

Regaining Strides: NNY doctor successfully completes ankle replacements

August 7, 2018 by [NNYBiz](#)



AMANDA MORRISON / NNY BUSINESS

Dr. Natalie M. Nielsen poses inside the operating room with tools utilized in replacement surgeries.

BY: *Norah Machia*

At age 84, Joyce Shampine isn't slowing down.

In fact, she is picking up the pace after undergoing total ankle replacement surgery earlier this year. She is the first patient to have this type of specialized procedure performed by a physician with the North Country Orthopaedic Group.

Mrs. Shampine, Gouverneur, is one of two patients who received total ankle replacements at Samaritan Medical Center last March. Dr. Natalie M. Nielsen, an orthopedic surgeon who is trained as a foot and ankle specialist, did the procedure on both patients at the Watertown hospital.

"Before the surgery, it really hurt to put weight on that ankle," said Mrs. Shampine, who suffered from severe arthritis in her ankle for years. "But since the operation, I've been coming along well, and I'm really pleased."

Prior to her surgery, the intense pain from her ankle arthritis was making everyday

activities, such as walking and standing, extremely difficult, she said. After dealing with the pain for years, she realized it was not only limiting her activities, but also affecting her quality of life, Mrs. Shampine said.

Although the recovery time has been long, "my ankle feels perfectly fine now when I put weight on it," said Mrs. Shampine, who is completing physical therapy as part of the healing process.

Dr. Nielsen joined the North Country Orthopaedic Group last year. She completed her fellowship in foot and ankle surgery at the Hospital for Special Surgery, New York City, which has been ranked as the top facility for orthopedics by U.S. News and World Report.

Ankle replacement surgery is typically recommended only after conservative measures, such as anti-inflammatory medication, bracing, physical therapy and/or cortisone injections haven't helped to bring the patient relief from what is often described as "bone-on-bone" pain, said Dr. Nielsen.

"The procedure is primarily for people who have severe arthritis in the ankle," and can no longer put weight on the ankle, said Dr. Nielsen. The severe arthritis is caused when the bones in the ankle lose cartilage either through degeneration, or as the result of long-term effects of an ankle injury.

The inability to put weight on one ankle can affect a person's gait, posture and balance, and result in other complications, such as hip and knee issues, making it "quite uncomfortable for the patient to walk," she said.

Prior to surgery, the patient has a CT scan of the ankle to help design the "cutting guide" (or the specific way to cut the bone) for the implant surgery. Once in the operating room, the surgeon makes an incision on the front of the ankle, and removes the damaged bone and cartilage.

The implant that is used for the ankle replacement procedure consists of two metal pieces and a plastic insert. There are several types of implants made by different companies, and the technology has improved significantly in recent years, Dr. Nielsen said.

After the damaged bone and cartilage are removed, the implant is placed inside the patient with the metal on each side and plastic in between. The implant serves as an "artificial joint" and is designed to mimic the natural movements of the ankle.

The surgery itself takes between two to three hours, but the full recovery takes several months. Following surgery, the ankle is placed in a cast and must remain immobilized for six weeks to allow the bone to grow into the implant so the new "artificial joint" will work correctly.

After six weeks, the cast typically comes off and the patient wears a type of "walking boot" and starts to put weight on the ankle. The patient then undergoes physical therapy and moves slowly into weight-bearing activities. Physical therapy is designed to help with range of motion and walking.

Despite its long recovery period, the procedure gives patients significant pain relief and allows them to become active again, said Dr. Nielsen. "They eventually take up their normal activities – walking, golfing, bike riding," she added.

Ankle replacement surgery is typically recommended for people 60 years of age and older, and it's not advisable for anyone who does high-impact activities, such as running. The implants last between 10 to 15 years. Higher levels of activity can wear out the replacement joint more quickly.

"The main advantage of the implant is that you keep the motion in the ankle," Dr. Nielsen said. "The bone grows into the implant and makes the ankle flexible."

Ankle replacement is different from ankle fusion, a procedure that has been available to patients for many years. In an ankle fusion, the surgeon will use pins, screws and plates to permanently join the tibia bone with the talus (the bone that makes up the lower part of the ankle joint).

That procedure is done with patients of a wider age range, and typically does provide pain relief. But it results in less mobility in the joint.

In recent years, however, the technology for implants used in ankle replacement surgery has improved, allowing for better patient outcomes, Dr. Nielsen said. “The newer designs are more durable,” she added.

Dr. Nielsen is the first female orthopedic surgeon to join the Watertown practice. Nationwide, an estimated five percent of orthopedic surgeons are female, according to a 2015 report by the Association of American Medical Colleges.

“I find that orthopedics is a very fulfilling specialty,” Dr. Nielsen said. “It’s so rewarding to help someone get back on their feet so they can run or walk again.”

She also treats many other conditions of the foot and ankle, including flat feet, hammertoes, bunions, high-arched feet, cartilage lesions, foot and ankle fractures, tendon injuries, Achilles tendon pain and ruptures, ankle ligament injury, and arthritis of the big toe or foot.

Dr. Nielsen, a board-eligible provider, graduated from the University of Washington School of Medicine, Seattle, Wash., and completed her residency at the University of Massachusetts Medical School, Worcester, Mass.

She and her husband, Dr. Andrew Markwith, were both recruited to the Watertown practice last year. He is also an orthopedic surgeon, specializing in sports medicine.

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