

Quality Report Card



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SURGERY CARE

Joint Replacement

Total joint replacement is a surgical procedure in which parts of an arthritic or damaged joint are removed and replaced with a metal, plastic or ceramic device called a prosthesis. The prosthesis is designed to replicate the movement of a normal, healthy joint. Hip and knee replacements are the most commonly performed joint replacements, but replacement surgery can be performed on other joints as well, including the ankle, wrist, shoulder and elbow. The procedure is meant to eliminate pain and improve movement for those who suffer from damage to the cartilage that lines the ends of bones due to conditions such as arthritis or a fracture.

A joint is where the ends of two or more bones meet, and there are several different types of joints within the body. The knee is considered a “hinge” joint because of its ability to bend and straighten like a hinged door. The hip and shoulder are “ball-and-socket” joints in which the rounded end of one bone fits into a cup-shaped area of another bone.

Total joint replacement surgery takes several hours. The procedure is performed in a hospital. During the surgery, the damaged cartilage and bone is removed from the joint and replaced with prosthetic components. The prosthesis mimics the shape and movement of a natural joint. For example, in an arthritic hip, the damaged ball – the upper end of the femur – is replaced with a metal ball attached to a metal stem that is fitted into the femur,

and a plastic socket is implanted into the pelvis to replace the damaged socket.

In recent years, manufacturers have developed innovative plastics and metals that have made replacement joints more dependable, durable and longer-lasting. The new prosthetics allow younger patients to maintain high activity levels without pain. In the past, the plastic surface of the prosthetic device used in joint replacements had a limited lifespan



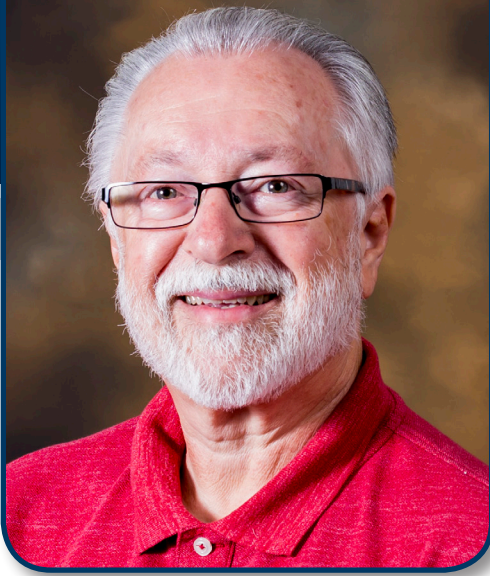
because the implant would wear down and begin to dislocate years after surgery. Another cause for limited implant life is due to the body attempting to absorb microscopic particles emitted by the plastic or metal. The body also may begin to digest bone – a process called

osteolysis – which leads to a weakened bone, fractures or other issues with the implant. If this happens, the patient has to undergo a procedure called revision surgery to replace the implant.

Over the last 10 years, manufacturing and processing methods of joint replacement parts have improved, resulting in longer-lasting joint replacements. A new kind of plastic – called highly cross-linked polyethylene – has increased the longevity of the implants. The new plastic also virtually eliminates osteolysis for up to 10 years after the surgery. Laboratory studies using hip simulator models have shown that this material could last for decades. Further improvements include the use of advanced ceramic and oxidized zirconium. Another major advance has been development of highly porous metals for use in revision surgery. Revision surgery is more difficult than first-time joint replacement because the failed prosthesis often causes bone loss, making it challenging to attach the new implant. These new metals enhance the remaining bone’s ability to grow into the implants, forming a secure bond that is more likely to endure.

Joint replacement procedures continue to offer better materials that promise better outcomes for patients. In knee replacement surgery, for example, manufacturers have introduced technology that produces instruments tailored to individual patients.

Patient Story – Merel Pickenpaugh



Merel Pickenpaugh at 15 years old, suffered a slipped capital femoral epiphysis (SCFE), a hip condition that occurs in teens and pre-teens who are still growing. A fracture through the growth plate results in the ball at the head of the femur (thighbone) slipping off the neck of the bone in a backwards direction. The procedure most commonly used to treat patients with SCFE is called an in situ fixation, where a small incision is made near the hip, and metal screws are inserted across the growth plate. The screws maintain the position of the bone and prevent any further slippage.

Patients with SCFE typically require a hip replacement by the age of 35. Merel was fortunate to not require additional treatment until recently, more than 30 years beyond the expected timeframe. He began having pain in his left hip and leg, and although he was not a runner, he had developed iliotibial (IT) band syndrome, often referred to as runner's knee. It is a painful condition in which connective tissue rubs against the thighbone. The IT band syndrome was most likely caused by his childhood condition.

Merel's family physician, Andrew Seipel, M.D., of Licking Memorial Family Practice – Licking Valley, suggested physical therapy. Despite therapy, he began to experience disrupted sleep from restless leg syndrome, and the pain also moved to his groin. "Dr. Seipel suspected that my issues could be related to the SCFE and recommended I make an appointment with Andrew Terlecky, D.O., of Licking Memorial Orthopedic Surgery," Merel explained.

In September 2016, conservative treatment began with joint injections under fluoroscopy at Licking Memorial Hospital (LMH). Two separate treatments over a 7-month period offered relief and delayed Merel's total hip replacement to fit his schedule and retirement plans. In the spring of 2017, Merel finished his second career at Mount Vernon Nazarene University where he served as a professor of Criminal Justice for 15 years. "Initially, we discussed two surgeries, one to remove the pins and one to replace the hip," he said. However, upon further consultation and research, it was determined that the procedure could be completed with one surgery.

On May 2, 2017, just a few days after his retirement, the three, 3-inch stainless steel screws that had been in his left hip for more than 50 years were removed and a left total hip replacement was performed. "While Dr. Terlecky had successfully completed over 200 hip replacements the prior year, my situation was indeed unique. It proved to be difficult, as the bone had grown over the screws, which were in the exact location that the bone had to be cut for the new prosthetic pieces to be properly placed," he noted. "It was like removing old rusty nails from concrete." In fact, dislocation of Merel's femur was necessary to effectively remove the pins. "The surgery, which was estimated to take two hours, lasted nearly four hours, but the entire process was executed remarkably," he said.

Due to the length of the intricate surgery, Merel began physical therapy on his second day of recovery in the Hospital. "I was impressed with the physical therapists. They were very thorough with their care, performing a home assessment before my discharge and providing extremely helpful exercises," he said. Merel was discharged without complications just four days later. He received Home Health Therapy for three weeks. Dedicated to his rehabilitation, Merel completed the remainder of his therapy individually at home for

the following year, progressing from a walker, to a cane, until no assistance was necessary. "I am so pleased with the outcome of my procedure. Being pain-free is a tremendous improvement," he remarked. "My wife, Linda, was so supportive during this entire process. I am very grateful to her."

Merel praised Dr. Terlecky's wonderful bedside manner. "He is an excellent physician. He was so personal, spending time with me and giving all of my questions careful consideration," he shared. Merel also noted how accommodating, caring and professional the nurses were during his stay. "I could not say anything better about the staff. The physician who cared for me in the Hospital also was very conscientious. I have Type 2 diabetes and he checked my levels regularly, making adjustments as necessary."

A resident of Licking County since 1971, Merel worked for 33 years with the court system as an adult probation officer. Linda is a retired Newark City Schools educator. The couple has two daughters and a foster daughter. In his retirement, Merel enjoys spending time with his five grandsons. He is very active with Newark Church of the Nazarene where he served on the Church Board as well as various other volunteer positions for 47 years. Merel currently leads a men's Bible study.

LMH's state-of-the-art surgical facilities are located in the John & Mary Alford Pavilion which opened in 2007. Out of the 7,783 surgeries performed in 2017, more than 5,516 took place on an outpatient basis, saving the patients from extended hospital stays and additional expenses.

Surgery Care – How do we compare?

At Licking Memorial Health Systems (LMHS), we take pride in the care we provide. To monitor the quality of that care, we track specific quality measures and compare to benchmark measures. Then, we publish the information so you can draw your own conclusions regarding your healthcare choices.

- Moderate sedation allows patients to tolerate procedures while maintaining adequate breathing and the ability to respond to stimulation. Most drugs used in moderate sedation can be reversed fully or partially, if necessary. However, careful patient assessment and monitoring reduce the need for reversal agents and improve patient outcomes. Therefore, minimal use of reversal agents is a good indicator of quality in moderate sedation.

	LMH 2015	LMH 2016	LMH 2017	LMH Goal
Use of reversal agent for GI procedures	0.08%	0.00%	0.00%	Less than 0.90%

- The healthcare team at Licking Memorial Hospital (LMH) follows a multiple-step process to prevent wrong-patient, wrong-procedure or wrong-site surgery (e.g., surgery performed on the left foot instead of the right foot). This process includes left or right designation at the time the surgery is scheduled, verification of the site on the day of surgery with the patient and the patient's current medical record, marking the site by the surgeon, and final verification in the operating room. In 2016, 7,254 surgeries were performed at LMH.

	LMH 2015	LMH 2016	LMH 2017	LMH Goal
Wrong-site surgeries	0	0	0	0

- Patients who have open-incision surgery are at elevated risk to develop an infection at the surgical site. In extraordinarily rare cases, a localized infection can lead to sepsis, which is a systemic, life-threatening condition. LMH utilizes strict infection-prevention strategies for each surgical patient and ensures that the Hospital's Central Sterile staff members receive certification in proper reprocessing sterilization policies for surgical equipment.

	LMH 2015	LMH 2016	LMH 2017	LMH Goal
Central Sterile staff with certification within one year of completed training	100%	100%	100%	100%
Surgical site infections	0.10	0.50	0.00	0.10
Sepsis mortality rate, per 1,000 patients	27.1%	8.9%	9.0%	State ⁽²⁾ 14.9%

- As a quality care indicator, hospitals track 30-day readmission rates for patients who had total hip or total knee replacement surgeries. LMH tracks the rate of patients who had an unplanned readmission back to LMH for any reason (even if the reason was unrelated to the surgery) within 30 days of their Hospital discharge.

	LMH 2015	LMH 2016	LMH 2017	National ⁽¹⁾
30-day readmissions:				
Total hip replacement readmissions	8.00%	4.65%	5.00%	2.27%
Total knee replacement readmissions	3.23%	2.66%	2.24%	1.94%

- Delays in surgical procedures are an inconvenience to patients who may have fasted for hours and often are nervous. The LMH Surgery staff makes every effort to schedule procedures appropriately for the comfort of patients and their families.

	LMH 2015	LMH 2016	LMH 2017	LMH Goal
Surgeries that started on time	88%	89%	88%	Greater than 90%

- Postoperative patients who lie in bed for long periods are at increased risk of developing a blood clot in their lungs (pulmonary embolism) or legs (deep vein thrombosis). To prevent the formation of these dangerous conditions, LMH uses multiple methods to reduce the risk of blood clots, including the use of blood thinning medications and mechanical compression devices. In some cases, despite using these interventions, these blood clots may still occur.

	LMH 2015	LMH 2016	LMH 2017	LMH Goal
Postoperative patients who developed a pulmonary embolism or deep vein thrombosis, per 1,000 patients	0.4%	0.4%	0.6%	4.8%

Data Footnotes: (1) MIDAS CPMS comparative database (2) Ohio Hospital Association



Check out our Quality Report Cards online at www.LMHealth.org.

Health Tips – Reduce the Risk of Infection Before Surgery

A surgical site infection is a risk with any type of surgery. Patients can take steps to reduce the risk of infection and complications before the procedure. It is important to talk to the surgeon about medical conditions such as diabetes or obesity as these factors may affect treatment. Patients should maintain good nutrition and exercise prior to surgery and practice good hand washing techniques to reduce germs that may cause illnesses.

Also, it is important to inform the surgeon about the following situations:

- Emergency room visits before the surgery date
- A cold, sore throat, flu, fever or other illness
- Exposure to any infections such as mumps, measles, chicken pox, shingles or hepatitis

Certain herbal medicines can prolong the effects of anesthesia. Some increase the risk of bleeding or raise blood pressure. Discuss all herbal, over-the-counter or prescribed medications with the surgeon.

It is strongly recommended that patients quit smoking before surgery. Generally, someone who smokes may have more scarring and heal more slowly. The more slowly the incision closes, the longer you are at risk for an infection in that area.



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