

Surgery or stenting for carotid artery disease? Question remains

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A review of scientific studies that compares two treatments for preventing strokes due carotid artery disease provides no clear answer on which treatment is better, a UT Southwestern Medical Center physician reports in an editorial in today's issue of the *Archives of Internal Medicine*.

"The most recent data on treatment options for [carotid artery](#) disease continue to be a mix of good and bad news," said Dr. Ethan Halm, chief of the William T. and Gay F. Solomon Division of General Internal Medicine at UT Southwestern.

The carotid arteries, which run on the right and left side of the front of the neck, are two of the four main blood vessels that supply oxygen to the brain. These arteries can become narrowed by fatty cholesterol deposits, or [plaque](#). If pieces of plaque break free, they can lodge in the brain, causing stroke.

Most research on carotid [artery disease](#) focuses on two treatments to prevent stroke. The more established therapy is to open the artery and surgically remove the plaque. A more recent technique, called carotid stenting, involves inserting a mesh tube to keep the artery open. The tube, or stent, is inserted through the groin.

"There are two very different groups of patients for whom surgery or stenting may be considered," said Dr. Halm. "Most people who have had a stroke or a 'temporary stroke' due to carotid disease in the past 12

months stand to benefit greatly from revascularization if they can tolerate the procedure. People who have silent or asymptomatic carotid disease have much more modest benefit from either surgery or stenting. They should make an informed decision with their doctors about the benefits and harms of all their treatment options, whether surgery, stenting or medication."

Stenting is controversial because less is known about its long-term safety and effectiveness compared to surgery. Medicare limits reimbursement for the procedure to selected situations. The appeal of stenting is that it requires no anesthesia, does not leave a neck [scar](#), requires a shorter hospital stay and can be performed by surgeons, cardiologists, radiologists and neurologists. Both stenting and surgery can cause death or stroke.

Dr. Halm's editorial accompanies a study in the same journal written by lead author Dr. Manesh Patel of the Duke Clinical Research Institute. The Patel study examined national data on the use and outcomes of surgery and stenting in the Medicare population. The researchers found that from 2003 to 2006, use of stenting increased 33 percent, while rates of the traditional surgery dropped by 19 percent. The study also reported wide geographic variations in the use of the procedures.

"Given the national policy interest in controlling rising health care costs, the fact that where you live may influence how much and what type of care you get as how sick you are has generated great interest," Dr. Halm said. "The rise in use of stenting is probably due to the fact that it can be done by a much larger group of specialists compared to surgery alone, and stenting is less invasive, so more people may want it."

However, the "jury is still out on the appropriate role for stenting and caution is merited for several reasons," he said. For example, studies have consistently shown that surgery is better than stenting in patients 70

and older (the largest group with carotid disease). And although 70 percent to 90 percent of U.S. patients who undergo surgery or stenting are asymptomatic, it remains unproven that either revascularization strategy is superior to the type of intensive risk factor lowering that is now possible with high-potency drugs to lower cholesterol, prevent blood clots and control blood pressure.

"Studies in carotid disease have shown that physicians tend to state the risk of not doing a procedure more frequently than the risks of the procedure itself, so patients may not be getting the most balanced information about their options," said Dr. Halm, who is developing patient education materials and an interactive computer program designed to help patients better understand the pros and cons of surgery, stenting and medical therapy.

He offers the following advice to patients with carotid disease: "Ask your doctor about the potential benefits and risks of a carotid procedure given your circumstances. If you've had a stroke or temporary stroke in the past 12 months and over 50 percent of narrowing in your carotid artery, the benefits of surgery or stenting may be large. If you have had neither, you have asymptomatic carotid disease, so the benefits of revascularization are much smaller, and might not be much better than aggressive medical therapy. Treatment of asymptomatic carotid disease is not an emergency, so you have time to get the facts about the pros and cons of all three options - surgery, [stenting](#), medical therapy alone."

Provided by UT Southwestern Medical Center

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