



MINIMALLY INVASIVE SURGERY

Staying ahead of the curve as surgical techniques evolve with technology improvements keeps Baylor Dallas' Division of Minimally Invasive Surgery in the forefront of all endoscopy, laparoscopy and robotic developments—and forms the basis for robust education and clinical research programs.

Minimally Invasive Surgery Revolutionizes Health Care

Imagine health care today without the use of minimally invasive surgeries. A hospital stay for a "routine" surgery might be five or six days instead of an overnight stay or even a day surgery procedure. Instead of a few days of at-home recovery, the patient might need weeks of healing if the operation is performed with an open incision.

The impact of minimally invasive surgery (MIS) techniques on the health care industry has been profound. Small incisions, a camera or an endoscope and specially designed surgical tools mean patients may have shorter hospital stays, return to work faster, have fewer surgical site infections, use less pain medication and have a higher degree of satisfaction.

A Standard in the Industry

The first minimally invasive surgery performed at Baylor University Medical Center was a laparoscopic cholecystectomy in 1990. Since then, minimally invasive surgery has evolved to become the standard of the industry. Surgeons on the medical staff at Baylor Dallas are experienced in new and emerging MIS techniques and refinements. General surgeons and specialty surgeons now routinely perform a variety of operations using minimally invasive techniques.

Although the use of minimally invasive surgery has for years been employed by most surgeons on the medical staff at Baylor Dallas, it became a separate division relatively recently, headed by Matthew V. Westmoreland, MD, chief, Division of Minimally Invasive Surgery and a physician on the Baylor Dallas medical staff.

At the Forefront of New Developments

Staying ahead of the curve as surgical/technologic techniques evolve keeps Baylor Dallas' Division of MIS in the forefront of all endoscopy, laparoscopy and robotic developments—and forms

the basis for robust education and clinical research programs. Crossover with other surgical divisions creates a synergy that spurs the study of advanced clinical, educational and technological approaches and enhances overall patient care.

While minimally invasive surgeons are also trained in general surgery, they typically focus on the foregut. "We do nearly all gastrointestinal surgeries—except colorectal—which includes esophagus, stomach, gallbladder, spleen, pancreas, intestines and abdominal wall hernia reconstruction. Some of these surgeries are fairly unique to a big tertiary care hospital like ours.

"For example, Baylor Dallas has a special interest in, and extensive experience using, minimally invasive surgery for achalasia, utilizing both the laparoscopic Heller myotomy and the peroral endoscopic myotomy (POEM) techniques," Dr. Westmoreland says. In fact, the first POEM surgery in Texas was performed at Baylor Dallas this year by Steven Leeds, MD, who is director of the division's Minimally Invasive Surgery Research and Simulation and is a physician on the medical staff of Baylor Dallas.

Other areas of focus and special expertise include hiatal hernia repair, reflux disease, laparoscopic repair of ventral hernias and living donor nephrectomies in conjunction with the transplant division. "We have an extensive experience with these areas, drawing patients from outside this region, and have publications on these topics."

Baylor Dallas also is well known for its expertise in bariatric surgery using minimally invasive techniques. "We've done thousands of these surgeries over the years and Baylor University Medical Center was one of the first—if not the first—area hospitals to perform weight loss surgeries using MIS," says Dr. Westmoreland, who recently served as interim director of the bariatric program, a Center of Excellence.

Daniel G. Davis DO, joined the medical staff and faculty as the new medical director of the Bariatric Center of Excellence. Dr. Davis is fellowship trained in minimally invasive surgery at the Legacy Clinic in Portland, Oregon, under Lee Swanston, MD.



Research and Education

The MIS division also conducts its own research and education program, overseen by Dr. Leeds. Research topics include introducing and validating novel surgical techniques, changing practices to endoscopic/endoluminal and minimally invasive approaches, developing simulation models for training and creating data registries as a component of centers of excellence. For example, among the eight active research projects underway are a prospective registry for evaluation of POEM for treating esophageal swallowing disorders. Another retrospective study is designed to review laparoscopic nephrectomy outcomes data from our institution. The MIS division performed these surgeries in conjunction with the transplant division.

Among other projects, MIS Research and Education is compiling a complete video library of all foregut surgeries performed at Baylor Dallas to educate surgeons in new and advanced surgery techniques. These videos can be archived and can be shared with national societies for widespread use.

"We have the ability to do research at this level because we are a separate, focused division," says Dr. Westmoreland. "Now we have staff specifically designated that can fulfill the data collection role essential to the research component of minimally invasive surgery."

Surgeons in the MIS division also train and educate surgical residents and fellows in using minimally invasive surgical techniques. One current project will help establish a learning curve for this population of surgeons, benchmarking the use of a new automated laparoscopic suturing device to that of native laparoscopic suturing.

HIGHLIGHTS

MANAGING GERD (GASTROINTESTINAL REFLUX DISEASE)



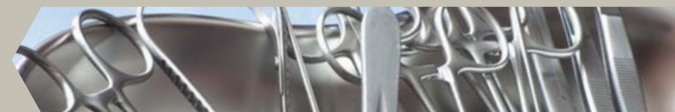
For people with gastroesophageal reflux disease (GERD), mealtimes, bedtime and even a cup of coffee can cause anxiety, discomfort and burning pain. But GERD isn't just about discomfort and burning pain. Left untreated, it

can develop into esophageal cancer. Between 1975 and 2014, there was a 700 percent increase in esophageal cancer. Minimally invasive surgeons, gastroenterologists and thoracic surgeons are among the medical staff at Baylor Dallas with extensive experience and expertise in the treatment of GERD.

"Esophageal cancer is the fastest-rising cancer in the United States," says Steven Leeds, MD, a physician on the Baylor Dallas medical staff, who leads Minimally Invasive Surgery Research and Education. "The incidence is in direct correlation to people taking anti-reflux medications. The medications treat the symptoms, not the disease," resulting in the seven-fold increase in these types of cancers."

GERD is a progressive disease that may be caused by a hiatal hernia, incompetent esophageal sphincter or obesity. Studies report 30 percent of patients on medications for reflux don't actually have the condition, which is why Dr. Leeds hopes to see a multidisciplinary approach to diagnosing and treating the disease. "Managing gastrointestinal disease is better done as a multidisciplinary team," says Daniel Demarco, MD, medical director of digestive disease technology at Baylor Scott & White Health—North Texas, getting everyone—gastroenterologists, radiologists, pulmonologists and surgeons—on the same page to determine what is best for the patient. A comprehensive surgical evaluation helps determine if the patient needs surgery. If so, what type of surgery? Tailoring treatment to the patient's condition is a tenet of patient-centered care. And if it's determined that a patient needs surgery, 98 percent of patients will find they no longer require medication. "Anti-reflux surgery can dramatically improve quality of life for certain patients," says Dr. Leeds.

GUIDING WEIGHT LOSS SURGERY



Daniel G. Davis, DO, has joined the faculty and medical staff at Baylor University Medical Center as the section chief of bariatric surgery and medical director of the Baylor University Medical Center Weight Loss Surgery program. Dr. Davis trained at the Stamford Hospital of the Columbia University College of Physicians and Surgeons, and completed a fellowship in advanced laparoscopic surgery at the Legacy Clinic at Oregon Health Sciences University. Dr. Davis replaced

Dr. Matthew Westmoreland, who has provided leadership for the Weight Loss Surgery program in an interim capacity.