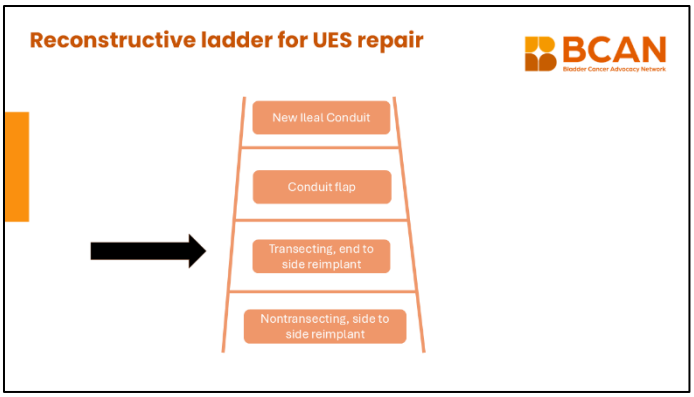
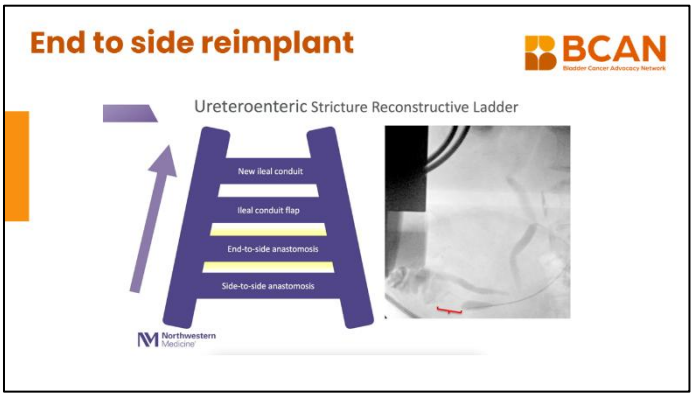
Dr. Ziho Lee:

So the next thing I do is a transecting end to side. So what is that?



Dr. Ziho Lee:

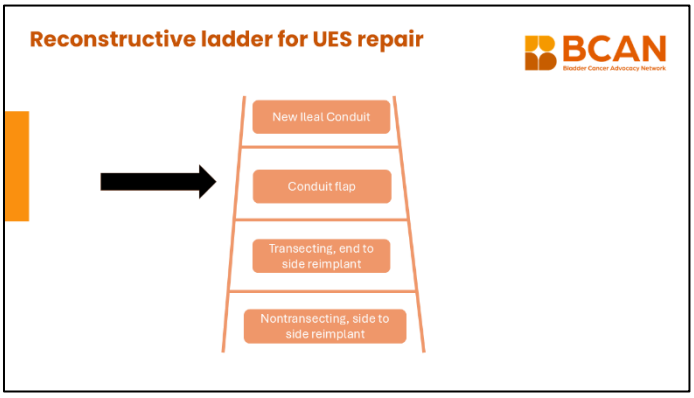
So that's your classic, where you cut the bad things and you connect the two good ends back together. So this is the classic way to fix it. And I'm going to play this. Sorry, there was sound on here. I will turn the sound off. So you see the ureter here. What we're going to do is we're just going to cut the bad ends. I'm going to open up that good piece of ureter. I'm going to make a hole in the conduit. After I make the hole ... This is just the classic way. You cut out the bad pieces and literally what I'm doing is I'm just putting the good pieces back together. And so this is your



classic, tried and true way. And I do this when I can't do that side-to-side special anastomosis or connection, excuse me. Put that stent in place, and then I'm just going to close the ureter right over this place, over the ureter. Excuse me.

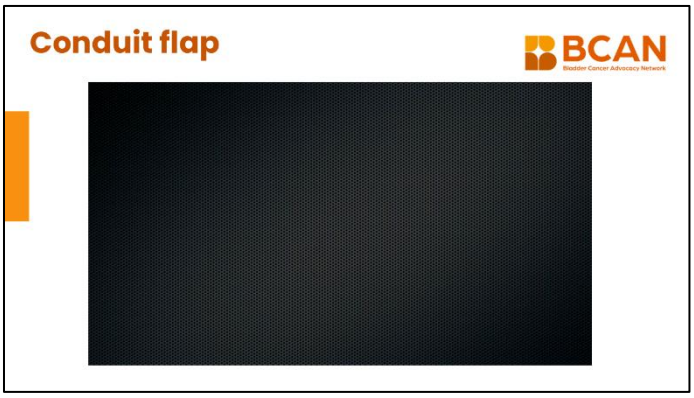
Dr. Ziho Lee:

Next is the conduit flap. We're getting now into a little bit more advanced techniques. This really hasn't been described in the literature. I believe one of my residents actually won a best surgery video for some of her work in this.



Dr. Ziho Lee:

What I do is when things don't reach, when you cut the two ends and you just can't get the tissues back together, that's a problem. Because how else are you going to get the tissues if it doesn't stretch? You can't leave the patient without a connection. So here you can see a pretty long area of narrowing. This is the conduit that's the ureter.



You see the ureter going in. I'm going to cut the bad piece of the ureter. And this up here, I'm cutting just the bad diseased end. That was the scarred end. And what's going to happen is ... You're going to see, I'm not able to connect. And so I'm measuring, and bringing a ruler, it's a three centimeter gap. So we say in reconstruction ... One centimeter in reconstruction is like a mile. Just getting there is quite difficult.

And so if I'm not able to connect the two ends, what I'm going to do is I'm going to cut into the ileal conduit right here. I'm going to make an upside down U shape. I'm going to make a U, and what I'm going to do is I'm going to use part of the ileal conduit and roll that up into a tube to make a ureter with this ileal conduit. And so now what I'm doing is ... You see this U-shaped flat that I'm making that's about three centimeters and the bleeding is good. I want to see bleeding. That means it's healthy tissue.

And so you're going to see here, this is the cut end of the ureter, and I'm going to be able to bring this tissue back together. So you could see here, this conduit now actually connects to this piece of ureter. And now what I'm going to do is I'm just going to spin everything into a

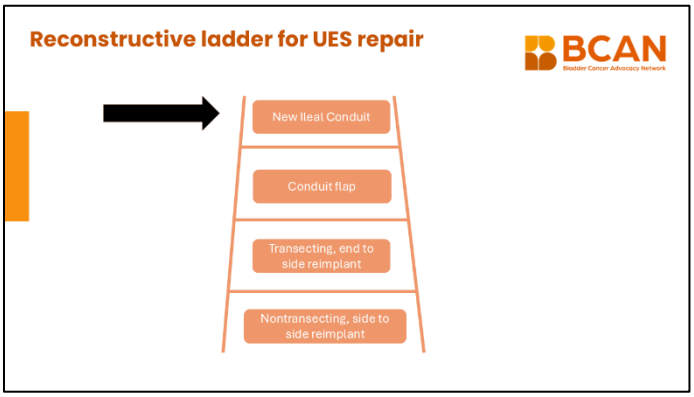
tube and roll it up like a taco, and then that's going to help with the urinary drainage. So after I do the back wall, I make the connections. This is now ... I'm starting the front wall, and then I place a stent. I really like to place these stents just to make sure things heal appropriately.

My approach to surgery is I never want to do surgery on that person again. So I try to take every step necessary to minimize the risk of a reoperation. And literally what I'm doing is I'm just rolling it up into a tube. And so you could see here things are just getting rolled up. This is, I would say, a pretty complex procedure, not really done at most centers, but we're hoping to popularize this technique through some of our research and teaching courses that we do offer at Northwestern.

But here, we're just really rolling it up in a tube. You can see it's a nice tight tube. I'm making sure I suture things up watertight. Essentially, I'm just closing it up and patients do very well after this procedure. And so this shows that on very long strictures that previously ... Maybe someone would have to live with a tube forever or a stent forever, we're able to fix them here. And so we're really proud of our work.

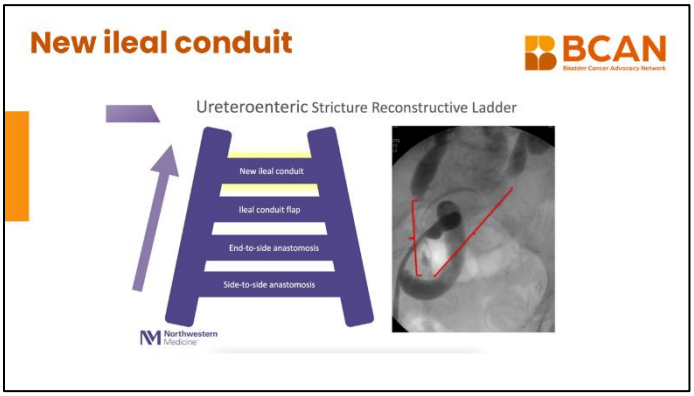
Dr. Ziho Lee:

And lastly, if all else fails, if the scar's too long or if the conduit's not good or something's going on. I just got to take everything down and make a new one.



Dr. Ziho Lee:

I don't like to make new ones because it's a big surgery, but if I have to make a new one ... You could see the conduit is really short. I'm not able to stretch it at all. It's tiny. This patient had undergone previous radiation, and so the tissue's already been compromised. And this patient had a scar tissue on both sides. So this patient has a problem on both sides. I'm not able to make it reach at all. What I have to do is I got to just take everything down and just build a fresh new one.

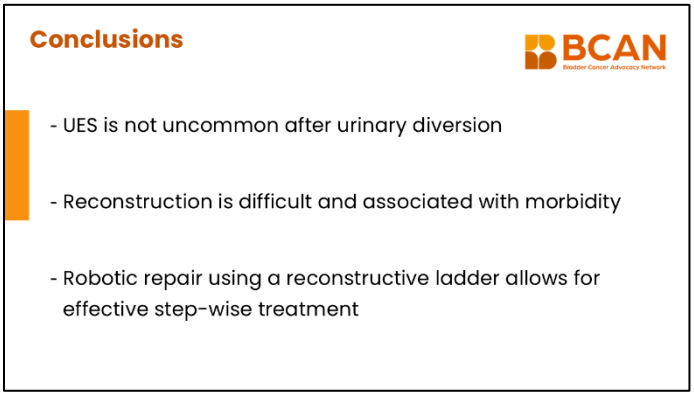


When I do this, I do like robotic surgery. So again, most of the surgeries I do are going to be all robotic. What I'm doing here is I'm just measuring the distances with this piece of string. I'm

measuring how long of a bowel segment I need to take. This is the old ileal conduit that I'm going to cut down. And then this is the new piece of bowel or the new conduit I'm going to make. I do like to do this robotically because when I do these robotically, your biggest incision is usually like 12 millimeters. That's just over a centimeter. So this is the stapler I use during surgery. I'm reconnecting the bowel together here in this situation. So I'm reconnecting this bowel, just so patients ... The bowels are restored. I have this new conduit and I'm literally just connecting everything back together. So the left side, and this is the right side. There's the ureter there, and I'm just going to connect everything back in place. And that's pretty much it.

Dr. Ziho Lee:

I know my talk was a little bit technical. I did want to show a little bit of some of the techniques we're using here at Northwestern. I think it's a good opportunity for patients to see what goes on in surgery beyond the, "Oh, everything went well." Or, "Oh, I just did this to this." If you have this issue, I think it's nice just to see what could potentially happen.



So these strictures or scar tissue that forms after surgery, it's not uncommon. I said up to 20%. And so I do see quite a number of patients who travel from all over the country for this issue. Reconstruction is difficult. It is associated with morbidity. And so it is something I don't take lightly, but in my opinion, having a one-time surgery that results in a permanent fix is a lot better than getting stents or having a tube in your back every six ... Every six weeks, excuse me. And then I think robotic repair, the way we approach it in a really stepwise pattern, it helps me collect my thoughts. It makes it so that, "Okay, if this doesn't work, I'm going to move to the next step. If this doesn't work, I'm going to move to the next step." It just helps me stay oriented, especially if it's a tough case or there's some stress involved. It just helps me stay organized.

Dr. Ziho Lee:

I really want to thank everyone for listening in. I know the talk was technical. I hope that you guys got a lot out of it. If you have any questions, feel free to drop me a line via email or via X. Happy to answer any questions. And if you're having this problem personally, I'd be happy to see you. With that, I'll turn it back over to Patricia.

Patricia Rios:

I want to thank Tony for joining us today. Tony's one of Dr. Lee's patient, and Tony has had one of these repairs. So he's going to tell us about who he is, what his journey was like with this repair.

And after that, we'll be able to also ask some additional questions for Tony. So with that, Tony. I'm going to hand over the mic to you, so you can tell us a little bit more about your journey with this stricture.

Anthony Vacek:

All right. Well, I'm a 79-year-old guy, retired sales guy, or salesman, I should say. How everything started, I had frequent urination, had a CT scan. My urologist retired. I got a new urologist. He looked at the pictures and said he wanted a CT scan with contrast. He did a couple procedures locally going in and trying to scrape ...

Anyway, I was diagnosed with bladder cancer and I went to Northwestern and had bladder removal. They took all that stuff out, and I ended up with a stoma. Every six months or whatever after the initial surgery, which was in December of 2022. In July of 2022, I went in for a checkup and my kidney function wasn't where it should be. So that's when I met Dr. Lee. And he looked at it and he had to redo the conduit from my kidneys to the stoma. It's been successful. I had been going every six months with tests prior too, and my kidney function is good. And actually, my checkup in January of this year, Dr. Lee said, "I'll see you in a year." So everything is going very well, and that's my story.

Patricia Rios:

Thank you, Tony. We're happy to hear that you responded well to the surgery and you were in the best hands. I'm curious to know, how was the recovery process? I know you had your surgery in 2023, so it's been some time since you've had the surgery and had the checkups. What did recovery look like for you?

Anthony Vacek:

I walked away from it or left the hospital. I was a little tender because of the incisions for maybe a week. Everything, the recovery was great. I think I'm one of those technical guys. Everything worked the way it was supposed to.

Patricia Rios:

Happy to hear that. And I understand also you've been traveling a lot.

Anthony Vacek:

Well, just most recently, we took a trip to Hawaii. We spent a couple weeks there in the beginning of February. I travel. I mean, I have the stoma with the bag. I don't have any problem with it. It's just getting used to it. And I have an overnight bag that I plug into it at

night, so I sleep through the night. So it's just one more step thrown in, getting up in the morning, and that's about it. Other than that, I think I've done very well.

Patricia Rios:

That's great news. And before I ask Dr. Lee some questions, just my last question to you, Tony. During the recovery process, did you have to make any changes to your diet or would you say it stayed about the same?

Anthony Vacek:

No, everything was the same. I drink a lot of water every day. Other than that, I haven't made any changes in my diet or haven't had to.

Patricia Rios:

Okay. Thank you, Tony. And thank you to ... I know there is a very special person next to you, and I want to thank her for being here with us as well for supporting you through the process and for being part of this webinar.