PIVOTAL ADVANCEMENTS

BY LIZ ALTERMAN

It is becoming increasingly more common for joint replacement surgeries to be performed as same-day or outpatient procedures, especially for younger patients.

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From total joint replacements to rotator cuff repairs, orthopaedic surgeries are increasingly common. In 2017, the research firm Research and Markets estimated that there were about 22.3 million orthopaedic surgery procedures performed globally. That figure was expected to surge to approximately 28.3 million by this year, designating it one of the most rapidly growing surgical procedure categories.

Experts in the field are continuously working to improve and refine processes to streamline procedures and improve outcomes for patients.

Wondering what advancements and trends we can expect in 2023? Dr. Yair David Kissin, an orthopaedic surgeon at Hackensack University Medical Center, a Hackensack Meridian Health facility, and Dr. Stephen Kayiaros, orthopaedic surgeon and medical director of the Joint Surgery Program at Robert Wood Johnson University Hospital Somerset in Somerville, an RWJBarnabas Health facility, shared the innovations that will dominate the field in the coming year.

TECHNOLOGY WILL ENHANCE PROCEDURES AND OUTCOMES

For the past several decades, robots have been at the forefront of revolutionizing surgery. Kayiaros explained that the use of a robotic surgical system can help orthopaedic surgeons be more accurate and precise in determining prosthetic alignment, which spares healthy bone and tissue and may help speed recoveries.

Total joint replacement is one area where robot-assisted surgery is helping surgeons and patients make great strides, Kissin agreed. As an example, he explained that knee replacement surgery is currently "very traumatic" and presents patients with a lengthy road to recovery.

Adding more robust technology with robotics and augmented reality will allow surgeons to improve conditions for patients, Kissin explained.

"That means less soft tissue damage, less dissection, maybe less of an incision," he said. "In other words, less surgical trauma. Maybe that gets a patient to work in one month (rather than three). People have lives and jobs they want to get back to. To take three months off from your job is unspeakable."

REDUCING RADIATION EXPOSURE FOR CHILDREN

Drs. Amie Kawashima and Alexandra Kondratyeva, pediatric orthopaedic surgeons at The Children's Hospital at Saint Peter's University Hospital, explained that pediatric patients are also benefiting from technological advancements.

For children who need multiple X-rays, The Children's Hospital is the only hospital in New Jersey offering the low-dose, full-body EOS® Imaging System, the surgeons noted. The EOS® Imaging System simultaneously captures front and back full-body, weight-bearing images to evaluate the spine and lower extremities for deformities. Capturing the images in a low-dose, full-body system reduces radiation exposure to developing organs.

A 'HIP' NEW APPROACH

Surgeons are expected to look at hip replacement surgery a bit differently in 2023. Kayiaros explained that the anterior, or front, approach will become the most common approach for hip replacement surgery. This muscle-sparing surgery reduces pain, decreases recovery time and improves mobility.

"The faster recovery time is due, in part, to the incision being made on the front part of the hip instead of the side or back," Kayiaros said. "This allows the surgeon to work between the muscles and tissue without detaching them from the hipbone or the thighbone, a method that minimizes muscle damage and lets most patients bend freely and bear their full weight soon after surgery. Because you are not cutting muscles, there are no restrictions on the patient in terms of range of motion. It is very easy with this approach to replace both hips at the same time."

OUTPATIENT PROCEDURES ARE IN

Joint replacement surgery patients used to spend several days recovering in the hospital following their surgery. Now, it is becoming increasingly more common for joint replacement surgeries to be performed as same-day or outpatient procedures, Kayiaros noted.

"Younger, active and healthy individuals may be eligible for outpatient joint replacement surgery," he said. "They receive spinal anesthesia rather than general anesthesia, which is easier to tolerate, and they can safely recover at home with in-home therapy."

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IMPROVED PAIN MANAGEMENT TECHNIQUES

Managing patients' pain is another area that is continuously improving, Kissin said.

"I don't remember ever having a patient leave the hospital after a knee replacement early in my training on the same day as their surgery, or within 24 hours, or walking the same day as their knee replacement," he said. "That's a testament to our anesthesia colleagues and to some of the medications that have come out where we've really gotten pain under control."

Kayiaros agreed. "In terms of pain management of joint surgery patients, there is a shift in treating pain without opioids to avoid patients becoming dependent on them. We use a variety of non-narcotic medications to relieve pain as well as cold packs and aromatherapy."

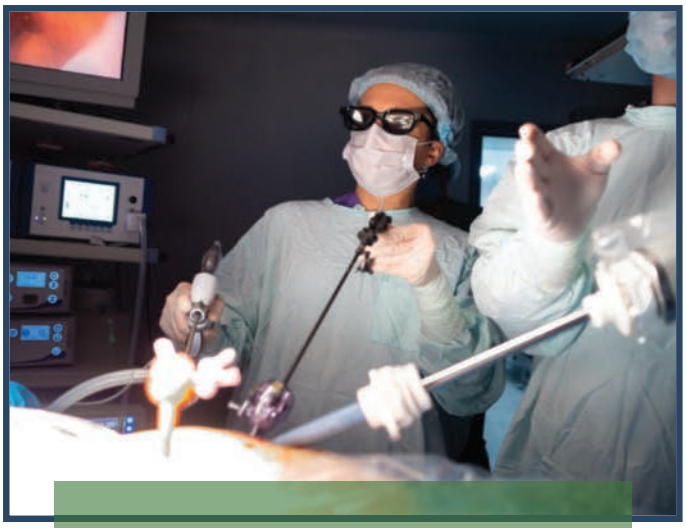
GAME-CHANGING ACL DEVELOPMENTS

A torn anterior cruciate ligament (ACL) is a common and devastating injury that can sideline an athlete and derail their daily activities for long stretches. Kissin noted that, currently, surgeons have very "good techniques, but they're not very ideal" — especially when it comes to younger patients.

"We have to drill holes in a patient's knee where it could affect their growth," he said. "Now, there's an implant called BEAR, which is a bridge enhancement that is FDA-approved and just recently got approved at Hackensack. You can actually put this device in, and it is basically a scaffold for healing."

The BEAR Implant enables the body to heal its own torn ACL by using the blood to bridge and heal the torn ends of your ACL, bringing them back together.

"That's unprecedented," Kissin said. "We've never had anything like this. This is biologic. I do a lot of ACLs, and when you have an 11-year-old, the old-school approach was to just wait until the growth plate is close and fix it. It's very clear that if you do that you have a lot more meniscus injuries, and it can psychologically affect the child if you don't let them play their sport. So, this is maybe something that can change the landscape for ACL injuries. I've had athletes that depended on their sport to get into college. This is hopefully a way that they can punch that ticket." ❖



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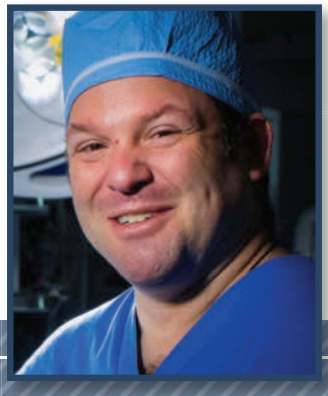

DR. YAIR DAVID KISSIN,
an orthopaedic surgeon at Hackensack University Medical Center

Photo courtesy of Hackensack Meridian Health

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