

The Fanwood resident did not want to miss her classes at Union County College, where she is studying biology so she can work as a veterinary technician. But over the next few days, Ms. Malcolm's pain got worse. She went to an urgent care center, where doctors ordered an ultrasound and found out that she had gallstones.

Gallstones are pebble-like substances that form when digestive fluid in the gallbladder (a pear-shaped organ on the right side of the abdomen under the liver) hardens. They are very common; nearly one million Americans are diagnosed with gallstones every year. No one really knows why people get gallstones, which can be as small as a grain of sand or as large as a golf ball. People can get one or many gallstones. Often, gallstones cause no symptoms and do not need to be treated.

Some people though, like Ms. Malcolm, have severe pain from gallstones. "Pain from gallstones is one of the most common reasons patients see a general surgeon," said Cynthia Lee, MD, a general surgeon at Robert Wood Johnson University Hospital Somerset. Surgery to remove the gallbladder is the best treatment for gallstones. It is easy to live without a gallbladder. After the gallbladder is removed, the digestive fluid (called bile) flows from the liver into the small intestine, instead of being stored in the gallbladder first. Food can still be digested.

In September 2014, Dr. Lee and general surgeon Thangamani Seenivasan, MD, began performing the most advanced minimally invasive procedure available for gallbladder removal — robotic-assisted, single-port surgery — continuing the advancements of

the strong minimally invasive surgery program at RWJ New Brunswick. Single-port surgery involves just one small incision, in the belly button, instead of four small incisions spread around the abdomen in standard laparoscopic surgery.

After Ms. Malcolm was referred to Dr. Seenivasan, he recommended robotic-assisted, single-port gallbladder removal. "One cut is definitely better than four cuts," said Dr. Seenivasan. "The cuts in standard laparoscopic surgery are more painful than robotic surgery."

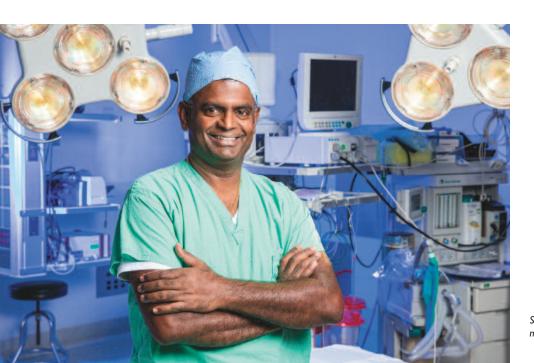
Ms. Malcolm was one of the first patients to have the robotic-assisted, single-port surgery at RWJ Somerset. She went home the same day, and only missed four days of school. "Ms. Malcolm was looking for a scar, but it was hidden in her belly button. She didn't even have a bandage," said Dr. Seenivasan. While Ms. Malcolm had some pain for about a week, it was much less than she would have had with the standard laparoscopic surgery. A few weeks after her surgery, she was able to go back to her yoga and Zumba classes at the RWJ Fitness and Wellness Center in Scotch Plains.

Robotic-assisted, single-port surgery is also more accurate than standard laparoscopic surgery. The robot's high-definition 3D camera magnifies the area where the surgeon is operating. Its tiny instruments have more range of motion than the human

hand. To do the procedure, doctors sit at a console near the patient and control the surgical system. "Overall, the patients have been very happy with the results," said Dr. Lee.

Most patients can have the robotic-assisted, single-port gallbladder procedure or the standard laparoscopic surgery. Rarely, an open procedure is necessary, involving more pain from a larger incision (at least four inches), two to four days in the hospital and four to six weeks to recover after that. Dr. Lee and Dr. Seenivasan also do other robotic-assisted procedures, including colon cancer surgery, gastric cancer surgery, and other colon procedures.

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Shown left: In September 2014, General Surgeons Cynthia Lee, MD (not pictured) and Thangamani Seenivasan, MD, began performing the most advanced minimally invasive procedure available for gallbladder removal at RWJ Somerset — robotic-assisted, single-port surgery.