

# Single-port surgery uses a single incision

*By Henry Davison, M.D., Princeton Surgical Associates*

Patients facing gallbladder and other abdominal surgeries are benefiting from an increasingly popular technique that is enabling physicians to perform these procedures safely with a single incision that leaves virtually no visible scar.

Known as single-port laparoscopy, the surgery is an important medical advance that is furthering the trend toward less invasive operations.

University Medical Center at Princeton is just one of a handful of centers in the Northeastern United States – and the only hospital in Central Jersey – currently performing the procedure, which involves just a single incision in the belly button.

Physicians perform more than 4 million laparoscopic operations a year. In traditional laparoscopic surgery, doctors make multiple “key-hole” incisions – usually three or four – in different sites on the body through which a specialized camera and surgical instruments are inserted. The method represented a clinical breakthrough when it came onto the scene nearly 20 years ago, providing the first alternative to the long open incisions normally associated with surgery. Patients still had to recover, however, from these multiple small incisions, and deal with the cosmetic issue of multiple scars.

With single-port laparoscopic surgery, only one small incision – about 1 to 3 centimeters in length – is made through the navel, with all instruments passing through that opening.

The benefits for patients are substantial. Cosmetically, the single-port approach is a major advance as it leaves the patient with virtually no visible scar. A single incision also means less post-operative pain, a reduced risk of wound infection and a quicker recovery time.

Consider that patients who undergo single-port laparoscopy tend to return home the same day, where previously more than half would have been admitted for an overnight hospital stay.

Today, the procedure is largely being used for gallbladder and appendix removal as well as kidney donation operations and other select procedures. It also has the potential to transform the way bariatric and esophageal operations are performed. Other complex abdominal and pelvic operations are also possible with this technique.

Two specialist instruments make the single-port technique a reality. One is multi-instrument access port, which enables the introduction of several instruments simultaneously. The second is a special laparoscope – the camera instrument – with a bendable tip that enables doctors to see around corners.

Aside from these tools, the surgical technique for the single-port approach is much the same as that used for traditional laparoscopic surgery. Patients require general anesthesia for the procedure, which also involves inflating the abdomen with carbon dioxide to allow room for surgeons to maneuver instruments. Once the surgery is complete, doctors remove the instruments, and with single port laparoscopy, the natural shape and texture of the belly button returns and hides any evidence of surgical incision.

Most patients who are candidates for traditional laparoscopic surgery can be considered for single-port surgery.

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While there are risks associated with any type of operation, the risks for single-port laparoscopy are minimal and are similar to risks associated with traditional laparoscopy. Complications, while rare, can include bleeding, infection, pneumonia, blood clots and heart problems.

Prior to any type of surgery, it is important for patients to talk with their surgeon about his or her training and experience.

Patients facing gallbladder surgery or an appendectomy should speak with their doctor about single-port laparoscopy. Gallbladder problems are usually caused by gallstones that block the flow of bile out of the gallbladder, causing it to swell and resulting in sharp abdominal pain, vomiting, indigestion and occasionally fever. These stones do not go away on their own and continue causing symptoms unless the gallbladder is removed.

Gallbladder removal – technically known as cholecystectomy – is one of the most commonly performed surgical procedures in the United States and is the safest treatment for gallbladder disease, according to the Society for Gastrointestinal and Endoscopic Surgeons (SAGES).

Appendectomies are also common. One in every 2,000 people has an appendectomy to remove an infected appendix sometime during their life, according to SAGES. Appendicitis is often caused by an obstruction in the cavity that runs the length of the appendix or by a viral infection.

Fortunately, with the advent of single-port laparoscopy, these patients along with patients undergoing other abdominal surgeries can take comfort in knowing they will emerge virtually scar-free.

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