

# New Endovascular Techniques Promise to Improve Outcomes

**W**hen it comes to stroke, the third leading cause of death in this country, the evidence is overwhelming that an ounce of prevention really is worth a pound of cure. And, there's little doubt that the most effective way to prevent stroke is to stop the disease process before it starts, through life-style changes, diet, and exercise.

"The main treatment for stroke is prevention," agrees vascular surgeon Gary W. Lemmon, M.D., FACS, professor of surgery and associate residency program director at Good Samaritan Hospital. "While some patients may benefit from surgery to clean out the carotid arteries—called an endarterectomy—most patients are treated with medical therapy and strict control of their risk factors."

Unfortunately, physicians who specialize in treating patients at risk for strokes and other vascular disorders rarely have the opportunity to intervene before the disease process is well advanced. Many of the patients at risk of stroke who are treated at the Samaritan Vascular Institute (SVI), for example, suffer from more than one serious disorder, according to Dr. Lemmon, who is SVI's medical director.

"Lots of our patients have a range of complex problems," he says. "They often are being treated for conditions like hypertension, coronary artery disease, diabetes,

and kidney failure as well as stroke. Many smoke, or they're overweight." As a consequence, many different medical specialists are involved with patients who are referred to the institute.

"Historically, treatment of vascular disease has been very fragmented for that reason," Dr. Lemmon explains. "We felt that it was important to develop an institute that brings people from all these different disciplines together to choose the best options for each particular patient. The team approach is the wave of the future in this field."

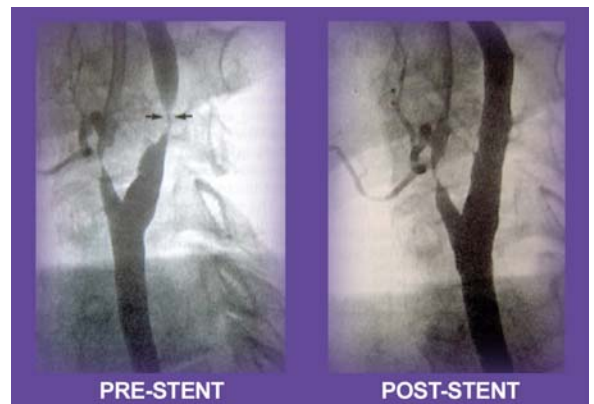
A blocked carotid artery is the most common cause of stroke. "We get concerned when people have had a stroke or have a narrowing of the carotid artery that is more than 60 to 70 percent. That's when we consider surgery or intervention," Dr. Lemmon says.

In a carotid endarterectomy, vascular surgeons open one of the arteries in the neck to remove atherosclerotic plaque to reduce the risk of stroke. The most common vascular surgery performed in the United States today, a carotid endarterectomy reduces the risk of stroke "by as much as 55 percent," according to the National Stroke Association Web site.

Although the procedure has a high success rate, it can result in complications, including stroke,

heart attack, infection, increased blood pressure, and intracerebral hemorrhage. The surgery may be too risky for those who are elderly or frail, have already had a similar procedure, or have extensive blockage too close to the brain, Dr. Lemmon points out.

A procedure combining carotid angioplasty and stenting is a new treatment option Dr. Lemmon and his colleagues offer high-risk patients. A kind of endovascular surgery, it is minimally invasive and involves a shorter hospital stay and recovery time. Using radiologic images to guide the way, endovascular surgeons thread a balloon-tipped catheter through the artery in the groin to the blockage in the carotid artery. The balloon is used to open up the blockage and a stent (a small metallic cylinder) is then placed in the same area to help keep the artery open.



"We've been doing carotid artery stenting since 2001 with good outcomes," Dr. Lemmon says. "At Samaritan Vascular Institute, we're involved in clinical trials involving some of the newer devices and techniques being developed in this field." Good Samaritan Hospital was the first hospital in the area to perform carotid artery angioplasty and stenting.

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“With endovascular surgery, we can take several of our usual problems and reduce the risks while increasing the likelihood of a positive outcome,” he explains. “Another example is abdominal aortic aneurysm (AAA) treatment, which used to require major surgery. Now, it can frequently be taken care of with aortic stent-grafting. Open surgical repair requires up to 10 days in the hospital and three months of recovery. With endovascular surgery, patients can recover with an overnight stay, and there’s less morbidity.”

Standard surgical therapy is still preferred for younger, healthier AAA patients because little is known about the long-term outcomes of stent-grafting, he explains. “We have about seven years of data now. The FDA only approved this procedure in 1999. But it seems to be a good option for high-risk patients. More than 25,000 people have had stent-grafts placed in the past two years, and the results are probably equal to standard surgery.” Endograft technology has saved the lives of thousands of patients who could not have been treated surgically.

Exposure to cutting-edge endovascular procedures and the team approach to caring for patients help Wright State surgical residents and medical students gain a broader perspective than they might else-

where, Dr. Lemmon maintains. “We believe they should not only learn about the surgical procedures they may be involved in, they also should see the outcomes for the patient,” he notes.

“All residents and students who participate in a procedure are required to come to our office for follow-up meetings with others involved in the patient’s care. We want them to learn that a physician can’t make patient management decisions without understanding all that is involved. Surgery may be what we like best, but it’s less than half of what we do as physicians.” At University Vascular Associates, Dr. Lemmon works closely with Douglas H. Bryan, M.D., FACS, assistant professor of surgery and assistant program director for the residency program at Good Samaritan. In addition to treating carotid artery disease and abdominal aneurysms, they work with patients with a range

of vascular disorders, including peripheral vascular disease, vein disorders, renal failure, and diabetes.

“Our practice at University Vascular Associates is our teaching ground. It’s a hugely busy practice. We’re doing a lot of procedures, and I enjoy working with the residents and students. They allow me to have a keener edge and force me to keep current. After five years of private practice, I joined the faculty because I felt an obligation to give back to my profession, a responsibility to pass on what I’ve learned.”

When he runs into graduates of the surgery residency program at meetings of the American College of Surgeons, he says their self-confidence is his reward. “They tell me they’ve had no problems competing with graduates from the most prestigious programs for fellowships in any subspecialty. They’re like good scouts, prepared for anything.”

—Robin Suits



*(L–R) Back Row: Douglas Bryan, M.D., and Gary Lemmon, M.D. Front Row: Theresa York, Office Manager; Robin Coffield, Billing Specialist; Debbie Akemon, R.N., B.S.N.; and Gaye Watson, Medical Assistant.*