Cohere Medical Policy - Carotid Endarterectomy (CEA)

Clinical Policy for Medical Necessity Review

Version: 2
Cohere Health UMC Approval Date: July 10, 2025
Last Annual Review: July 10, 2025
Revision: Not Applicable
Next Annual Review: July 10, 2026

© 2025 Cohere Health, Inc. All Rights Reserved.

Important Notices

Notices & Disclaimers:

GUIDELINES ARE SOLELY FOR COHERE'S USE IN PERFORMING MEDICAL NECESSITY REVIEWS AND ARE NOT INTENDED TO INFORM OR ALTER CLINICAL DECISION-MAKING OF END USERS.

Cohere Health, Inc. ("**Cohere**") has published these clinical guidelines to determine the medical necessity of services (the "**Guidelines**") for informational purposes only, and solely for use by Cohere's authorized "**End Users**". These Guidelines (and any attachments or linked third-party content) are not intended to be a substitute for medical advice, diagnosis, or treatment directed by an appropriately licensed healthcare professional. These Guidelines are not in any way intended to support clinical decision-making of any kind; their sole purpose and intended use is to summarize certain criteria Cohere may use when reviewing the medical necessity of any service requests submitted to Cohere by End Users. Always seek the advice of a qualified healthcare professional regarding any medical questions, treatment decisions, or other clinical guidance. The Guidelines, including any attachments or linked content, are subject to change at any time without notice.

© 2025 Cohere Health, Inc. All Rights Reserved.

Other Notices:

HCPCS® and CPT® copyright 2025 American Medical Association. All rights reserved.

Fee schedules, relative value units, conversion factors and/or related components are not assigned by the AMA, are not part of CPT, and the AMA is not recommending their use. The AMA does not directly or indirectly practice medicine or dispense medical services. The AMA assumes no liability for data contained or not contained herein.

HCPCS and CPT are registered trademarks of the American Medical Association.

Policy Information:

Specialty Area: Cardiovascular Disease
Policy Name: Cohere Medical Policy - Carotid Endarterectomy (CEA)
Type: [**X**] Adult (18+ yo) | [**X**] Pediatric (0-17 yo)

© 2025 Cohere Health, Inc. All Rights Reserved.

Table of Contents

© 2025 Cohere Health, Inc. All Rights Reserved.

Medical Necessity Criteria

Service: Carotid Endarterectomy (CEA)

Cohere Health takes an evidence-based approach to reviewing imaging and procedure requests, meaning that sufficient clinical information must be provided at the time of submission to determine medical necessity. Documentation must include a recent and detailed history, physical examination related to the onset or change in symptoms, relevant lab results, prior imaging, and details of previous treatments. Advanced imaging or procedures should be requested after a recent clinical evaluation by the treating provider, which may include referral to a specialist.

- When a specific clinical indication is not explicitly addressed in the Cohere Health medical policy, medical necessity will be determined based on established clinical best practices, as supported by evidence-based literature, peer-reviewed sources, professional society guidelines, and state or national recommendations, unless otherwise directed by the health plan.
- Requests submitted without clinical documentation, or those that do not align with the provided clinical information—such as mismatched procedure, laterality, body part, or CPT code—may be denied for lack of medical necessity due to insufficient or inconsistent clinical information.
- When there are multiple diagnostic or therapeutic procedures requested simultaneously or within the past three months, each will be reviewed independently. Clinical documentation must clearly justify all of the following:
    - The medical necessity of each individual request
    - Why prior imaging or procedures were inconclusive or why additional/follow-up studies are needed
    - How the results will impact patient management or treatment decisions
- Requests involving adjacent or contiguous body parts may be considered not medically necessary if the documentation demonstrates that the patient's primary symptoms can be adequately assessed with a single study or procedure.

© 2025 Cohere Health, Inc. All Rights Reserved.

Description

Carotid endarterectomy (CEA) is a surgical procedure involving the removal of fat deposits, plaques, or the artery itself in patients whose carotid arteries may have been narrowed by atherosclerosis or carotid artery stenosis.[1] The procedure is considered standard of care for symptomatic patients and can be performed in those classified as high-risk.[2,3]

Medical Necessity Criteria

Indications

A **carotid endarterectomy (CEA)** is appropriate if **ANY** of the following is **TRUE**[4]:

- The patient is symptomatic (defined as a stroke or transient ischemic attack [TIA] within 6 months, ideally within 14 days), with **ALL** of the following[5-7]:
  - Carotid artery stenosis between 50-99% by invasive or noninvasive imaging[5]; **AND**
  - An FDA-approved carotid stent and/or embolic protection device is being used; **OR**
- The patient is asymptomatic with carotid artery stenosis between 70-99% by invasive or noninvasive imaging.[9]

Non-Indications

A **carotid endarterectomy (CEA)** is not considered appropriate if **ANY** of the following is **TRUE**:

- The patient has an implantable device that sends electrical signals to the carotid artery (e.g., Barostim)[10]; **OR**
- Severe disability caused by cerebral infarction that precludes preservation of useful function.[4]

Level of Care Criteria

Inpatient

Procedure Codes (CPT/HCPCS)

CPT/HCPCS Code	Code Description
35301	Thromboendarterectomy, including patch graft, if

© 2025 Cohere Health, Inc. All Rights Reserved.

	performed; carotid, vertebral, subclavian, by neck incision

© 2025 Cohere Health, Inc. All Rights Reserved.

Medical Evidence

Vasavada et al (2023) conducted a meta-analysis and systematic review to compare carotid endarterectomy (CEA) and carotid artery stenting (CAS) using research conducted between 2015 and 2023. Results indicated that CEA demonstrated better outcomes in terms of stroke events and the combined incidence of stroke or death. Conversely, CAS shows a lower incidence of myocardial infarctions compared to CEA. Overall, CEA appears to be more effective in reducing stroke events and the combined incidence of stroke or death, while CAS is associated with fewer cases of myocardial infarctions.[1]

Mohd et al (2023) analyzed treatment modalities encompassing medical and surgical options such as CEA and CAS. The selection between surgical intervention and conservative management hinges on individual patient characteristics and risk profiles. The authors reviewed the pathophysiology of carotid artery stenosis, associated risk factors, the importance of timely diagnosis and treatment, and the approaches of CEA and CAS. Evidence indicated that CEA offers notable advantages to patients with moderate to severe stenosis. Efficacy appears limited in patients exhibiting less than 50% stenosis. CEA demonstrated pronounced efficacy among patients with severe stenosis, particularly in cases of high-grade severity. The advantage of CEA diminishes with prolonged intervals following the initial ischemic event, with a more notable effect observed in female patients. Recent guidelines for secondary stroke prevention recommend scheduling CEA within a two-week window for individuals who have encountered a transient ischemic attack (TIA) or minor stroke.[11]

AbuRahma et al (2022) performed a meta-analysis of the guidelines published by the Society for Vascular Surgery. The guidelines were based on several randomized trials comparing CEA and CAS. Since then, additional studies and systematic reviews have been published to reaffirm the importance of medical management alongside surgical interventions. Key areas explored were CEA versus maximal medical therapy for low-risk patients and CEA versus transfemoral CAS for low-surgical-risk patients with symptomatic carotid artery stenosis greater than 50%. The guidelines also address the timing of carotid intervention for patients presenting with acute

© 2025 Cohere Health, Inc. All Rights Reserved.

stroke, screening for carotid artery stenosis in asymptomatic patients, and the optimal sequence of intervention for patients with combined carotid and coronary artery disease (CAD). The primary treatment for symptomatic low-risk surgical patients (with stenosis of 50–99% and 70–99% if asymptomatic) is CEA. The perioperative CEA risk of stroke and death in asymptomatic patients should be less than 3% to ensure benefits. For patients with recent stable stroke, carotid revascularization is considered appropriate for those with greater than 50% stenosis and should be performed once the patient is neurologically stable after 48 hours but less than 14 days after symptom onset. For patients requiring both CEA and coronary artery bypass grafting (CABG), CEA is suggested before or concurrent with CABG to reduce the risk of stroke and stroke/death potentially. The sequencing of intervention depends on clinical presentation and institutional experience.[5]

Routine screening for asymptomatic carotid artery stenosis in patients without cerebrovascular symptoms or significant risk factors is not recommended unless significant stenosis is detected.[5] For asymptomatic patients, social and demographic factors such as age, sex, life expectancy, and comorbidities should be carefully considered prior to carotid revascularization. Surgical benefits for asymptomatic patients may now be less than previously anticipated in earlier randomized trials (from the 1990s and 2000s), and the 3% complication rate should be interpreted with consideration for current advances in medical therapy.[4]

© 2025 Cohere Health, Inc. All Rights Reserved.

References

1. Vasavada AM, Singh P, Firdaus A, et al. Carotid endarterectomy versus stenting for the treatment of patients with carotid artery stenosis: An updated systematic review and meta-analysis. *Cureus*. 2023 Feb 16;15(2):e35070. doi:10.7759/cureus.35070
2. Saha SP, Saha S, Vyas KS. Carotid endarterectomy: Current concepts and practice patterns. *Int J Angiol*. 2015 Sep;24(3):223-35. doi:10.1055/s-0035-1558645
3. Liapis CD, Bell PR, Mikhailidis D, et al. ESVS guidelines, invasive treatment for carotid stenosis: Indications, techniques. *Eur J Vasc Endovasc Surg*. 2009 Apr;37(4 Suppl):1-19. doi:10.1016/j.ejvs.2008.11.006
4. Brott TG, Halperin JL, Abbara S, et al. 2011 ASA/ACCF/AHA/AANN/AANS/ACR/ASNR/CNS/SAIP/SCAI/SIR/SNIS/SVM/SVS guideline on the management of patients with extracranial carotid and vertebral artery disease: executive summary. A report of the American College of Cardiology Foundation/American Heart Association Task Force on Practice Guidelines, and the American Stroke Association, American Association of Neuroscience Nurses, American Association of Neurological Surgeons, American College of Radiology, American Society of Neuroradiology, Congress of Neurological Surgeons, Society of Atherosclerosis Imaging and Prevention, Society for Cardiovascular Angiography and Interventions, Society of Interventional Radiology, Society of NeuroInterventional Surgery, Society for Vascular Medicine, and Society for Vascular Surgery. *Circulation*. 2011 Jul 26;124(4):489-532. doi:10.1161/CIR.0b013e31820d8d78. Erratum in: *Circulation*. 2011 Jul 26;124(4):e145
5. AbuRahma AF, Avgerinos ED, Chang RW, et al. Society for Vascular Surgery clinical practice guidelines for management of extracranial cerebrovascular disease. *J Vasc Surg*. 2022 Jan;75(1S):4S-22S. doi:10.1016/j.jvs.2021.04.073
6. Kleindorfer DO, Towfighi A, Chaturvedi S, et al. 2021 guideline for the prevention of stroke in patients with stroke and transient ischemic attack: A guideline from the American Heart Association/American Stroke Association. *Stroke*. 2021 Jul;52(7):e364-e467. doi:10.1161/STR.0000000000000375

© 2025 Cohere Health, Inc. All Rights Reserved.

7. Kernan WN, Ovbiagele B, Black HR, et al. Guidelines for the prevention of stroke in patients with stroke and transient ischemic attack: A guideline for healthcare professionals from the American Heart Association/American Stroke Association. *Stroke*. 2014 Jul;45(7):2160-236. doi:10.1161/STR.0000000000000024
8. Messas E, Goudot G, Halliday A, et al. Management of carotid stenosis for primary and secondary prevention of stroke: State-of-the-art 2020 - A critical review. *Eur Heart J Suppl*. 2020 Dec 6;22(Suppl M):M35-M42. doi:10.1093/eurheartj/suaa162
9. Del Brutto VJ, Gornik HL, Rundek T. Why are we still debating criteria for carotid artery stenosis? Ann Transl Med. 2020 Oct;8(19):1270. doi:10.21037/atm-20-1188a
10. Weipert KF, Most A, Doerr O, et al. Barostim implantation with ipsilateral carotid endarterectomy as a one-stage procedure. *Ann Vasc Surg*. 2016 Oct;36:295.e9-295.e11. doi:10.1016/j.avsg.2016.03.026
11. Mohd AB, Alabdallat Y, Mohd OB, et al. Medical and surgical management of symptomatic and asymptomatic carotid artery stenosis: A comprehensive literature review. *Cureus*. 2023 Aug 10;15(8):e43263. doi:10.7759/cureus.43263

© 2025 Cohere Health, Inc. All Rights Reserved.

Policy Revision History/Information

Original Date: April 5, 2024		
Review History		
Version 2	07/10/2025	Annual review. No additions to medical necessity criteria or procedure codes. Removed indication for a symptomatic patient - “acceptable institution and surgeon complication rate of less than 6%”. Removed indication for an asymptomatic patient - “there is documentation that the patient prefers surgery over medical management and risk factor modification.” Removed indication for an asymptomatic patient - “acceptable institution and surgeon complication rates (less than 3%).” Removed indication for an asymptomatic patient - “acceptable long-term survival (greater than or equal to 5 years).” Removed non-indication for a patient who is at high-risk for perioperative complications, including **ANY** of the following: • Left ventricular ejection fraction less than 30%; **OR**

© 2025 Cohere Health, Inc. All Rights Reserved.

		• NYHA class III/IV heart failure; **OR** • Severe coronary artery disease (CAD); **OR** • Severe pulmonary disease Added non-indication - "The patient has an implantable device that sends electrical signals to the carotid artery (e.g., Barostim)."

© 2025 Cohere Health, Inc. All Rights Reserved.