Refresher: The 2023 NCD for Carotid Stenting

What physicians need to know about the expanded carotid artery stenting coverage, including choice of therapy, shared decision-making, and imaging requirements.

By Don Heck, MD

The Centers for Medicare & Medicaid Services (CMS) issued a new National Coverage Determination (NCD) for percutaneous transluminal angioplasty of the carotid artery concurrent with stenting on October 11, 2023.[1] This decision replaced the 2005 NCD, which restricted coverage for carotid artery stenting (CAS) to symptomatic patients with ≥ 70% stenosis *and* higher than normal risk for carotid endarterectomy (CEA) or patients participating in approved research trials. The 2005 NCD also required CAS-specific facility accreditation by CMS.

The 2023 NCD expanded coverage of CAS, which includes transcarotid artery revascularization (TCAR), to beneficiaries with ≥ 50% symptomatic stenosis and ≥ 70% asymptomatic stenosis, eliminating the "high risk for CEA" and "research trial" requirements. This important coverage expansion is not an endorsement that CAS or any other surgical procedure *should* be performed for these patient groups, but instead allows physicians much greater latitude to choose the best therapy for carotid stenosis and allows patients more choice in their care. The 2023 NCD also eliminates the requirement for CAS facility accreditation by CMS or other third-party organizations in favor of language that recommends the types of ancillary services, equipment, and personnel that are appropriate for a hospital performing CAS procedures but stops short of requiring CAS-specific accreditation.

CONSIDERATIONS FOR CHOICE OF THERAPY

When carotid intervention—as opposed to best medical management alone—is deemed necessary, many factors influence the best choice of therapy. For CEA, factors such as high position of the carotid bifurcation, neck immobility, scarring from radiation or prior carotid surgery, presence of a tracheostomy, or contralateral vocal cord paralysis may make intervention more difficult and add risk. For percutaneous transfemoral and transradial CAS, factors such as a severely diseased aortic arch, excessive carotid artery tortuosity, and dense calcification of the stenosis increase the difficulty of the intervention and the risk. TCAR requires neck anatomy suitable for safe access to the carotid artery, and it shares with CAS the same challenges when the stenosis is densely calcified or access vessels are excessively tortuous. All methods of carotid intervention require careful assessment of comorbid conditions when formulating a surgical and anesthetic plan.

THE IMPORTANCE OF SHARED DECISION-MAKING

Although a specific interventional method may be advisable and recommended for some patients based on the above factors, many patients are equally suited for more than one method or for optimized medical management alone. For this reason, a shared decision-making conversation that informs patients of their options (including the specific risks and benefits of each therapy) while also listening intently to patient preferences is of paramount importance. CMS views this conversation as so necessary that it is mandated for coverage in the 2023 NCD. Patients often have a variety of opinions or circumstances that cause them to favor one treatment over another, and this needs to be explored, heard, and not dismissed without careful consideration. In mandating the shared decision-making conversation, the NCD acknowledges that patient preferences are equally as important as our own—if not more so.

Multidisciplinary Collaboration

CMS does not mandate who must have this shared decision-making conversation, leaving that to the medical community. Very few physicians consider themselves experts in CEA, TCAR, transfemoral CAS, and transradial CAS, as well as in the optimal management of hypertension, dyslipidemia, diabetes, and the myriad other medi-

cal conditions that may coexist in patients with carotid artery disease. Clearly, patients are best served by a team that includes expertise in all these facets of care. However, it is quite possible that one physician within the team possesses sufficient knowledge of all forms of carotid intervention and the medical treatment of carotid stenosis to adequately inform the patient of the options within an effective shared decision-making conversation. Referral to another specialist should always be offered when a patient has questions beyond the expertise of a physician or anytime a patient expresses interest in consulting with a second physician. Consultation with other specialists should be offered and encouraged. However, CMS does not mandate that a patient must see someone who is an expert in all possible interventions, which would be arduous for most centers and their patients and is also inconsistent with the practice of intervention and medicine at large.

IMAGING GUIDELINES

The 2023 NCD contains specific requirements for carotid artery imaging, stating that the first-line evaluation of carotid stenosis must use duplex ultrasound. This is sensible, as carotid ultrasound is the least expensive of the possible imaging tests and, when using the optimized Intersocietal Accreditation Commission criteria, has a very high negative predictive value for severe stenosis.[2] Moreover, for patients with confirmed carotid stenosis by ultrasound, clinical consultation may determine that medical treatment alone is advisable, and no further imaging may be needed. Although there may be exceptions for emergency room patients or inpatients being evaluated for acute stroke symptoms, the imaging evaluation of carotid stenosis in the outpatient or nonemergent setting should begin with ultrasound.

The NCD further states, "CTA or MRA, if not contraindicated, must be used to confirm the degree of stenosis and provide additional information about the aortic arch and extra- and intracranial circulation." This latter statement applies to patients where carotid intervention (specifically CAS) is being considered; it does not imply that every patient with a carotid stenosis detected on ultrasound must have further imaging. This requirement acknowledges the prime importance of anatomic evaluation of the aortic arch and carotid arteries for planning and assessing the safety and feasibility of CAS procedures. While not specifically addressed in the NCD, for purposes of presurgical planning, CTA is preferable to MRA due to its ability to assess calcification.

Lastly, the NCD states that catheter angiography may be used only in the case of significant discrepancy between noninvasive imaging results or in lieu of CTA or MRA if these are contraindicated. This latter situation, when both CTA and MRA are contraindicated, is highly unusual. The intent of this statement is to restrict the use of catheter angiography, which is invasive and more expensive than other imaging tests, to troubleshooting unresolved questions when a patient has already had a carotid ultrasound and CTA or MRA. Catheter angiography should not be routinely used to evaluate carotid stenosis.

The NCD cannot possibly address every specific situation, and there are some gray areas regarding imaging. For instance, patients presenting with acute stroke symptoms and possible large vessel occlusion who are possible intracranial thrombectomy candidates should receive a head CT and CTA rather than carotid ultrasound.[3] A patient may have already had a CTA during evaluation of acute stroke symptoms, and that test might be definitive in terms of defining a carotid stenosis, lack of excessive calcium, and the relevant anatomy. The NCD does not specifically address this situation.

CONCLUSION

With the expansion of CAS coverage provided by the 2023 NCD, the presence or absence of "CMS coverage," which for nearly 20 years played a dominant role in how patients were treated, is now conspicuously absent from the discussion of elements to consider when formulating a treatment plan for a patient with carotid stenosis. Now, we can focus on providing whatever treatment offers the best chance of stroke-free survival and respects the preferences of the patients we serve. This is a win for CMS, the physicians who care for patients with carotid disease, and, most importantly, for the CMS beneficiaries themselves—our patients. ■

1. Centers for Medicare & Medicaid Services. Decision memo: percutaneous transluminal angioplasty (PTA) of the carotid artery concurrent with stenting. Accessed September 3, 2025. https://www.cms.gov/medicare-coverage-database/view/ncacal-decision-memo.aspx?proposed=N&NCAId=311
2. Gornik HL, Rundek T, Gardener H, et al. Optimization of duplex velocity criteria for diagnosis of internal carotid artery (ICA) stenosis: a report of the Intersocietal Accreditation Commission (IAC) Vascular Testing Division Carotid Diagnostic Criteria Committee. Vasc Med. 2021;26:515-525. doi: 10.1177/1358863X211011253
3. Powers WJ, Rabinstein AA, Ackerson T, et al. Guidelines for the early management of patients with acute ischemic stroke: 2019 update to the 2018 guidelines for the early management of acute ischemic stroke: a guideline for healthcare professionals from the American Heart Association/American Stroke Association. Stroke. 2019;50:e344-e418. Published correction appears in 2019;50:e440-e441. doi: 10.1161/STR.0000000000000211

Don Heck, MD
Director of Neurointerventional Radiology
Cone Health Neurosurgery Greensboro
Greensboro, North Carolina
dheck@triadradiology.com
Disclosures: None.