



Dr. Robert McKenna and his colleagues perform Video-Assisted Thoracic Surgery (VATS) on a patient with lung cancer. The minimally invasive procedure is as effective as the more invasive approach and eliminates the need to spread the ribs.

# BREATHING NEW LIFE INTO Lung Surgery

BY ELEANOR FOA DIENSTAG

To observe a 30-minute “wedge resection” on a middle-aged woman with Robert McKenna, MD, and his team is to watch a wonder of surgical efficiency. In the operating room the lights are dimmed, everyone is covered from head to toe in green scrubs,

and music is playing on someone’s iPod. But there is very little blood and, strangest of all, no one is looking down at the patient, whose draped body is barely visible. Instead, all eyes are up, staring at three large color television screens, focusing on the movement of their instruments inserted through three small incisions in the patient’s chest. One is for a tiny video camera used to project magnified pictures of the chest cavity onto a screen, one for an instrument to hold the lung, and one for a “stapler” which removes a wedge of diseased tissue then staples the lung on both sides so there is no bleeding or air leakage. The patient goes home the next day.

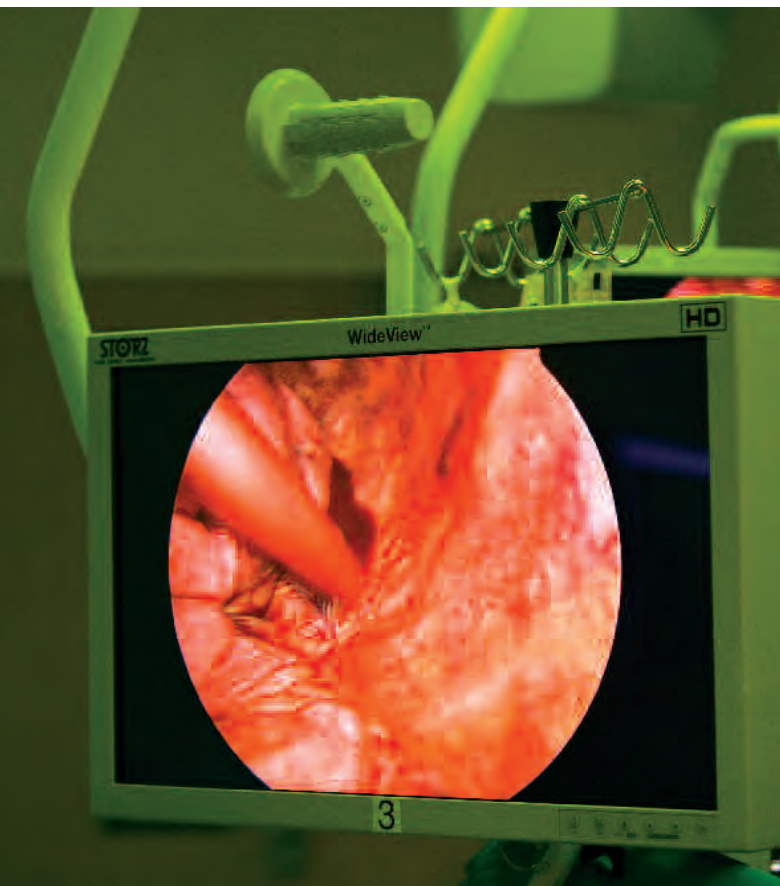
If there is a master of Video-Assisted Thoracic Surgery (VATS), it is Dr. Robert McKenna, surgical director of the Cedars-Sinai Center for Chest Diseases at the Women’s Guild Lung Institute, and a pioneer of minimally invasive surgery for lung cancer, emphysema, esophageal disorders, and chest wall disorders. In February 1992, McKenna pioneered the procedure. “As far as I knew, no one else had

done a minimally invasive major lung resection. The surgery involved removing the middle lobe of the right lung of a patient. It took three and a half hours. Today that same procedure would take me about 15 minutes.”

What appears fairly undramatic to the untrained eye is, in fact, at the cutting edge of thoracic surgery, transforming the experience for surgeons and patients alike. As Dr. Ali Mahtabifard, a thoracic surgeon who just spent a year with Dr. McKenna to acquire VATS skills, well knows, “It is difficult to retrain your brain to do these operations while looking at a TV monitor instead of the patient.” Mahtabifard was willing to invest in a tenth year of surgical training because he believes VATS represents the future of his profession. “For early-stage lung cancer, it has revolutionized thoracic surgery. Patients are already calling from around the country to have this operation done. As patients become more educated and want to get the best care, this is what they will choose.”

**ONE SUCH PATIENT IS DR. ROGER L.**, a physician based in Los Angeles. “I’m in private practice so it was very important to me to get back to work quickly. If I had gone to any other hospital, I would have had a better than 90 percent chance of having my chest cracked open, in which case I would not have gone back to work for two months. I had the operation [a lobectomy] on a Monday and went back to work full-time the following Monday.”

For patients, the difference between a traditional open-chest operation and a minimally invasive procedure is much more than dramatically shorter recovery times. “Forty-six percent of our patients went home the first or second day after their major lung operation,” says Dr. McKenna.



“I am very lucky they found the lesion early, and I feel lucky to have had the best surgeon in the most threatening of all experiences,” Dr. L. adds. “I went through it with a man who has extraordinary talent, calmness, and seriousness.”

Dr. McKenna is indeed a leader for pushing the limits of Video-Assisted Thoracic Surgery. “We have the busiest program on the West Coast in general thoracic surgery. We get referrals from doctors all over the world.”

His team is the world leader in major minimally invasive lung operations—he performed 250 last year. While only five percent of major lung resections in the U.S. are minimally invasive, last year Dr. McKenna’s team did 94 percent of their operations that way.

Dr. McKenna continues to refine existing techniques and invent new ones, including one that involves cutting a windpipe in several places and sewing it back together using minimally invasive surgery. McKenna clearly enjoys pushing the technical limits of what can be done, even helping to develop new equipment. “Most of what I do is different from what I was trained to do.”

For patients, the difference between a traditional open-chest operation and a minimally invasive procedure is much more than dramatically shorter recovery times. It means far less postoperative pain, and better postoperative pulmonary function. Evidence is also mounting that VATS offers reduced rates of complications and better postoperative quality of life. “Forty-six percent of our patients went home the first or second day after their major lung operation,” says Dr. McKenna. Most important of all, results have shown that there is no downside risk: Survival rates for both procedures are identical.

Why then is minimally invasive thoracic surgery relatively seldom offered to patients? The answer is deceptively plain: because it is so difficult to learn. Since 1992 only a handful of thoracic surgeons have acquired the necessary skills, and, therefore, few are in a position to teach. Even those with sufficient training also require the kinds of conditions that exist at Cedars-Sinai: a first-rate support team—nurse practitioners, fellows, attending surgeons, anesthesiologists—and, as McKenna puts it, “a certain volume of operations to make the transition from big open incisions to minimally invasive surgery.”

Dr. McKenna is doing his best to inform, educate, and teach. He runs a training program that each year allows two surgeons to spend a year at Cedars-Sinai as fellows to learn VATS skills after they complete their traditional cardiothoracic residency. He travels around the globe to supervise, lecture, and beat the drum for VATS. Surgeons travel to Los Angeles on a regular basis to observe McKenna at work.

Dr. McKenna’s wife, Kathy, a nurse who works in her husband’s office, says, “he always loved playing video games, which requires similar hand-eye coordination.” She jokes that sometimes she even had trouble prying him away from the console. That should give parents of video game-addicted children some hope. They may, after all, turn out to become topflight thoracic surgeons. ♦

## Q+A

### Bruce L. Gewertz, MD, Chairman, Cedars-Sinai Department of Surgery

**Q: In your view, what sets this Medical Center’s Department of Surgery apart?**

A: Cedars-Sinai is particularly well suited to succeed in the modern healthcare environment for several reasons. Our institution has a uniformly positive reputation both regionally and nationally for superb clinical care and superior outcomes. Our surgical specialties are consistently ranked among the top clinical units in the region and country by *U.S. News and World Reports* and the University Hospitals Consortium (UCH) rankings. Minimally invasive procedures, many of which were developed and first employed here, are used in virtually every surgical discipline with particular leadership roles in bariatric and foregut surgery and donor nephrectomies [the removal of a kidney for transplant]. Robotic surgery is now used routinely in cardiac surgery, general surgery, and urological surgery. Our solid organ transplantation efforts have reported exemplary outcomes for our high volume heart, lung, and liver transplant programs. Our renal transplantation program for pre-sensitized recipients is the nationally recognized leader in the field.

**Q: What do you attribute this leadership position to?**

A: Primarily to the quality of our attending physicians, men and women



who have been serving this community with distinction for many years. Over the last 15 years, we have added a larger nucleus of full-time academically oriented surgeons and surgical scientists to augment our cutting-edge translational research. This combination of physicians has enriched our nationally respected surgical residency and fellowship programs and brought the most complex surgical services to our campus. Our surgery department is poised to build on these achievements.

**Q: So the vision for the department of surgery is driven by synergy?**

A: Yes, absolutely. The model is a department that contributes new and useful knowledge to the field, along with innovative techniques for treatment of the most challenging diseases. This must be accomplished without risk to patients and in an academic atmosphere of inquiry and evidence-based decision making.

**Q: What are some of the steps the department is taking toward furthering quality of care?**

A: We are actively collaborating with our colleagues across the Medical Center in both research and clinical endeavors. Our executive committee meetings and planning retreats ensure that representative members of our attending staff are working alongside our full-time faculty with a single, clear purpose: to provide our patients with the finest clinical outcomes in the nation and continue our innovations in surgical care. Maintaining a leadership position across all surgical disciplines is not an easy task, but Cedars-Sinai can achieve it through the continued selective recruitment of outstanding, nationally recognized physicians and further investments in our clinical programs. We plan to continue to nurture the strong patient-centered values long associated with our institution while enhancing our focus on academic achievement and research that quickly and directly translates into superior patient care.

*Dr. Bruce Gewertz is Cedars-Sinai’s surgeon-in-chief, chairman of the Department of Surgery, and vice president for Interventional Services.*