped stem where we want this against
the medial calcar, this against the lateral buttress, and this up against the lateral part of the femur.
So we'll go back to Jonathon to show us some of the maneuvers here to get the femur ready and to prepare it for broaching.

So when we’re getting ready to prepare the femur, we’ve got to get into position. So I’ll have the leg internally rotated, in neutral rotation. This is the hook for the table, so this edge of the hook goes under the femur, and then this end, the butt end, is going to catch into this sidebar that I have right here. So we’re going to insert this outside of the muscle just under the vastus tubercle of that femur. So it’s going to go outside the muscle and it’s going to wrap around the femur. Now we’re going to externally rotate maximum. So we get maximal external rotation. We’d like at least 90-degrees, if not a little more. And then we’re going to let all the traction off. We’re going to drop the leg down to the floor and tuck it underneath the opposite side as far as it will go, so.

Jonathon, can you bring in the lab camera so we can just see where that is in relationship to the proximal femur?

Gotcha. Let me get some retractors in to show you. So I use a Müller retractor over the calcar. And then I use a pointed Hohmann behind the trochanter right now, but you can see the arm goes under the femur, around the back, and holds up the proximal femur to point it in a direction we can use. So we got a good view here. Okay. So to orient you here, this is medial calcar, this is lateral femoral neck region, this is posterior, this is anterior. So that’s where we’re at right now. This –

And Jonathon, review for us now, what have you done to position the leg so that you can get access to the femur here?

Say again, Harry?

What have you done to position the leg? What’s the leg, in external rotation, extension? The position of the leg so that you’ve gotten access to the femur?

The position of the leg is it’s externally rotated, it’s extended, and it’s adducted.

And you’ve got a great exposure to the femur now. Now that other retractor that’s a posterior retractor, is that behind the tip of the trochanter?

This is try to be behind the tip of the trochanter. What will happen is, frequently -- right now, it’s penetrating the gluteus minimus. So the minimus muscles right here. This is the interval between capsule and minimus. And so minimus muscle is it’s penetrating – the retractor has penetrated through the minimus muscle right there, and then this area right here is that capsule we tagged. So I’m going to take my knife –

This is a great view. Can you just review here about this lateral capsule of release now?

Yeah. So this is my lateral capsule right here. Let’s defog that a little bit, that camera, so we can – here we go, put some defog on that camera so we can get a good view. There we go. Okay. All right. So this here is lateral capsule. This is gluteus minimus. I’m going to go right in the interval in between the two, and I’m going to release the capsule from the minimus.

And you’re cutting right down to that part of the femur that’s between the lateral edge of the cut surface and the trochanter?

Yes. And I’m going to reposition the retractor so that it goes behind minimus and hopefully expose the bone a little bit better inside our trochanter here. So what I’m aiming to do, and let’s see if –
Is that piriformis that's coming in right there?

What's that?

Is that piriformis that's coming in right there?

Piriformis is coming in right here and I can see the glistening of it. I'm going to take a tonsil – give me a tonsil so I can really clear it off. Piriformis is right here. Under this you can see the glisten of it when I suck. Underneath this tonsil is piriformis tendons coming right here. So that's the piriformis tendon as it comes over the trochanter. It's going to attach, not down here in the piriformis fossa but it's going to attach out here on the anterior tip of the trochanter, right in this region. So that's piriformis. That's a structure that some people will flip over the tip of the trochanter, other people will cut. I tend to be one that just goes across it. I'm not overly concerned about saving piriformis at this point in time, so we'll just go straight across it. And you'll see it release. There we go. So we just released piriformis.

Now I'm going to see with that one release – all I've done is released piriformis and released the capsule. We're going to see how much more the femur comes up. And you can see here comes our femur.

That essentially un-tethers the femur. Now you're bringing it anteriorly.

Yep. So that move right there. And now we can really see – actually, we can see, I haven't released the whole thing. Give me the tonsil back. This is a really, really good view actually to show you this right here, the piriformis tendon. You can see it right there. My tonsil is underneath it. That's piriformis tendon. So this one I've partially released it here to where it's starting to roll over the trochanter. We can follow it all the way back. See how it wraps? Here it is, coming across and wrapping around the trochanter because I released enough to get it to flip. So that's it right there. That's actually a really nice view of the piriformis.

And your point is well-taken. Now look at your exposure to the femur. This is an excellent exposure now to prepare the femur. You've got access to the front, back, and right towards the trochanter.

Yep. So we're good. The piriformis is intact. Obturator internus comes in down here into the piriformis fossa, and obturator externus is a little bit farther down. So right now we're working pretty good. We've released the capsule. The piriformis is still intact by some miracle. And what I probably released here, this stump right here, what I probably did was release a little of the obturator internus here, thinking it was the piriformis. So internus got released, piriformis got saved. Sometimes it's the opposite; piriformis will get released and the obturator internus will get saved. Either way, as long as you're not releasing obturator externus down the femur, you're okay. If you need the exposure, don't sacrifice femoral exposure for the piriformis or the obturator internus tendons. You know, take them, get your elevation, don't break the femur.

That's a very good point, because if you struggle or if you put too much force on that femoral hook you can just fracture off the tip of the trochanter.

Yep, very easily. So, now we've got this elevated. I'm going to use a Rongeur here to nibble off the lateral cortex of where the femoral necks coming in. And you can see my neck cut is pretty high. The tip of my trochanter, you know, is pretty low compared to the neck cut.

So the option here is to use a Rongeur or you could use a box osteotome or whatever you're comfortable with to get access.

Exactly. And we'll be playing this neck down for sure. All right. So let's get that prison shank. So we're going to get this tool.
This canal finder you like to use.

The canal finder, yeah, this fella. So it kind of looks like a sword or a prison shank. We’re going to run it right down the middle of the femur. You know, sometimes I’ll put a hand down here and feel my kneecap just to make sure I’m not going to poke this thing, you know, out the cortex, because, you know, it’s got a little sharp tip on it. You could get it out the cortex, so. Mallet.

I agree with you. You’ve got to be gentle with it.

Yeah, you do. You have to be nice and gentle, so. We’re just going to let that find it’s way. There we go. The “Ricky-Bobby” back, the Rongeur. So, now I’m going to take out a little more of that lateral neck. I’ll move so we can see here better, but --. All right. Let’s get our first broach. So our femoral exposure looks pretty good now.

So what do you use, a starter? Do you use a starter broach?

Yeah. We use a starter broach to start to begin things off. And I switch to a two-pound mallet here. So I’ll use three-pound mallet to put that cup in and then I’ll switch to a two-pound mallet to do the stem. And the key on this stem is those broaches – that first broach, that second broach, sometimes they’re pretty tough because you’re just getting started through fresh bone and these are cancellous impaction teeth, so they’re not taking out a bunch of bone. You need to make sure your hand is always pushed down as far as it can go. That’s in the lateral position, so you want to push down lateral and push in so that you don’t perforate that posterior cortex.

And the key, exactly that, you follow the posterior cortex.

What’s that?

I like to follow that posterior cortex of your neck cut.

Absolutely. Absolutely.

So you can make sure.

And this neck cut, sometimes your version can get a little messy if your neck cut is too long. As you trim the neck down farther and farther, the version kind of changes on that femoral neck. So, you know, my version is pretty — there we go.

You just like to follow the version of what the canal dictates?

I do. I follow the version of that neck and this posterior cortex; that gives you a good reference. I’m a little bit — I have a little bit anteversion with that first broach, so I’ll change that a little bit. So what I’ll do is as I put it in – so this is B number one, so we template this one up to about a three or a four. So as I’m going in, I’m pushing my hand down and in.

Let’s say you’re trying to get this and it’s not advancing, do you – when do you use the rasp?

The rasp? I may go to the – if the femur has touch cancellous bone like this one does, I may go to the rasp after this one and try to get a little more of that lateral eye there, because this is just – it’s a little bit too hard to go right now.

You know, Jonathon, we’re getting a lot of questions from your beloved audience. They want to know, when you started doing this, what were your first patients, like? How did you select patients to do this procedure on?
Well, I was fortunate enough to spend, you know, a full year in fellowship with Joel Matta, so, you know, I had a little bit of a head start as far as experience and multiple procedures before I actually got to do my own. So when I started, I basically took all comers. I would shy away from some revisions at the beginning. I would shy away from really, really large patients, patients over 350 pounds. After about 50 to 75 cases, you'll get to the point where you're comfortable doing, you know, very large people, and you'll get comfortable doing revisions.

I currently do all cup revisions that don't require posterior augmentation through this approach. And I'll do most of my stem revisions through this approach too, including removal of cement. I use the modular restoration stem. So you can really – this thing is an extensile approach, both distally and proximally to do pretty much anything you want, except for augment the posterior wall or posterior column in the acetabular.

I would say I would agree with you about the learning curve; it's probably about 50-75 patients.

Yep.

I think if you're going to start doing this, the appropriate patients are obviously thin, to start, they're flexible, they have a valgus femoral angle of their femoral neck angle, and they don't have a lot of hypertrophic osteoarthritis would probably be ones that you should start with. And then as you get more comfortable, you start expanding your indications to bigger patients and to more complex ones. And then once you get facile like Jonathon is here, you can really extend it towards acetabular revisions or certainly headliner changes and the straightforward ones as well.

It's a real good surgery for headliner changes. It's really good for that. So what I'm doing is, again, with this stem, is I want to put this in a curved fashion, so I'm really forcing my hand down. As this stems going in, I'm forcing my hand down to get it to hug that medial cortex. Can I get a calcar planter. Now I've gone ahead knowing that my neck cut is a little bit long. I've got up to the B3. I've got some bleeding out of the canal here, but I got it up to the B3.

I'm looking, you know, at basic orientation; the tip of trochanter versus the shoulder of the implant, you know, posterior approach things to gauge, you know, whether I need to sink this more or whether I'm happy with the way it is. But I'm pretty happy at this particular depth of stem insertion, so I'm going to plane it down, and then we're going to take a peek with C-arm, and see if we like it, see if we need to go up one more, see if we like the way it feels, see if we like the offset because this patient has extremely high offset. We're going to deal – we're going to go with the B-extended first, but it may not give her enough offset. We may have to go to a C. All right. Let's go with that B-extended.

So now you're going to trial a B-extended. What neck length are you going to trial, a minus to start?

I'm going to go with a zero. I'm going to go – I usually start with a zero head, unless there's something really screwy going on so. All right. Come out with that retractor. And I've tagged my capsule flaps here. So I take my lateral capsule flap and I put it behind the femur because I don't want to get it in the way. If you get that lateral capsule flap in front of the head, you'll never get the hip reduced. There will be a problem. Bring it up. All right. So we're going to bring the hip up and I'm going to have them internally rotate a little bit.

And now have much traction? A little bit of traction to?

And then we got it reduced. So my assistant at the end of the table just pulled on the leg to reduce. We can take a look-see inside here. And see there's the head, there's the head to the cup. You know, this is a – you can get a good idea of your anteversion – your combined anteversion of your neck to cup here, too, you know, to make sure that you're not looking at something silly like an over-anteverted cup or an over-anteverted stem. But this looks like a
pretty good combined anteversion of the head and cup. It’s a little more uncovered in the front, just like it should be, and I’m pretty happy with that. So let’s go ahead and trial it. And I’ll show you how I determine my leg lengths now. And this is one of the – this, to me, you know, is one of the key things that I’ll do each and every time to make sure my length and offset are correct. I don’t – I always do the same process here.

Jonathan is bringing in the fluoroscope to check leg lengths. And one of the benefits, I don’t use the table to check my leg lengths, I’ll just put both malleoli or both legs or the bottom of the feet together and assess it that way.

And that’s a good way of doing it. And you can – you know, without the fluoro, that’s an excellent way of assessing your leg lengths, just putting the feet together. Image. And it’s much more accurate than a posterior approach where the patients on their side. Image.

So now that you got the fluoro in, what are you – again, you’re looking to make sure that you’ve got a neutral alignment of your pelvis.

That’s correct. Absolutely. So I’m making sure my pelvis is neutral-lined, so I’m looking at my coccyx versus the symphysis there, and then I’m going to go to my non-operative hip. Image there. So I’m going to get a picture of my non-operative hip as soon as the cable’s out of the way there. Image. All right. Give me a little external rotation on that leg. Image.

So I get a little external to get that lesser trochanter a little more visible. Lower the C-arm please. Lower the C-arm to get more view. Image. All right. That’s good. Put that on the right-hand side. So I put that and we’ll print that one. Image. So I’m coming over here. Okay. I need a little external rotation.

So now you’re trying to, again, trying to duplicate a very similar picture.

Exactly. I’m trying to duplicate and get it similar, a similar look here. See the machine back towards you just a little bit please. Yep. Image. Good. So what we’ll do – let’s see, bring that leg in. Uh-huh. Image. All right. Good deal. So I’m looking, I’m just eyeballing it here first to make sure nothing looks horribly off. Shot there again. Go ahead and print that one.

So I’m trying to get my lesser trochanters, you know, the same profile. I’m trying to get my abduction, adduction angle of the femur the same profile. And now I can do a quick check of my femoral component too. Image. Okay. So one more shot there. Okay. You can back out. So that femoral component, I can upsize that and get it into and lean down on it more to get it to hug that medial cortex a little bit more. It’s centered up and down. It’s centered in the canal, but I’d really like that medial border to really hug the medial edge of the femur. Plus I’ve got some size to go up so.

I agree with you. You just spend a little more time getting into that trochanter and just upsize it.

So what we’ll do is we’ll go ahead and do our trialing of the length and offset now, though. So I’m going to go over to a view box. And so we’ll get –

So now you’re going over to the view box. You’re going to overlay these two prints?

Yes. Yes. So I’ll go to the view box here, and we’re going to overlay the prints. So I’ve got a pair of cover gloves on. So I’ve got a pair of new gloves on. So I’m going to get the overlays. I’m going to get the non-operative side and then I’m going to put the operative side on top of it and we’re going to see our length and offset pretty accurately.

So one of the things Jonathan is trying to do, he’s going to lay them over themselves just like if you took, you know, coloring paper and just overlaid and just traced it out. He wants to duplicate
the non-operative side. And now we can kind of see what’s he’s doing over there with the overlays.

Yep. So I’m overlaying this. Now what I’m looking for is I’m going to bring – so I’ve got my pelvis completely lined up, obturator foramen lined up, ischium lined up, teardrop lined up. It looks like my leg is a little more abduct that I had on the operative side. So I can put my finger in the center of rotation of the head and just bring it in as if I were bringing the leg in. My offset actually looks really good, that B-extended offset, I’m looking really nice. But I’m a good – I’m a good five-, maybe six-millimeters short with this.

So what I’ve got is I’ve got good offset. I’m happy about my B-extended. I don’t need to go up to a C. But I’m looking at probably, maybe it’s about four- to five-millimeters. So I’m looking at four- to five-millimeters. So what I’m going to do is I’m going to take my covered gloves off, we’re going to go back to the drawing board here. We’re going to bring the femur back up. And we’ve got a B3 in, we’re going to go up to at least a B4. Now by going up to a B4, I’m going to add a small amount of length to my neck. I believe it’s like 0.6-millimeters. Give me a hook for the bone hook.

So really, what your options are, Jonathon, are, one, to use a high neck, like a plus-seven; or your other would be to go upsize, and then hopefully go to maybe a plus-three, five, to be able to get out of this.

That’s right. And that’s probably what I’m going to do is upsize to a three/five. Externally rotate. Traction. Yep. So I’m going to upsize to a four. Yep. Traction off. Drop it. So bring this leg back up. We put our retractors right back in. And, fortunately, we have –

Jonathon, there are some question from the audience. People want to know, what do you do for your post-op protocol? Do you follow hip precautions? Do you keep patients down for a period of time?

I don’t do any hip precautions and I let everybody be weight-bearing as tolerated. So there’s no precautions and they’re weight-bearing as tolerated right away. I’ve never used hip precautions and I’ve been very fortunate in my primary hips not to have a dislocation yet, and I’ve done close to, well, not quite 1,500, about 1,450, a little over 1,400 primary hips without a dislocation, and in fellowship another 300 not seeing a dislocation. My revisions, I’ve had three dislocators on a revision level. Again, I don’t do dislocation precaution or revisions, and that just might be pushing the envelope a little bit too much. But I’ve had three of my revisions dislocate. So it’s not foolproof, but for a primary, it’s pretty darn good. Broach handle.

I agree with you. I don’t follow any hip precautions post-op. The one key is I always tell the patients when they walk they have to walk with their feet pointing forward because the risk here is of anterior instability.

Yes.

And that would be of extreme external rotation.

Exactly. Well what we’ve got here, just so I can show everybody my thought process, this broach is about a millimeter underneath my planed neck. So my plan is to go up to a B4 to see if it will sit about the level of the plane neck, and then go to a plus-three, five head, and that should give me – you know, I’m looking to get about five millimeters. That should get me about five-millimeters of increased length and we should be golden. And we’ll put the final implants in and be done. So I’m going to lean back on this guy to really get it – really get that medial side to try and sit down a little better.

Yeah. You’re also really working into that trochanter as well.
Yes. I don’t – you know, there is a leaning – there is such thing as pushing backwards too much. You know, you don’t want to hurt the trochanter here. You know, but this implant doesn’t invade the trochanter very much, it stays out of the trochanter, so it’s really nice about preserving your lateral bone and not fracturing your trochanter. So this is a four. We’re going to go up to this four. Get this back in. Okay. So we got this up to a four. We’re sitting right down about the implant level. I’m going to see if I can – if it will – so, good. So we’ve got a four in. And the four is sitting right about the level of our plane. So I’m thinking I’ll go with a B4 extended offset and then we’ll go with a plus-three-five head.

I already know my offset is correct. Now I’m correcting my leg length inequality that I had with my trials. And I’m doing with a very calculated and controlled manner. I knew that I was about five millimeters short. So I’m upsizing a stem that’s going to be about half a millimeter longer in neck length. I’m adding about a millimeter up to the level of the seeding of the implant and adding three-and-a-half millimeters on the head length itself. So I’ve got a pretty controlled five-millimeters of length that I’m adding right here. So I’m pretty happy taking this out and going ahead and getting the permanent implants.

You know, there’s another question from the audience, while you’re getting ready for that.

Sure.

And the question really is about the benefit of the anterior versus the posterior approach in terms of pain and recovery.

You know, I don’t think there’s a question as far as people recovering faster. I think even surgeons that are staunch believers and advocates of the posterior approach will concede that anterior approach patients recover faster. Now the question comes with long-term benefits, is there a real long-term benefit? Pain-wise, you know, I tend to think they have less pain, but that’s a little hard to prove because everybody’s pain levels are different. Sometimes you might get fooled that they’re having less pain because they recover faster and because they don’t have to follow dislocation precautions, so they just seem a little bit cheerier. But, you know, pain levels, it’s hard to assess that. But I would say there was no doubt they have earlier recovery.

So now that you’ve got this exposure, are you going to go ahead and open up the B4 here and put it in?

Yeah, we’re opening it right now. We’re getting it open right now. So –

So, now, once you put this in, are you going to right with your final or are you going to trial it again?

I’ll go right with my final. If I’m off on length and offset, both of them, then sometimes I’ll trial again.

I agree with you. You’ve done eloquent calculations here to make up those five-millimeters. You might as well just go with it and get it over with.

Right. So we’re just going to go with it.

I’m with you on this. I’m not a big believer in trialing five, six, seven, eight times.

No.

Because the more times you reduce dislocate, the more risk and more chance you’re creating a problem.
So let’s get this in here so we can see. Get some suction on the anterior calcar there. Irrigation. I’m going to squirt a little irrigation. So we’re right down to the level where we should be. We probably could go a little bit more if we need to. I’m just going to give it some more love taps and see.

So the key characteristics when we’re implanting a stem is a pitch change, the lack of progression, and it’s tactile sensation that Jonathon is getting here with the implant.

Yeah. This is a solid implant that’s not advancing any further, so we’ll go ahead and open up the plus-three-five head, please. So we’re getting the plus-three-five head. We get the neck ready.

So we also spend a little bit of time cleaning off that trunnion so that there’s nothing to interfere with this Morris taper.

Yeah. So we’ll get this on and then we’ll show – here’s the head. So we’re using a ceramic head, plus-three-five, 32-millimeter. On good. So now we’ll show you the reduction on what we do on the final reduction here. So it’s a little bit different. We’ll take this out. Go ahead and bring that leg up. And we got the arthroscopy camera on? Good. So let’s come in here. Give me a Hibbs retractor, please. So let’s look in here so we can see that. Okay. So we’re going to see there’s the socket itself. So let’s give you the socket. Yep. All right. So internally rotate a little bit. Internal more. Traction.

So this reduction is traction, internal rotation.

Traction. A little more traction. There you go. Good. So, external a little. So try and get it in now. We’re looking at our socket. Irrigation. We got a little fur on there. So point those toes directly to the ceiling, Danny. So I always like having the toes pointed completely neutral, and then looking at my version here. So we’re got a little more uncovered in the front than the back, so I like the combined anteversion of this implant. So that looks really good as far as combined anteversion.

If you wanted to check stability, obviously they’re going to be unstable anteriorly first and foremost, so you can say – externally rotate gently 90-degrees. So I have them externally rotate to about 90-degrees gently. There you go right there. Is that 90? So that’s 90-degrees of external rotation. I can still get my sucker in between the neck and the back of the cup. So there’s no issue of impingement here. Internally rotate. So I’m good to go. And now we’ll irrigate. And I’ll sew these two strings that I had. You can come out with that retractor. And let me show you what I do for a closure real quick. Get the Hibbs back.

So what I do for closure is I just sew these two ends of the capsule together. So we’ll just close those two ends of the capsule and then I’ll put a deep drain. And then we’ll run the fascia lata, and then run the skin with absorbable suture. And that’s it. Thanks for watching. Thanks for the questions. I’m just going to finish up in here a little bit and then go join Hari, and we’re going to get – we’re going to answer a few more of your guys’ questions and see if we can wrap this up.

So that was an eloquently performed anterior hip replacement. And I think everything went very well. And you’ve seen the benefits of an intramuscular anterior supine approach. This video will be archived, so people can certainly access it later. You can gather questions and email them in to Zimmer, and we certainly look at them ourselves. It’s been a great day for surgery and I think everything went well. And we’ve had a few interesting questions.

I’d leave people with a couple of points about this operation. It does take an experienced surgeon to perform this. It does require special instrumentation for it to be performed. And in addition, it does have additional benefits that really help in a quicker, earlier recovery.
term benefits are probably not that much different than any other approaches to hip arthroplasty, but certainly the short-term recovery is certainly better.

So I’d like to thank the audience for paying attention and for joining us this evening. And, again, good night from Norton Brownsboro Hospital here in Louisville, Kentucky.

Thank you for watching this OR Live webcast presentation brought to you by Zimmer.