Minimally Invasive Surgery: Less is More

Dr. Michael Last, performing surgery at Eisenhower Medical Center, utilizes the minimally invasive hand-assisted laparoscopic procedure for a variety of gastrointestinal and other abdominal surgeries.

Minimally invasive surgery (MIS) is quite simply changing the face of medicine. Long, open incisions, spreaders and retracting devices have been replaced with dime-size cuts, laparoscopes and endoscopic cameras. This technological and procedural shift translates into monumental benefits for patients — less pain and scarring, shorter length of hospital stay, faster return to work and less risk of hospital infection, making minimally invasive surgery the clear choice over open surgical procedures.At Eisenhower Medical Center, surgeons are applying minimally invasive techniques to almost every type of operation, from the more common gall bladder removal to cardiac, orthopedic and even neurosurgical procedures. Healthy Living magazine takes a look at the cutting-edge procedures being performed by Eisenhower Medical Center physicians and the fascinating medical frontier known as minimally invasive surgery.

MINIMALLY INVASIVE SURGERY (MIS) IN GENERAL SURGERY

Combining the benefits of laparoscopic and traditional open surgeries, the hand-assisted laparoscopic procedure is used for a variety of gastrointestinal and other abdominal surgeries. During surgery, a small 3 to 4 inch incision is made (about one fourth the length of a traditional open procedure). A hand port, a ring-like device, allows the surgeon to insert a hand into the abdomen. Three other small abdominal incisions are made for a laparoscope and laparoscopic instruments that the surgeon operates with his other hand outside the body.

“The hand port device gives the surgeon the feel, maneuverability and the hand assistance you get in an open colon surgery without the 12 inch-long incision,” says Michael Last, MD, Section Chief of General Surgery for Eisenhower Medical Center. (See Cover Story, "Celebrating Life."

Eisenhower Medical Center was the first in the Coachella Valley to use the hand-assisted technique. Eisenhower performs more than 200 hand-assisted colectomies (surgical resection of the colon) a year, compared to two dozen at local hospitals.

Eisenhower Medical Center Board Certified Surgeons Ricardo Cacdac, MD, Scott Gering, MD, Michael Last, MD, Karl Schulz, MD, Peter Schulz, MD, and other general surgeons also perform a number of laparoscopic procedures including hand-assisted laparoscopies, colectomies, cholecystectomies (gallbladder removal), appendectomies and hernia repairs.

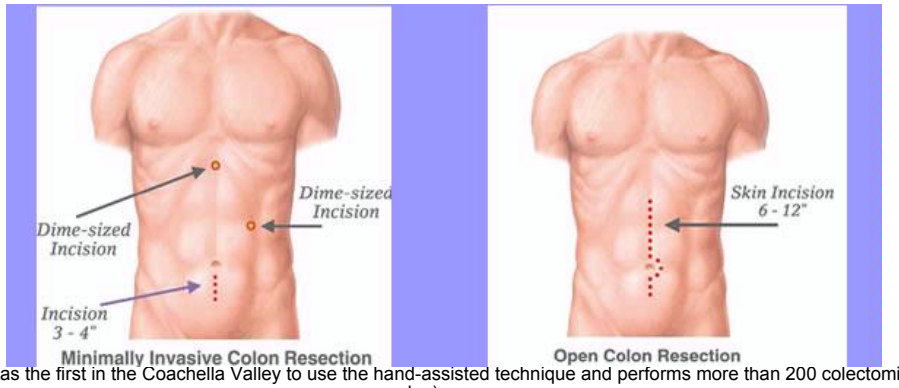
MIS IN UROLOGY

Michael Sanford, MD, John Faulkner, MD and Elliott Lander, MD, Board Certified Urologists, perform the minimally invasive nephrectomy on patients with diseased or damaged kidneys using the hand-assisted technique. They also perform minimally invasive cryosurgery for prostate cancer treatment.

MIS IN CARDIOLOGY

Eisenhower surgeons S. N. Mitruka, MD and Joseph W. Wilson, MD became the third group of surgeons in the country to perform a minimally invasive unilateral thoracoscopic surgical MAZE procedure to treat atrial fibrillation. The procedure is performed through three small incisions (less than two centimeters each) in the side of the chest and uses an advanced microwave catheter to ablate tissue on the outside of the beating heart. The subsequent formation of scar tissue provides a barrier to “short circuit” atrial fibrillation. The procedure is performed in 90 minutes, and most patients can return home the following day. Eisenhower is also a teaching site for the surgical open MAZE procedure.

MINIMALLY INVASIVE COLON RESECTIONING VS. OPEN COLON RESECTIONING



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MIS IN ORTHOPEDICS

JOINT REPLACEMENT

Eisenhower Joint Replacement Center’s innovative minimally invasive surgery procedures and seamless care protocols have distinguished it as number two in the state of California for the number of hip and knee joint replacements performed.

According to Eisenhower’s Raj Sinha, MD, PhD, Board Certified Orthopedic Surgeon, the volume of joint replacements performed at the Center is due to the advancement and modification of the first generation of minimally invasive technologies, and the Center’s active involvement in the development and testing of new implant materials and designs. Traditional surgery requires lengthy recovery time, a 12 to 18 inch scar and notable pain from a greater disturbance of muscle and tendon tissue — all of which are significantly reduced with an MIS. Sinha serves the Center along with Board Certified Orthopedic Surgeons Robert Murphy, MD, Adrian Graff-Radford, MD, John Velyvis, MD and Jonathan Braslow, MD.

ROTATOR CUFF REPAIR

Sohail Ahmad, MD, Rufus Gore, MD, Stephen O’Connell, MD, and Sam Reber, MD, Certified Orthopedic Surgeons and Deenesh Sahajpal, MD, Board Eligible Orthopedic Surgeon, perform minimally invasive rotator cuff repair surgeries that reduce the amount of disruption of the large muscles, decreasing the level of pain experienced by the patient and the amount of subsequent physical rehabilitation required for mobility. Although the open surgery is quite successful, the patient can now have the equally successful MIS surgery on an outpatient basis with three small wounds that only require one stitch each.

MIS IN SPINAL SURGERY

A number of minimally invasive spine surgeries have dramatically changed the field. Shahin Etebar, MD, Farhad Limonadi, MD, and Alfred Shen, MD, Board Certified Neurosurgeons, and A. David Tahernia, MD, Board Certified Orthopedic Surgeon, perform microdiscectomy spine surgery, generally performed for a lumbar herniated disc. The microdiscectomy is a more targeted procedure than the traditional surgery, can be performed on an outpatient basis, and allows the patient to return to normal activity quickly. Dr. Tahernia was also the first in the Coachella Valley to perform lumbar (lower back) artificial disc replacement surgeries.

Eisenhower's Shahin Etebar, MD, Alfred C. Shen, MD, and Farhad Limonadi, MD, with Desert Spine and Neurosurgical Institute on the campus of Eisenhower Medical Center, are the only Neurosurgeons in the Coachella Valley performing two new minimally invasive treatments for degenerative disc disease, instability or recurrent disc herniation and other back problems. The XLIF and AxiaLIF procedures require only small incisions and do not require dissection or retraction of the sensitive back muscles or nerve roots. Better optics, computer guidance and monitoring of the nerves allow the surgeons to customize the technique to the patient and offers more predictable outcomes compared with traditional open techniques. Unlike the traditional surgical approach, the XLIF procedure does not require abdominal exposure and manipulation of the bowel or other structures. (See What's New, "New XLIF Spinal Surgery Available.")

ALTHOUGH NOT AN APPROPRIATE CHOICE FOR ALL PATIENTS OR ALL TYPES OF SURGERY, MINIMALLY INVASIVE PROCEDURES ARE FAST BECOMING PREFERRED PROCEDURES BY BOTH PHYSICIANS AND PATIENTS.

Eisenhower Medical Center is one of only a few hospitals in California offering AxiaLIF, a minimally invasive procedure for lumbar fusion. Offering excellent outcomes with minimal complications, surgeons can perform the procedure without the major dissection of surrounding spinal soft tissue structures associated with the conventional fusion procedure. This innovative approach has most patients walking the same day of surgery and on average many are back at work in two weeks, compared with conventional surgery in which patients do not return to work for one to two months.

In both the XLIF and AxiaLIF procedures, patients experience less pain, recover faster and return to work sooner because of the reduced surgical trauma.

MIS IN NEUROSURGERY

Neuroendoscopic third ventriculostomy is a neurosurgical technique designed to minimize trauma at the surgery site and spinal cord, and reduce brain retraction, tissue injury, and offer better recovery times and cosmetic results for the patient. Working with endoscopes, Eisenhower Medical Center Board Certified Neurosurgeon Farhad Limonadi, MD makes a small opening in the brain. "This is one of the most common surgeries we do. It is often used to remove cysts, tumors and perform biopsies. However, one needs to understand that minimally invasive procedures are not for every patient and every disease. The selection process is key."

MIS IN GYNECOLOGY

Hysterectomies are one of the most common major gynecological operations in the world. Traditional abdominal surgical procedures require patients to stay in the hospital for three to five days and include a recovery period of six to eight weeks. Laparoscopic gynecological procedures, performed at Eisenhower Medical Center by Enrique Jacome, MD, FACOG, FAAP, who also teaches MIS procedures, and S. Ava Mahapatra, MD, FACOG have patients leaving the hospital within a day and returning to normal activity in about a week.

Laparoscopic supracervical hysterectomy is the least invasive and least traumatic procedure available today. Whereas a traditional hysterectomy requires a five-inch abdominal incision, in the supracervical procedure a laparoscope and small surgical instruments are inserted through tiny incisions in the navel and abdomen. The surgeon carefully separates the uterus from the cervix and a morcellator is inserted into a tube to resect the tissue. The surgeon then removes the tissue through one of the incisions. The procedure can be performed on an outpatient basis.

Although not an appropriate choice for all patients or all types of surgery, minimally invasive procedures are fast becoming preferred procedures by both physicians and patients. Although the length of the surgical procedure can vary, most of the minimally invasive surgeries offer significantly smaller incisions, less trauma to surrounding tissue, quicker recovery times and shorter hospital stays. In many fields, minimally invasive surgery has become as successful as the existing gold standard surgical procedure. Eisenhower Medical Center is dedicated to remaining at the forefront of this exciting technology.

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