"To Cut Is to Cure…"

SILS, NOTES Eliminate Large External Incisions

Twenty-first century surgery: no incision required.

Science fiction or reality?

Many surgeons believe their specialty is headed in that direction.

During the past 20 years, minimally invasive surgery has gained a wide range of acceptance across the country. Insurance companies routinely reimburse surgeons and hospitals for laparoscopic procedures.

Washington Hospital Center surgeons have embraced minimally invasive procedures in many specialties, including bariatric surgery, colon and rectal surgery, kidney surgery, obstetrics and gynecology, thoracic surgery, urogynecology and urology.

SILS = One Inch Incision

Single incision laparoscopic surgery (SILS) groups instruments in a solitary incision, usually in the umbilicus. "This approach makes the operating field very crowded," says surgeon Frederick Finelli, MD, JD. "Instruments have been developed to curve and bend inside the body, making SILS optimal for some types of patients."

Frederick Finelli, MD, JD

The medical industry is refining the devices that articulate, rotate and triangulate inside the body, adds bariatric surgeon Timothy Shope, MD. "The access ports are basically long, narrow tubes placed through the abdominal wall. Placing these tubes too close together does not allow for easy tissue manipulation with traditional laparoscopic instruments. Making it easier doesn't necessarily imply that it will be 'safer,' but it is a logical argument."

Timothy Shope, MD

Dr. Finelli says if a surgeon is proficient in laparoscopic procedures, the learning curve isn't steep, but cautions that it takes longer to do the first few cases. "For some patients, such as the morbidly obese, it's much more difficult to perform laparoscopic surgery through a single incision."

The big advance for SILS, Dr. Finelli explains, will be coming in robotic surgery, as the instruments already have joints and can manipulate in many directions. He believes surgeons who are already trained in robotics will have a shorter learning curve for procedures for their SILS patients.

Anjali Kumar, MD, colon and rectal surgeon, examines the curved instrumentation of a SILS grasper.

Agreeing is colon and rectal surgeon Anjali Kumar, MD, MPH, who is focusing on minimizing or avoiding abdominal incisions. "Robotics optics are in three dimensions, and the surgeon can employ finer hand movements, with improved ergonomics for the surgeon," she says. "These enhancements may improve nerve preservation and yield better oncological outcomes, with improved mesorectal dissection, but it is too early to know for certain."

Dr. Kumar cautions that robotic surgery currently has limited multi-field movement, and is best associated with surgery limited to one quadrant until new robotics systems are developed.

First NOTES

Oregon surgeon Lee Swanstrom, MD, FACS, is credited with performing the first natural orifice transluminal endoscopic surgery—NOTES—in the United States in 2007, a transgastric cholecystectomy. In surveying surgery clinic patients concerning the possibility of NOTES or laparoscopic surgery for a cholescystectomy, Dr. Swanstrom found 56 percent of the respondents would prefer NOTES, and 44 percent would choose laparoscopic surgery.

Lee Swanstrom, MD, FACS

The deciding characteristics were the amount of education the patients had, their age and whether they had had a previous flexible endoscopy. Procedure-related risks, pain and recovery time were more important than cosmesis, cost, length of hospital stay and type of anesthesia when choosing a surgical approach. Patients were less willing to accept NOTES as risks and costs increased, and as surgeon experience and availability decreased.