**Maggie McKay (Host):** Hopefully, you've never had a knee issue or injury. But if you have, you know how debilitating it can be. One minute you're playing tennis, the next you're in pain, unable to hardly walk. The good news is there's a solution for many people, and it's called Velys robotic knee surgery.

**Host:** Joining us today is Dr. Mark Lane, a board-certified and fellowship-trained orthopedic surgeon specializing in joint replacement surgery of the adult hip and knee with Memorial Health System, to tell us how Velys works. This is Memorial Health Radio with Memorial Health System, Ohio. I'm your host, Maggie McKay.

Welcome, Dr. Lane. Thank you so much for joining us. It's great to have you here to talk about this. First off, what are the symptoms of a serious knee problem?

**Dr Mark Lane:** Thanks. Happy to be here. Symptoms of a serious knee problem, typically loss of range of motion, significant pain, pain that essentially affects your activities of daily living, swelling of the knee. Those are three primary things that people will come in complaining of when they've reached the point to where they're seeking the services of a physician or specifically an orthopedic surgeon.

**Host:** And besides injuries, what can cause knee pain that leads to surgery?

**Dr Mark Lane:** Well, a host of things. Typically, arthritis is what we're thinking about when we're looking at someone for a knee replacement. Arthritis can be what's called post-traumatic, where you've suffered an injury in the past and ultimately the cartilage is damaged and, several years down the road, it starts to wear away giving you arthritis. But in that sense, it's post-traumatic. There are some people that never have an injury and just develop arthritis over the course of their life from general wear and tear.

**Host:** When do you know it's serious enough to visit an orthopedist?

**Dr Mark Lane:** Typically when it starts to impact your activities of daily living. I typically tell my patients, they'll come in and, you know, ask, "Should I be here even?" or "Am I ready for a surgery?" And I essentially just tell them if they have pain more often than not during the day, and they start to realize that they're really kind of planning their day around their knee and what they're going to be able to accomplish that day, that's typically when they'll present. And then ultimately, after a workup, we will potentially recommend surgery to correct the problem. In this case, it's typically an arthritic knee.

**Host:** And what is the Velys robotic knee surgery? Is it only for knee replacements?

**Dr Mark Lane:** Yeah. Velys, right now, the platform is just for knee replacement. It's a robotic-assisted surgery. Essentially, there's something called haptics, which once you input the data into the computer, the robot is essentially just helping the surgeon make appropriate cuts to fit the components.

**Host:** And how successful is robotic knee replacement?

**Dr Mark Lane:** Robotic knee replacement is very successful. It really helps the surgeon make very precise cuts, conventional instrumentation prior to robotics being available. We have metal jigs that we align, specifically to make as precise a cut as possible. The robotics has essentially improved our ability to do that using infrared cameras and high-speed cameras to make even more precise cuts and take data and, ultimately, make the most precise cut possible for the patient, which leads to essentially better outcomes.

**Host:**

And is it less invasive because it's robotic-assisted?

**Dr Mark Lane:** It really is. Essentially typically with a conventional knee replacement, you have to perform what are called soft tissue releases, which involves releasing ligaments on either side of the knee. And with robotics, we don't really have to do that. It'll make the cuts, and angle the cuts appropriately in the knee such that there's much less tissue dissection. So, what that translates into is really just less postoperative pain, less surgical trauma, and typically faster recovery.

**Host:** That's what I was just going to ask you. How does recovery time compare to, say, a traditional knee surgery 10 years ago?

**Dr Mark Lane:** It can definitely be expedited with robotics. A typical knee replacement, people at roughly eight to 12 weeks are feeling pretty good at that point with the conventional knee replacement. When robotics is used, you can accelerate that schedule by three to six weeks. So we'll see people at two and three weeks behaving like someone who is eight to 12 weeks out from a conventional knee replacement. So, it definitely gets people back in action much sooner.

**Host:** Dr. Lane, when you started out in med school, did you ever imagine you'd be doing robotic-assisted surgeries on the knees and replacements?

**Dr Mark Lane:** Yeah. In medical school, robots were being used for other applications in medicine. They were being developed at that point, specifically for general surgery. But I can tell you that more so than anything, translating the robotic usage in general surgery and other specialties to orthopedics. I didn't think it would happen as fast as it did. But fortunately for patients, it has. And now, we have multiple robotic systems available. But my preferred one is obviously Velys and it's very exciting.

**Host:** It sounds like it. It must be very cool as a surgeon to have the opportunity to have new technology, and it just keeps evolving it seems. What would you tell people who are in pain, their knees or their hips, and they're putting off coming in to see you because they're afraid of the verdict? Because I know I did that and it was not a good choice to wait.

**Dr Mark Lane:** Yeah, that's a great question. And unfortunately, it's very common for patients to come in. And they'll tell you that, honestly. They'll preface the interview with you, "I've been pulling off coming in for a long time". But I think knowledge is power and just taking the step to come in, at least figure out what's going on and have a nice conversation in depth conversation with a surgeon about what's going on and what your options are. I think a lot of patients, it's just the fear of the unknown. And once you understand what's happening, what the potential options are for your treatment, that alone can be cathartic in the sense that it can assuage a lot of anxiety.

**Host:** That's so true. My motto is don't worry until you have to.

**Dr Mark Lane:** Yeah, exactly. That's a great way to put it.

**Host:** Because when I went in, I was like, "Oh, it's not that bad." It turned out it was just sort of overuse. I was on a trip and we walked so much every day, it was crazy.

**Dr Mark Lane:** Yeah, it's not always that bad. It's not always that bad.

**Host:** So, Dr. Lane, in closing, is there anything else you'd like to add that you would like people to know?

**Dr Mark Lane:** I think we covered kind of all the high points regarding Velys. We talked about what arthritis is and what can happen to your knee. We talked about what the robot does and how it can expedite your recovery. The unfortunate thing is there's more and more people experiencing the effects of arthritis as our baby boomers age. Right now, roughly 3 million knee replacements are performed annually, and that's just going to increase over time. The good news is we have robotics and lots of additional technology coming down the pipeline to help folks out and keep them independent and keep them moving. That's kind of my philosophy as a surgeon, is it really doesn't matter how old you are, but we can keep you going and really optimize and enjoy your life.

**Host:** And also, a big benefit to robotic-assisted knee replacement it sounds like is the recovery time. That sounds very beneficial compared to traditional.

**Dr Mark Lane:** It really is, it really does seem to expedite the recovery time and get people back in action. I think that's probably one of the biggest things that people are seeking when they come in and they ask about robotic-assisted surgery. They've heard really that you kind of get back in the game, so to speak, much sooner, and potentially with less pain. So, definitely glad we can offer that in the mid-Ohio Valley now. And I look forward to seeing more patients coming in and asking for it.

**Host:** Thank you so much for your time today. We really appreciate it and learned a lot.

**Dr Mark Lane:** Excellent. Thank you, Maggie. I really appreciate it.

**Host:** Again, that's Dr. Mark Lane. And that wraps up this episode of Memorial Health Radio with Memorial Health System. Head on over to our website at mhsystem.org/orthopedics for more information and to get connected with one of our providers. Please remember to subscribe, rate, and review this podcast and all the other Memorial Health System podcasts. Thanks for listening. I'm your host, Maggie McKay.