

Age is a factor in choosing between two comparable stroke-prevention procedures

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A published report provides the final details on how two stroke-prevention procedures are safe and equally beneficial for men and women at risk for stroke, though their effectiveness does vary by age, say researchers at the University of Alabama at Birmingham (UAB) School of Public Health in collaboration with other North American stroke investigators.

In findings reported online in the [New England Journal of Medicine](#) (NEJM) May 26, the researchers say the age of patients made a difference in comparing the two prevention procedures, and physicians should consider this and many other factors when tailoring their treatment plans for patients at risk for stroke.

The study is part of the Carotid Revascularization [Endarterectomy](#) vs. Stenting Trial (CREST). It was presented in summary form at the International Stroke Conference in San Antonio, Texas, Feb. 26.

Stroke, the third-leading cause of death in the nation, is caused by an interruption in blood flow to the brain by a clot or bleeding. The carotid arteries on each side of the neck are the major source of blood flow to the brain. The buildup of cholesterol in the wall of the carotid artery, called atherosclerotic plaque, is one cause of stroke.

CREST compares endarterectomy, a surgical procedure to clear blocked [blood flow](#) and prevent stroke, with carotid stenting, a newer procedure that involves threading a stent and expanding a small protective device in

the artery to widen the blocked area and capture dislodged plaque.

The overall safety and efficacy of the two procedures essentially is the same with equal benefits for men and women, for patients who previously have had a stroke and for those who have not, researchers say. The most notable finding in the NEJM study is the role of patient age in accounting for differences in treatment outcomes, says George Howard, Dr.PH., chair of biostatistics in UAB's School of Public Health and a CREST co-investigator.

CREST investigators did see more heart attacks in the surgical group, 2.3 percent compared to 1.1 percent in the stenting group, and they did see more strokes in the stenting group, 4.1 percent versus 2.3 percent for the surgical group in the weeks following the procedure. Overall the study found a lower stroke rate following surgery and a lower heart-attack rate after stenting a year after their procedure.

"The age-difference issue is one of the most important findings of the study, though the two treatments really were practically identical in their benefit of patients at age 70, Howard says. "At younger and younger ages, the benefit of stenting became better and better than surgery. However, this benefit of stenting was offset by better outcomes of surgery at older and older ages."

CREST is one of the largest randomized stroke-prevention trials in history, involving 2,502 patients at 117 centers in the United States and Canada during a nine-year period. It is funded by the National Institute of Neurological Disorders and Stroke (NINDS) and led by Thomas G. Brott, M.D., of the Mayo Clinic in Jacksonville, Fla. Twenty-one CREST patients are enrolled in Alabama under the medical direction of William Jordan, M.D., chief of vascular surgery at UAB.

Because people with carotid atherosclerosis also usually have

atherosclerosis in the coronary arteries that supply the heart, the CREST trial tracks the rate of heart attacks, in addition to stroke and death. The average age of CREST patients is 69.

In CREST, approximately half of the 2,502 patients had recent symptoms due to carotid disease such as a minor stroke, often called a transient ischemic attack (TIA), indicating a high risk for future stroke. The other half of patients had no symptoms, but they were found to have narrowing of the carotid artery on one of a variety of tests assessing [stroke](#) risk.

Provided by University of Alabama at Birmingham

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