

**MIKE RIES:** My name is Mike Roes and I want to say hello from Kuai. We're at Wilcox hospital with Dave Rovinsky and his OR team about to do a JOURNEY knee. And Dr. Rovinsky's been using JOURNEY for some time. I know he's certainly well trained and got a lot of experience.

So we'll be talking through the surgery together, and I'll let Dr. Rovinsky say a little bit more and tell you about this patient and his pre OP plan.

**DAVID ROVINKSKY:** Thanks. I want to say thank you. Welcome from Kauai. Aloha. And it really is an honor to be working with Dr. Ries who's my professor and mentor. And let's get to the case that we're working on here. This is a patient who was in her early 60s. She's very active. She likes hiking and playing tennis.

And what's nice about this patient is I did a JOURNEY II BCS honor on her September and she was thrilled with it. And here we are now just a few months later and she's ready for other side. So that's the best testimony to patient satisfaction is if they come back for the second side.

So we're going to highlight in this demonstration both the visionaire preplanned cutting blocks and the BCS JOURNEY knee design. So when you order a visionaire designed for your total knee, you're going to get an MRI of the knee and full-length x-rays of the knee.

And a lot of us in our training learn to get the x-rays, full length films, and measure them, and do our pre-op planning. But in a reality of a busy practice, not everyone is routine getting these x-rays. This forces us to do excellent pre-op planning.

So we know that she starting with a varus knee. And then we go up to the plan itself on the first page. And based on a three-dimensional model generated by the MRI and the x-ray, we get where we're starting from. So she starting off with 6.3 degrees varus knee, and it tells us what we want to do for our femur in our tibia.

So we can choose exactly the cuts we want to make the same way we do it for a primary total knee. So what I've decided is that I like to make my white sides line as my measure of my external rotation. I like to make my distal femoral cut to the trochlear sulcus, and then based on this measurements and four degrees of flexion to accommodate for the femoral bow, I will get predictions of what my cuts will be.

And the cutting blocks will make us do the cuts. And you'll see as we go through this surgery that every time we make a cut we measure the bone fragments that we resect to make sure we're staying on plan. For the tibia, it's the same way.

I want to have three degrees posterior slope. I want to have a 10 millimeter poly. I want to have my alignment, my rotational alignment, with the middle of the medial one-third of the tibia tubercle, so based on this plan, it's going to give me my exact tibia cuts.

So as we go down, it gives us a visual assessment of this plan. So when you submit your plan you get this back from your personal engineer and you can review how this looks in three dimensions. You could say, OK, do I like the size of the femur? Do I want to upsize or downsize? Do I like its medial lateral position?

And you get to approve and change a plan as needed. As we go down to the tibia we see the same thing. So scroll down a little bit more. So the tibia, really important, do we like our slope? Do we like how much tibia we're taking off? Do we like the coverage of the tibia? And all this thinking, all this work is done at the leisure in your own home.

And you can relax and think about it. So here in the operating room we're all about execution we're not making any more decisions. We made our decisions preoperatively. We're using computer navigation for every total knee to make these custom patient instruments. So let's keep going down.

During the case we'll use this as a reference. I have the screen up and the patient X-rays up during the case so I can always touch base and say, am I sticking to my plan? Is the block sitting the way it's designed to be sitting on the femur and on the tibia?

And then as you go down, we get to play with, again, this is preoperatively our three dimensional models. So we really feel like they have an understanding of the patient's anatomy and morphology.

So this is taking our preoperative planning to a whole other level. We've basically done the surgery virtually. We've done the entire procedure ahead of time. We verify that we like what we're doing, and now it's just about making sure we're executing the plan that we've already designed.

So this is highlighting the different colors you can separate the block from the bone. You can see how the implant's going to sit on the femur, and I think this gives you just a really clear understanding of where you're going.

So let's get to the case. And for these patients, you'll see I do a mini-midvastus approach. I think the approach is important.

And I make my incision just medial to the tibia tubercle and on the medial side of the patella because when you kneel, you're going to put pressure on these points, and our modern patients today are wanting to squat. They're wanting to do kneel. They're wanting to do all these things we used to tell people they can't do and shouldn't do.

So we're looking here-- there's our VMO insertion. For women in particular, it tends to insert a little bit higher on the clock, on the patella, so it really is very favorable for this approach. So we split off our distal portion. We see a natural [INAUDIBLE] here.

Here's our patella. Let me go just on this side of the patella. So when we do our approach for the visionaire, we have to do enough of a medial release so that we have a place where the footprint of the tibia cutting block to go. And that has to be on bone.

And the other thing we have to be reminding ourselves of all the way through, is that the osteophytes that we're accustomed to resecting are landing points for our block.

So you can't resect your osteophytes until you're pretty well along. So then what we want to do is we want to make space on the top of the femur.

So I'm going to extend this fascial cut a little bit. There we go. Let me get an army-navy. So again, we need to make a landing pad for a visionaire cutting block on the anterior aspect of the femur.

**MIKE RIES:** Now David, do you just do that for visionaire, or do you take that blob of soft tissue out on everyone?

**DAVID**  
**ROVINKSKY:** I do it for-- when I do visionaire or standard instrumentation or computer navigation, I just like to make sure I see that anterior femur, and you want to clear room for that JOURNEY portion of the femoral component. I take all the synovium, and I take out the fat pad for visualization.

And I know in some places there's debate about-- there's a consequence of taking out the fat pad, but I think that it's very helpful to do so. And whenever I don't take the whole thing out, I find myself taking it out in pieces along the way.

**MIKE RIES:** And the medial release you did on the way in, is that pretty standard? Or anything more for this needs knee? Because it's got a little varus.

**DAVID**  
**ROVINKSKY:** Well, that's one of the things that the visionaire is that-- with a visionaire you need to do at least that much medial release even on a valgus knee because you need to be able to- let's take the rongeur to these osteophytes.

She has a nice oval-shaped patella. But we don't cut the patella at this point. We just kind of get rid of the osteophytes to give us give us some space. Let's flex it up. Let's see if we get a little bit more exposure here.

So now in our next step-- pick up-- we want to get rid of this anterior corner lateral meniscus and try to create some space laterally to work, and we'll get a better look at her knee. Get a kocher on that. I got here. Let's see the 90-degree helmet. And the Z retractor.

So what we see here's a pretty common wear pattern. I'll get this under the MCL. There we go. And you can see where in the patellafemoral joint and also where along this medial aspect there.

So what I'm going to do is take this portion of the medial meniscus because we're staring at it. We'll get more of that later. And what I do if do even if I'm doing visionaire, just to verify and double-check as I mark Whiteside's line. And I want to make sure that, again, that everything is making sense. I trust the visionaire, but I always verify that I'm executing my plan.

So let's see our femoral cutting block. So this is a femoral cutting block, and it's made of high-density plastic. It can be sterilized if you drop it, which never happens.

And then what you want to do is you want to have this land clearly on bone. You don't want to have any soft tissue there. That's where we're careful about taking up that superior tissue. Land here, and then bring it down and be very solid, and it lands and engages with these osteophytes.

If I have any question about this, I'm going to look back and refer to my plan and say, OK is this sitting where I want it to sit? And it really looks like it needs to get some soft tissue, so again, we're just going to-- this is where you play with it a little bit, but it's very stable.

So we pin it to the distal portion of the femur first. So these pins are setting your external rotation of your cutting block. So these pins have to go in far enough so that after you cut your distal femur you can see the holes, right?

**MIKE RIES:** So they have to go below the levels of the distal femoral cut?

**DAVID** Yes. And the other thing is, these pins do line up with a cutting block, so if you want to adjust your cut, you can do it just like a normal knee. So you make your cut, you need to take a couple more, it's possible to do.

So this cutting block is very firmly fixed. So then we take off the medial pin leaving the lateral pin. And this is where we're making our first cut. And what we'll do is we'll measure this after our cut to see if it's fitting our plan.

So I'll leave this block of bone in place temporarily because it's going to support my block and prevent it from flexing. Let's put a pin back here. And when we're using this visionary block it's not a metal block anymore. So we have to have soft hands. So I brace my hand on the thigh, and really let the block guide my saw. Driver.

And I like this type the saw blade that oscillates only at the distal tip. It doesn't beat up my cutting block and it fits very securely in the block, so I feel like I'm making good cuts. So let's take this off here. So we're getting-- Let's have an osteotome. So that's our distal medial cut. This is our distal lateral cut.

So what we're going to do is we're going to take out these pins. So let's take our irrigation, and we'll find our holes that we had drilled with our pins. So if you have any trouble finding your holes, a little irrigation will do that for you. And-- Cuts are good. This is Trish measuring the cut, and our cut measures what we templated it to be.

**MIKE RIES:** Dave, can you show us that thickness there with the caliper up by the knee so we see it in the TV?

**DAVID** So let me have the medial one too. The lateral one. So this is going to end up looking just like our implant when we're all done. So this is the cuts, and you can see that when we measure them, it's going to be exactly what visionary said it was going to be.

Now if I was doing this with standard instrumentation, I would stop here. I would cut my tibia, and I would do some balancing. Since I trust the visionary, I'm going to finish my femur first and then check everything.

Let's see out protector. Pull that a little more. Yeah. OK. So it's good it to get it started. Whack it down there. OK. All the way. Bang it down. Hard. Yeah. All right.

So the visionary is one thing. This is our standard JOURNEY block. And a couple cool things about the JOURNEY block is it can be dialed up and down. So I'm going to do-- even though I love visionary and I trust it, I'm going to check and make sure I'm not going to notch.

So I feel very good about this cut, but let's say I didn't trust it. I didn't feel good about it. I could dial this block up to two millimeters, and that would result in me increasing my flexion gap and taking a little bit more posterior femur. But since I like my cut and I like my plan, we're going to pin it where it is.

And I think there's a benefit of being a little less invasive with the visionary You don't have to maybe strip as much off the anterior portion of the femur. And you don't violate the intramedullary canal. I think my patients have little less pain they get up and going little quicker. For me it's always a funner day in the OR too.

So I always cut medially, and then that gives me another-- I cut medially first and that gives me a chance to check. I'm not going to notch. Good. Let's see our osteotome. So that cut looks very good. So we're doing good up here.

All right. So we're right on top of that femoral cortex, which is right where we want to be. You want to keep this-- the JOURNEY implants beautifully designed to be low profile on the anterior femur, so you really want to be right on anterior cortex without notching.

And if you're between sizes, this is a case where you want to upsize instead of downsize. So it's labeled one, two, three, four, five. It's five cuts. You have that extra little mini anterior chamfer cut. Then we go posteriorly.

And we're going to move this retractor up a little bit so we can protect our MCO, which Dr. Ries will tell you is the most important structure in the body. And this is an angle at 15 degrees to match our implant. And it's labeled one, two, three, four, five in case you can't remember or you get so excited during the case.

And finally, we do this big anterior chamfer cut. Ready? Pins out. And that's it. We're done the femur. Osteotome and rongeur.

**MIKE RIES:** Dave, can you just show us the posterior cuts too, and see how they match up with a plan?

**DAVID**  
**ROVINKSKY:** We will. So the posterior cut's going to verify that we nailed our rotation. So this is posterior medial, and what's a nice benefit of having that 15 degree upslope is it will help get rid of some of these osteophytes. If you made a straight cut, you might not pick that up. But we'll go clean up the back of the knee in a little bit. Like that.

**MIKE RIES:** So all looks good with the posterior cuts, and we're pretty much right on the plan.

**DAVID**  
**ROVINKSKY:** So this verifies that we hit our plan. And then this is the point where you-- now it's OK to take off any osteophytes that you want to get rid of because we're not needing them for landmarks, at least off the femoral side.

Now we're going slow and we're showing stuff, but if you really wanted to move along, you could be pretty happy with the progress you're making by this point in the day.

Let me see the rasp. So a couple of high spots. Definitely don't want to get hung up. That feels very good. So now we're onto our tibia, and at this point and it's helpful to get rid of your ligaments so that the tibia can come forward more easily.

**SPEAKER 1:** Your head, doctor. Thank you.

**DAVID**  
**ROVINKSKY:** Let's see your double-prong. So now we're starting to get the tibia moving anteriorly, completing that posteriorly release, so we can really get this bone out easily. Now what's important, the tibia for her-- She has this nice deep dish on the medial side.

And actually, what's interesting is you can appreciate how the design of her tibia matches the design of the JOURNEY implant, right? You see this is concavity, and this is more convex. So this is the anatomy that we're given, and we want to try to reproduce it.

And you want to make sure that, again, you're cleared off of soft tissue, and you really want to take that osteophyte off at this point, but you can't. Because it's part of the program.

So what we do here is we, again, want to make sure that we put it on first, on the top, get the feet settled in the grooves, and then we double-check. We see now this is my alignment guide. This marks the middle of the medial tubercle and the rotation looks good. The position looks good. And again, we can refer back to our plan and say, is this tibia-- go ahead-- is this tibia sitting where we want it to be sitting?

**MIKE RIES:** Dave, I notice that you're making sure that the patellar tendon doesn't push your visionaire block into varus.

**DAVID** Yes.

**ROVINKSKY:**

**MIKE RIES:** You've got your finger pushing down on the lateral side. It looks like you've cleared off the entire lateral meniscus. Is that correct?

**DAVID** Yes. You want to-- I mean, it's a thoughtful exposure, you still have to do some work here as a surgeon. So you really want to make sure that nothing is pushing your block where you don't want it to go. And the same deal here with a femoral block is if these pins will match up with a metal cutting block, so if I want to drop my cut a couple millimeters I can do that.

And I'll show you how we verify our tibia cut. These pins set the rotation of my tibia component. So I know that I want it be middle of the medial third of the tibia tubercle. That's where this line is setting, and it's where we wanted it to be.

**MIKE RIES:** I think you've done a nice job. My sense is that if you don't clear all lateral meniscus and the soft tissues, and you don't retract the patella, it can push the block into a varus alignment, so you really have to check exmediallary alignment line with the block in place.

**DAVID** We trust it, but we verify it, right? And again, as you do more of these, you can get off the check. But I still check every one. I like to make sure that when I have this-- is rod where I want it to be if I was putting it in myself, and it looks like we're right in the middle of the ankle.

It's given us a little bit of posterior slope, our three degrees posterior slope. We're kind of right on the second ray here. Our rotation is where we want it, so we're going to buy this.

**MIKE RIES:** It looks good.

**DAVID** So let's have our falcon. So again I just-- you really got to have soft hands here because if you start moving your hands a lot it's going to move the plastic. This isn't metal.

**ROVINKSKY:**

Let's get the pin driver. And these speed pins are really nice and easy. Let's see an osteotome. So we're going to measure this as well and confirm that we're making cuts as planned. Let's have our-- what? Let's have the saw back. Can you get from your side?

And we have a little uneven spot here. We bounced a little bit off this hard bone. We just want to make sure that our cut is clean, so we're going to just put this in here. We'll run the saw through it. We'll pin it in place with our pin here.

So we pin it in place, and then we can just make sure cut is solid. So we really like this cut to be nice and smooth. OK. We're happy with that. Pin driver, Jeff.

**MIKE RIES:** Now, David, do you do that routinely? That seems like kind of an extra thing just to make sure you're not completely-- or just to check the cut for flatness?

**DAVID ROVINKSKY:** It's not a routine thing. We did it in this case because we had a deep tibia defect and we had very hard medial bone. And when I examined the tibia after the cut, I saw a step there, so I just wanted to make sure I had a really nice smooth cut on my tibia.

And let's get our lamina spreader. So this is definitely a step taught by Dr. Ries. Normally we do this in 90 degrees of flexion, but these are 15 degrees angled, so we're going to bend the knees a bit more than 90. About 105.

And we feel for the integrity MCO, and we also want to know where it is. Removal of the remedial meniscus.

**MIKE RIES:** Protects her MCL by tensioning the knee at 90 degrees with the lamina spreader on the opposite side. And you can really clear things out, so you just have it hanging by the two collateral ligaments, and then very accurately assess the gaps before moving on to the trials.

**DAVID ROVINKSKY:** You can see her MCL here, and part of what we're releasing when we take care of the soft tissues in the back is-- especially in these varus knees-- is they have a tight posterior medial capsule.

**MIKE RIES:** Yep, I see that.

**DAVID ROVINKSKY:** And just all kinds of stuff back here. So you're going to affect your flexion gap by removing this posterior medial capsule that's tight, and by removing these posterior osteophytes. Now, our cut that we made with our cutting block took care of her posterior osteophytes.

I just need a rongeur to clean up something small. But I think I feel like we're very clear. We're very free. All the way back here.

**MIKE RIES:** So you can stick your finger all the way through the posterior capsule there?

**DAVID ROVINKSKY:** I'm up to my second knuckle, so I feel pretty good about what we've done here.

**MIKE RIES:** That's pretty much all the way through. That looks great

**DAVID ROVINKSKY:** And a lot of guys are scared to be playing around back here, and I guess we do need to be worried about the big stuff that's hiding back here, but this is a key part of the procedure.

**MIKE RIES:** Well, the big stuff is in the middle and the medial side is on the medial side, so you're pretty safe there. Where you are right now is the middle where you need to worry about it, or at least be aware of what's back there.

**DAVID ROVINKSKY:** And we can see our popliteus tendon here. That's another important tendon to preserve for lateral stability. And I have my head in the way. I'm sorry. And we're feeling for-- are we clear back here? Let's see the small rongeur.

**MIKE RIES:** And have you removed the PCL?

**DAVID ROVINKSKY:** So the PCL has been removed. There's a little fibrous here that we're going to just continue to make sure we're completely released.

**MIKE RIES:** So you can remove it this way or remove it with the ream-through, but I think if you remove it here it probably gives you a little better gap assessment.

**DAVID ROVINKSKY:** Exactly. And it was interesting. I had a JOURNEY like many guys did, of doing a lot of computer navigation, and it made me a much better total knee surgeon. We're going to do our injection. So this is the rock star injection.

Everyone has their own special concoction. It has morphine. Some epinephrine in it. Some antibiotics. And this goes into the PCL stump. So I did the pez and did the MCL and then-- watch your thumb-- up here. Yeah even-- now we've done our injection of anesthetic and we can really make sure that where we got clearance all the back there.

So with a BCS knee your flexion gap is really important. And you want to have it be very, very stable.

**MIKE RIES:** So looks like you're past 90 degrees when you're checking that.

**DAVID ROVINKSKY:** We're about 105.

**MIKE RIES:** OK. And you're rocking it back and forth and making sure it's relatively symmetric.

**DAVID ROVINKSKY:** It's symmetric and not going anywhere. And then we can check our extension gap as well. And this feels to me very stable.

**MIKE RIES:** So she got full extension.

**DAVID ROVINKSKY:** We got full extension very easily. So we got rid of the flexion contracture. Again, our order is going to be different little bit on the BCS than with the visionaire. I am-- what I'll do at this point is I'll put my tibia in. Let's get our retractors back on the tibia and our short pins.

So what I want to do here is just make sure I have all the soft tissue out of my way on my lateral side, that I have full exposure of this tibia, and that I can see where I am medially and laterally.

Now I'm looking right down at it . See our tibia component? And we already have our holes drilled. And let's have the drop rod.

And again, we're feeling, we don't want any overhang, and this is the point where finally we get to take some osteophytes. She doesn't have a huge osteophyte left after we did that tibia resection. But just had a little thing here, but it fits her tibia perfectly, just like our plan.

And then now we can check our alignment inflection, and again, we're going to right down the pike.

**MIKE RIES:** Is there any way you can just show us-- put your finger on the tibial tubercle and show us where you are rotationally.

**DAVID ROVINKSKY:** Here's the medial aspect of the tibia tubercule, and here's the lateral aspect. And you're in the middle of the medial one-third just like we knew from templating. So let's drill and punch. So I think it's nice also to have a dead end in the tibia. This is a dead end canal. Let's have the femur.

**MIKE RIES:** Can you tell us a little bit about rolling this thing on?



**DAVID  
ROVINKSKY:**

OK. So you look at this component. This is a 15 degree cut, so you can see right away that if you were using a standard knee where the cuts are parallel, you can stick this straight on. Here we have to get it underneath the posterior femoral condyles and then roll it up. And a lot has been made of this, but it's really not a big deal.

And the design idea behind this is that, how do you get high flexion knee and get coverage all the way back around these posterior condyles? And some designs just take huge posterior cuts, and then if you're looking at the forces that are applied to the knee, it's actually levering your femur off the bone in deep flexion.

And in this case, you're hooked in there and the forces are in compression in deep flexion, so actually it really is a biomechanically sound thing.

The other thing that's cool, and I'll show you this, is when I'm having my femoral trial in place I'm cutting my notch through it so I can see exactly where I'm centered. The JOURNEY II is unique in its design in a couple things, and it's worth pointing out. It's narrower, so it really fits anatomy well. You hardly ever have any issues with overhang.

And then the lateral flare is really low profile. And by keeping our anterior cut right on that anterior femoral cortex we're maximizing these design features. We're never going over stuff anteriorly. So you kind of flex it up, get underneath the posterior, and then you just lift it up like that, and you're right on there.

And then what we can do when we're hitting it on is we'll make sure we like where we are medial-lateral. Give it a couple little punches there. But I want to look at it without this here to make sure I like our centering and then we can always refer back here and say, is this setting on our tibia and femur the way we want it?

And now I'm going to look up top and make sure I have no overhang laterally. Look medially and make sure I'm centered. And you really want this to look just like your picture. And to me it seems that it's right where we want it, and I like it a lot. So we're going to pin it in place with a speed pin.

And commonly it's going to be right along this border here, right along the true lateral border of your PCL notch. And then let's see our cutting guide. This cutting guide goes in here like this. Drill. And we go from the bottom up, and we get to be on ream. And then a box cut chisel.

And this is a very precise way of taking this. You're not going to make an error with your reciprocating saw. You're going to make a nice, clean cut, and of all the designs-- mallet-- this takes a very small amount of bone from the notch,

And you'll see that when we take this off and look at the femur before we cement, there's a nice bridge of bone between the condyles.

Let's clean that up. And whatever PCL you left behind, it's gone at that point. You're going to take that pin out, and this is the central puzzle piece. It fits right in there. So we got our femur, and we've got our tibia, and we're going to trial with our 10, which is what we templated.

And that should slide back there. So it slid right in there. But this is our true test of our balancing. So we're going to test our stability here-- here we are-- in an extension. So we have balance here, and a little bit more than 90 means of flexion.

And I think when I look at this balancing, I'm pretty happy with it. It feels pretty solid. But we're going to leave this like this. Cut our patella. Towel clips. So this gives us our starting point. We're about 24.

So this give us and idea of where we're headed. Hard lateral pacet. I like that. Feels very symmetric. Let me see a little bit. A little pass right here. That's good. So oval patella. So oval patella is an option, and this is-- we call this the starfish. And it gives us a good idea of the size.

Now for her, 29 seems to be about the right size. So let's see our-- And that's what we had on the other side. And this line here gives us our high point, so we're seeing how we're automatically medializing the tibia a little bit.

So I want to have maximum coverage, no overhang. All right. Let's go ahead and drill that. And then this bone is good to get rid of.

I can't remember the last time I did a lateral release, but this little maneuver here it is helpful, I think, for avoiding trepiditious, avoiding impingement, and improving tracking. Please. See four left tibia. Three left-- four left tibia. Good good good. Four, three. And let me see the trial patella. And the smaller ronjeur back.

And I think you have a happier patella when you have less overhang, less exposed bone. Let's development of synovium overhanging So I think it's nice to sculpt this a little bit. And I think that we're tracking pretty well. I would say leaving this mini-midvastus improves our tracking and allows them to power that up right away.

OK so now we're on to our cleaning up and cementation phase at this point. We're just going to wash her out really good. Take out her speed pin. So get out our tibia trial. And there's lots of ways to do this. But what you want to do is you want to take this off the same way you put it on, and you want to lever it on this way. You can't back slap it off.

Get that there. Small ronjeur. To many other implants. So the components, the materials, we have an oxinium femur. Oxinia has very good wear characteristics. Very, very tough. Very, very smooth. We have a polished tibia baseplate, so there's elimination of backside wear. We have crosslink poly, so the combination of the crosslink poly and the Oxinium service gives great wear outcomes.

And these don't contain any nickel. The only part of the knee that contains any nickel is this little ring that's in the patella. So-- you have a Free-er?-- So a lot of guys think that the reason this is here is for the lawyers, so that they see that you resurfaced the patella or that you can watch the patella tracking. So I just remove that ring routinely to eliminate any nickel from the prosthesis.

So when we put on the femoral component, this is sided. There's one for right, one for left. We're going to click it over the back here like that, and then this will hold it in position. And you want to have good control over this femoral component because again, you want to put it on like this and then bring it up as you put it into position.

And this gives you excellent control over your femur. And we tend to cement with a little bit larger, one or two millimeters larger trial than what we had trialed, so we trialed with a 10 we'll cement with an 11. And that gives us a chance to try an 11 and see if we like it and also to give extra compression to the cement.

No touchy-touchy. Press that in. So I tend to put it all over my tibia post. We want to make sure that our tibia is well-covered. OK. Impactor. And you know you got cuts when you're starting to extrude cement here along the edges.

So when we're looking at our femur, you see this nice bridge of bone. This is very solid. We're not having two floating condyles there without a good mechanical connection. So if you ever had to revise this, you'd have some good bone left to work with.

So I don't think you're sacrificing a lot of bone with this BCS design. Femur. But it's very thin on these posterior condyles but it really pressurizes that cement nicely. So I try to get out of the way as I do this and still keep moving along. But I'm putting it in flexion, and bringing it up, and you see the cement extruding. And I'll start bringing it up like this, and then bang it home.

And again, we know we've done a good job with our cuts because we really-- the cements basically extruded because we've matched it. Perfect. So what I do at this point is I'll hold the knee in extension and provide loading to pressurize the cement, and Jeff does the patella cementing for us.

Patella, please. The other way. You got it. You had it right. Patella clamp. OK, I got it. And then we can assess the quality of our cut on our patella by seeing the cement just basically-- the cement just basically extrudes as we cement out-- as we put pressure on the patella here.

Full coverage, no overhang. So we can look at our extension. Are we coming into full extension? It looks like we do. I like this. It's even more solid than the--

MIKE RIES: The 11 looks pretty good.

**DAVID ROVINKSKY:** Yeah, so I think we're going to stick with the 11.

**MIKE RIES:** That sounds like a good plan.

**DAVID ROVINKSKY:** Check posteriorly. Let's get that out. So we're sliding this polyethylene in with the knee in flexion. So this is our inserter handle here. This hooks over the lip, and a squeeze of the handle will engage the poly. Here we go. Boom! Right in there.

So we'll do our final check. We like our stability and extension. That's as solid as it gets. In flexion, that's more stable than with the 10, but we haven't lost any of our extension. Our patella tracks smoothly, and if we just let the leg hang, we're sitting here looking at about 135. So that's a home run.

And she can easily get her heel to her backside. So this is what our patients are wanting. This is what our patients are expecting. Zero to 120 is not a home run anymore. People are upset with zero to 120. They want to be able to kneel, squat, surf, play tennis.

This is a very, very solid knee. There's no play in this, and they can go ahead and do these things and feel good about it. And with this design and the poly wear, I think this is a knee that's built for the long run.

**MIKE RIES:** That looks great. Yeah, I agree. I think those are all the criteria you want at the end of the case.

**DAVID ROVINKSKY:** So let's wash her out and close her up. So our cement is dry. We washed out the knee, we put in our drain, and what we want to make sure when we're closing this mini-midvastus approach is that we put things back where we started. So because of this angular cut, we can see that we're going to get this right back where it belongs.

So let's look up here. I'm going to repair our VMO, but you can really see this is our mini-midvastus split. So we split it about an inch up, and when we put this together it really feels like an anatomic closure. And I've noticed-- I know the studies are mixed, and we always interpret our results better-- but I think that my patients can do a straight leg raise quicker when I do this than when I do a medial parapatellar approach

And in some patients that have a very, very small VMO, I'll do even a subvastus, but this is a more consistent approach for me, even in men. Scissors, please. So when we look at this at the end of our case, we've really not made a big incursion into the VMO

The joint is a sealed, and she's ready to go. And again, we do our check. Just hanging. 135. Very stable, very stable, very stable.

So thanks very much. That was the JOURNEY II BCS with the visionaire. I think the only thing I'd want to point out is that we took our time to demonstrate some things and double-check and show how everything matches up in this procedure.

This can be very, very streamlined without doing every single check along the way or demonstration. We certainly added time when we did this demonstration, but once you get going on this, you can be doing your knees routinely in 30 to 40 minutes without any struggle at all and without feeling like you're rushing.

**MIKE RIES:** It looked very good that way, and I think you did demonstrate everything. The spacer blocks that I think are very important. And just the feel of it as you go along with each step to make sure your alignment and ligament is correct. And that's what really give you the good results.

**DAVID ROVINKSKY:** Well thanks very much, and we appreciate your attention and look forward to your questions.