Get Up & Go!

After a successful muscle sparing total knee replacement surgery, Jerri is back to the activities she enjoys.

Advanced Joint Replacement Techniques, Multimodal Pain Management Quickly Restore Function, Lifestyle

Muscle-Sparing Total Knee Replacement

For more than five years, Jerri ignored the increasing pain in her left knee. The 64-year-old Alexandria psychotherapist knew she'd ultimately need a knee replacement, but she wasn't ready to give up her active, athletic lifestyle. She spent busy days seeing patients, performing community work with the homeless, and keeping up with her six grandchildren. Running, swimming, biking, and boating were often on her schedule.

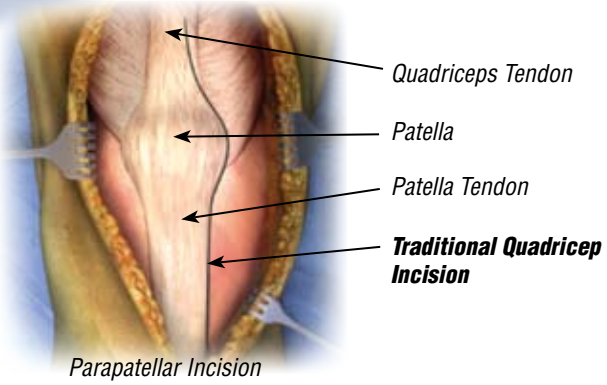
But when the pain finally forced her to limit her activities, she knew she had to take the plunge. "The most important thing for me was finding a physician and a team that were eager to partner with the patient and focus on early mobilization to ensure the best possible outcome," she says.

A three-month search led her to Commonwealth Orthopaedics and surgeon Mark Hartley, MD, who performed a state-of-the-art, minimally invasive muscle-sparing total knee replacement in December 2008.

This innovative technique (also called quad-sparing knee replacement) combines the latest minimally invasive methods with a surgical approach that leaves key muscles and tendons intact. Instead of cutting the quadriceps tendon, surgeons make a 3-5 inch incision on the knee and split or dissect under a single quadriceps muscle. Because the incision is very small and no major tendons or muscles are cut, recovery is faster and less painful.

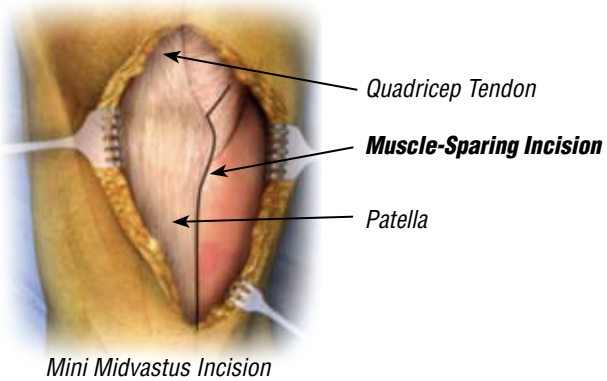
"Muscle-sparing knee replacement offers patients numerous advantages over traditional knee replacement," says Dr. Hartley. "Patients have more rapid return of knee function and regain muscle strength and control more quickly. The technique leaves the quad extensor mechanism intact, so patients are able to lift and bend their leg within the first hours after surgery. Later, when we take them to their hospital room on a stretcher, they walk from the door to their bed, which is quite remarkable."

Traditional Total Knee Replacement



Parapatellar Incision

Muscle-Sparing Total Knee Replacement



Mini Midvastus Incision

Jerri opened her eyes after surgery to see a list of muscle-strengthening exercises on the ceiling and began lifting and flexing her leg right away. A few hours later, she walked from her hospital room out into the hallway and back to her bed. "My goal was to become very active, very quickly and Dr. Hartley and his team gave me plenty of opportunities to realize my capacity and achieve my objectives. They told me there was no reason I couldn't walk right away and I did," she says.

Her pain was short-lived and very manageable, like "dental surgery." And her recovery was equally successful. After two nights in the hospital, she returned home and began physical therapy. Within three weeks, she was back at work part-time and climbing the stairs to her office. Soon, she was walking two miles a day. A month later, she helped her husband set up hypothermia shelters for the homeless, a task that involved much physical labor. "There were absolutely no limitations," she recalls.

With the advent of smaller instruments, computer-assisted navigation, improved retractors and implants, and better pain protocols, muscle-sparing knee replacement has taken off in recent years, and Commonwealth is on the cutting-edge of performing this technique. "It's revolutionized early ambulation and function and minimized pain. When you combine it with a small incision and multimodal medication approach, patients such as Jerri really get up and go very quickly," Dr. Hartley says.

Knee problems are the most common reason patients visit orthopaedic surgeons and osteoarthritis, fractures, and wear and tear injuries are among the most common reasons for knee replacement. "Most everyone is a candidate for this procedure unless they have a lot of scar tissue from previous surgeries or are severely overweight. But for 85-90% of patients, this is the knee replacement approach of choice," says David Romness, MD, who performs muscle-sparing knee and other total joint replacements at Commonwealth.

More than a year out from surgery, Jerri continues to excel. She calls her Commonwealth experience "quite amazing" and credits superior patient education from a caring and attentive team as key in helping her reach her goals. "From the beginning, their focus is on wellness and restoring a high level of function," she says. "They don't set any barriers or say you can't do things well afterwards. They ask you what you want to do and work with you to make a plan to get it done. It's a true partnership."

Direct Anterior Total Hip Replacement

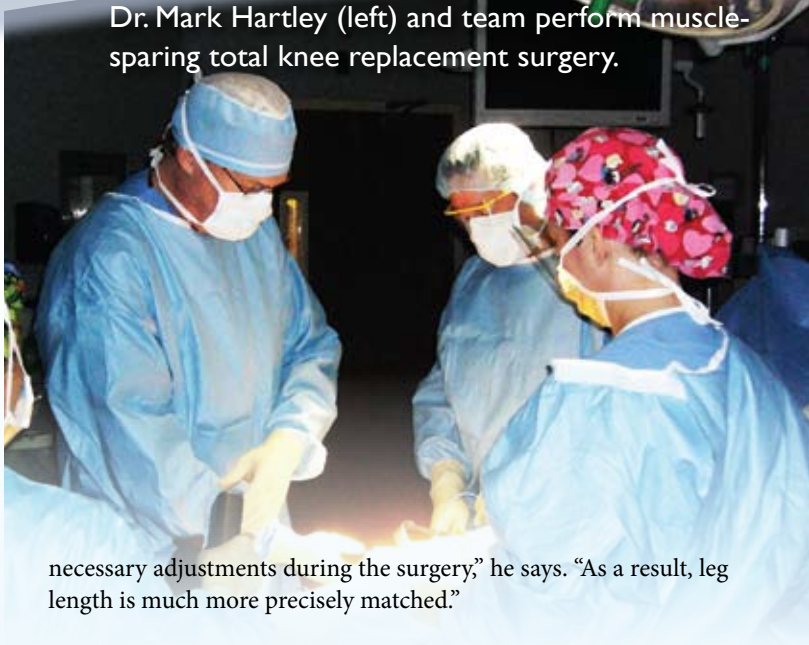
Celindah was preparing for a knee replacement last fall when she received some startling news. The pain in her right groin, which she thought was an injury, turned out to be osteoarthritis. Before she could have her knee replaced, she would need a total hip replacement.

"I couldn't believe it," recalls the 65-year-old from Aldie, Virginia, who loves to garden and spend time with her young granddaughter. "I immediately called a friend who'd had a double hip replacement and asked her what I should do."

Fortunately for Celindah, her friend had the answer: anterior total hip replacement. In this procedure, the surgeon reaches the hip joint from the front instead of the back or side. Muscles are split, rather than removed and reattached, which leaves those most important for hip function—the gluteus muscles that attach to the pelvis and femur—undisturbed.

"The anterior approach is far less traumatic for patients," says Commonwealth Orthopaedics surgeon Mark Madden, MD, who performed Celindah's hip replacement last November. "We use a very small incision, so pain and bleeding are minimal. We don't cut any muscles, so patients are stronger afterward and recover function much more quickly. And because we go in through the front of the hip, leg length is more accurately controlled and dislocation risk is reduced."

Anterior hip replacement is not new. Surgeons used to perform it all the time. But it fell out of favor decades ago due to sub-standard equipment and materials. Now, thanks to advances in minimally invasive surgical techniques, more specialized instrumentation, and state-of-the-art prosthetics, it's making a comeback. Commonwealth surgeons currently perform about 25% of hip replacements this way and the number of anterior hip replacements is on the rise.



Dr. Mark Hartley (left) and team perform muscle-sparing total knee replacement surgery.

"The procedure is more technically demanding than the traditional lateral or posterior version, and there are only a handful of orthopaedic surgeons in the Washington area who perform it routinely," Dr. Madden says. "At Commonwealth, we believe the advantages to patients outweigh the difficulties."

One of those advantages is a shorter hospital stay, which has dropped from three or four nights with traditional hip replacement to one or two nights with minimally invasive techniques. Ultimately, Commonwealth hopes to offer anterior hip replacement as an outpatient procedure.

Following her surgery, Celindah was taken by stretcher to her hospital room. At the door, she got up and walked to her bed. "I had no trouble putting one foot in front of the other," she says. "The horrible pain I'd felt prior to surgery was completely gone." Back home, she was immediately grateful for all the little things she could now do pain-free: bend down to put on her socks, for example, or stand at the sink to wash the dishes. "Before I had this surgery, everyday living was so difficult, I was exhausted all the time. It wears you out."

In February, just three months after her hip surgery, Celindah had a knee replacement. "To have enough stability and strength to support a total knee replacement within a few months of my hip replacement is incredible," she says. "I've recommended Commonwealth to so many people and they all come back to thank me. These guys have figured it out. They know how to do it right."

Celindah's positive experience mirrors that of other patients in Commonwealth Orthopaedics' comprehensive total joint replacement program. An overwhelming majority—99%—say that surgery alleviated their pain, while nearly 95% report "good to excellent" improvement in function and activity level. "The emphasis is on rapid recovery—getting patients back to their daily lives and activities as fast as possible with as little discomfort as possible," Dr. Madden says. "We fix their wheel and put them back on the track."

One super satisfied customer is Audrey, a 69-year-old grandmother from Herndon, who suffered from worsening osteoarthritis in her right hip. When the pain got so bad she felt she might fall down while walking, she consulted Mark McMahon, MD, at Commonwealth Orthopaedics. "He recommended a hip replacement, but I was initially skeptical," she remembers. "I told him, 'I don't have time for this, I've got things to do, places to go, and people to see."

But the increasing pain finally convinced her to have surgery, and Dr. McMahon performed a direct anterior total hip replacement in January. During the procedure, he used intra-operative X-rays to be sure he was reproducing Audrey's anatomy accurately. "We rely on these images, rather than the pre-op studies, to confirm we are getting restoration of the normal anatomy and make any necessary adjustments during the surgery," he says. "As a result, leg length is much more precisely matched."

Because anatomy is restored accurately and no muscles are disrupted, patients don't need to take special precautions to prevent dislocation afterwards. They can put weight on the hip immediately for a faster, more pain-free recovery. In fact, the dislocation rate is only about 1/20th that of a standard hip replacement.

A couple of days after her surgery, Audrey was climbing up and down stairs in the hospital. When she returned home, she immediately did was a load of laundry. Soon she was cooking, cleaning, and resuming her role as caretaker to family and friends. "In just six weeks I was amazed how active I was able to be so quickly," she says. "I didn't want to be slowed down and I wasn't!"

Audrey continues to progress. She enjoys volunteering at her church, especially preparing meals for those in need. Her pride and joy is her 4-year-old grandson, whom she calls her 'motivator.' She even took his picture to the hospital. "When caring for my grandson before my surgery, it was hard for me to tell him I couldn't play outdoor activities with him because of my pain. Now I am looking forward to playing ball, Frisbee and taking walks with him and going fishing with my husband," Audrey says. "I have tremendous regard for Dr. McMahon and the Commonwealth staff. They took wonderful care of me in every respect. I'm active; I feel great. Best of all, I don't suffer with terrible pain anymore. Even my back pain has diminished, she says."

Multimodal Pain Management

When contemplating surgery, pain is usually what patients fear most. Effective pain management is critical to a positive surgical experience. At Commonwealth, multimodal pain control is an integral component of the total joint replacement program. Injectible medications, customized to each patient's specific surgical procedure, are used to target the four pain pathways in the nervous system: the brain, spinal cord, nerves, and surgery site.

"We approach pain from many different directions, before, during, and after surgery" Dr. Romness explains. "This includes pre-operative medications for proactive pain control, a regional

anesthetic such as an epidural, spinal, or nerve block to target pain pathways, local anesthetics injected directly into the surgical site to block pain stimulus, and NSAIDs to prevent inflammatory pain."

Historically, strong IV narcotic medications were used to control surgical pain. But this single drug strategy often caused side effects such as mental confusion, uneven pain relief, nausea and vomiting, and delayed recovery. Multimodal pain management promotes a rapid recovery with minimal post-operative complications and discomfort.

"The multimodal method not only controls pain more effectively, it also lowers narcotic use so patients regain mobility faster with fewer difficulties," Dr. Romness says. "Our total joint patients have excellent results, with significantly less post-operative pain and nausea. They recover more quickly, are more likely to go directly home after discharge, and are more satisfied with the outcome."

***Mark C. Hartley, MD**, earned a BA from Princeton University and an MS from Georgetown University. He received a medical degree from Georgetown University School of Medicine and stayed on at Georgetown to complete both his surgical internship and orthopaedic residency. Dr. Hartley served as Chief of the Total Joint Replacement Service at Eisenhower Army Medical Center.*

***Mark P. Madden, MD,** received a BS from the University of Notre Dame before going on to complete his medical degree at Georgetown University. Dr. Madden completed his training in orthopaedic surgery at Georgetown University Medical Center where he served as chief resident.*

***Mark R. McMahon, MD,** earned a BA from the University of Oregon and his medical degree from Oregon Health Sciences University. He completed a general surgery internship from the University of Oregon and orthopaedic residency from the University of Southern California.*

***David W. Romness, MD,** graduated with a BS from the University of Richmond and earned his medical degree from Eastern Virginia Medical School. He then completed his surgical and orthopaedic training at the Mayo Clinic in Rochester, Minnesota.*

*For full biographies and a complete directory of the physicians at Commonwealth Orthopaedics who perform these and other procedures visit our website at **www.c-o-r.com.***