

# Why do older asymptomatic patients have carotid imaging

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Most of the patients who had carotid revascularization for asymptomatic carotid disease were diagnosed on the basis of carotid imaging tests ordered for uncertain or inappropriate indications, according to a new study published online by *JAMA Internal Medicine*.

Stroke is the fifth most common form of death and a major cause of disability among U.S. adults. As much as 15 percent of ischemic strokes are due to atherosclerosis (plaque buildup) of the [carotid](#) arteries. National guidelines do not agree on the role of carotid screening in asymptomatic patients who have no history of stroke or transient ischemic attack (TIA).

Salomeh Keyhani, M.D., M.P.H., of the University of California, San Francisco, and coauthors studied 4,127 Veterans Health Administration patients who were 65 or older and undergoing carotid revascularization for [asymptomatic carotid stenosis](#) between 2005 and 2009.

Indications for the carotid ultrasounds were extracted and the final study sample included 4,063 patients with an average age of more than 73, nearly all of whom were men and who had coexisting conditions including hypertension, diabetes and atrial fibrillation. The majority of patients (83 percent) received [carotid endarterectomy](#) (CEA); 16.8 percent received carotid stenting (CAS); and six patients did not have a medical record-confirmed revascularization within five years after first carotid imaging.

The study reports there were 5,226 indications for 4,063 carotid ultrasounds. The most common indications listed for carotid imaging were carotid bruit (30.2 percent of indications) and follow-up for carotid disease in patients who had previously documented carotid stenosis (20.8 percent of indications). Carotid bruit and follow-up for carotid disease accounted for 51.2 percent of the indications. Carotid bruit is a swishing sound that can be heard in the artery on physical exam as the blood tries to get around a blockage.

Based on indications, the rate of appropriate imaging was 5.4 percent; uncertain imaging was 83.4 percent; and inappropriate imaging was 11.3 percent, according to the results.

The most common appropriate indication listed for carotid imaging was follow-up within two years of carotid intervention; carotid bruit and follow-up for established carotid disease were the most prevalent uncertain indications; and inappropriate indications for carotid imaging were dizziness/vertigo, syncope (fainting) and blurred/change in vision, the authors report.

Guidelines recommend patients who receive revascularization have a five-year life expectancy. Among the 4,063 patients in the final sample, 3,373 (83 percent) received a CEA. Overall, 663 procedures were performed in patients 80 or older. Overall postintervention survival in the group was 71.4 percent at five years.

Rates of survival among [patients](#) who received carotid imaging based on appropriate indications was 66.4 percent; 72.1 percent for those who received imaging based on uncertain indications; and 68.8 percent for those who had imaging based on inappropriate indications, the study reports.

"Consideration should be given to improving the evidence base around

carotid testing, especially around monitoring stenosis over long periods and evaluating carotid bruits. ... Finally, clarifying and harmonizing current guidelines and the development of evidence-based decision support tools to support appropriate patient selection for carotid imaging in practice can reduce the use of low-value imaging and improve long-term patient outcomes," the authors conclude.

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