Cohere Medicare Advantage Policy - Magnetic Resonance Angiography (MRA), Neck

Clinical Policy for Medical Necessity Review

Version: 2
Cohere Health UMC Approval Date: October 16, 2025
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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. This policy may be superseded by existing and applicable Centers for Medicare & Medicaid Services (CMS) statutes.

Other Notices:

Policy Information:

Specialty Area: Diagnostic Imaging
Policy Name: Cohere Medical Policy - Magnetic Resonance Angiography (MRA), Neck
Type: [**X**] Adult (18+ yo) | [**X**] Pediatric (0-17 yo)

Table of Contents

Medical Necessity Criteria

Service: Magnetic Resonance Angiography (MRA), Neck

Related CMS Documents

Please refer to the CMS Medicare Coverage Database for the most current applicable CMS National Coverage[1–9]:

- National Coverage Determination (NCD). Magnetic resonance imaging (MRI) (220.2)
- Local Coverage Determination (LCD). Magnetic resonance angiography (MRA) (L33633)
  - Billing and Coding: Magnetic resonance angiography (MRA) (A56747)
- Local Coverage Determination (LCD). Magnetic resonance angiography (MRA) (L34865)
  - Billing and Coding: Magnetic resonance angiography (MRA) (A56805)
- Local Coverage Determination (LCD). Magnetic resonance angiography (MRA) (L34372)
  - Billing and Coding: Magnetic resonance angiography (MRA) (A57779)
- Local Coverage Determination (LCD). Magnetic resonance angiography (MRA) (L34424)
  - Billing and Coding: Magnetic resonance angiography (MRA) (A56775)

Description

Magnetic resonance angiography (MRA) of the neck allows for visualizing blood vessels in the neck, including the arteries and veins. Imaging analysis utilizing MRA of the neck can be performed alone or in conjunction with MRA of the head or magnetic resonance imaging (MRI) of the head. MRA plays a crucial role in the routine assessment of patients experiencing stroke syndrome, specifically for the evaluation of both cervical and intracranial vessels, enabling the identification and diagnosis of vascular anomalies. In conjunction with MRI, MRA enhances the examination by comprehensively analyzing the cerebral parenchyma. MRA is also a viable alternative to computed tomography angiography (CTA) when using iodinated contrast material is not feasible.[10]

Medical Necessity Criteria

Indications

Magnetic resonance angiography (MRA), neck is considered appropriate if **ANY** of the following is **TRUE**:

- **ALL** of the following:
  - **ANY** of the following[1]:
    - Catheter angiography (CA) has not been performed; **OR**
    - CA has been performed, and there is documentation that demonstrates medical need to perform both tests (e.g., inconclusive, requires further evaluation, etc.); **AND**
  - **ALL** of the following[1,2]:
    - Documentation that the patient is anticipated to be a candidate for surgery, which may be found to be appropriate based upon MRA results for conditions; **AND**
    - Documentation that the patient is being evaluated for **ANY** of the following vascular conditions:
      - Stenosis; **OR**
      - Tumors; **OR**
      - Aneurysms; **OR**
      - Vascular malformations; **OR**
      - Vascular occlusion; **OR**
      - Thrombosis; **OR**
      - Other vascular conditions; **AND**
  - Evaluation of **ANY** of the following[1,2]:
    - Carotid arteries; **OR**
    - Vertebral arteries; **OR**
- Repeat imaging (defined as a repeat request following recent imaging of the same anatomic region with the same or similar modality) will be considered reasonable and necessary if **ALL** of the following are **TRUE**:
  - There are no established guidelines; **AND**
  - **ANY** of the following:
    - There are new or worsening symptoms not addressed in the guidelines, such that repeat imaging would influence treatment; **OR**
    - There is need for a one-time clarifying follow-up of a prior indeterminate finding; **OR**
    - In the absence of change in symptoms, there is an established need for monitoring which would influence management.

Non-Indications

Magnetic resonance angiography (MRA), neck is not considered appropriate if **ANY** of the following is **TRUE**:

- The patient has undergone advanced imaging of the same body part within 3 months without undergoing treatment or developing new or worsening symptoms.[11]

*NOTE: MRI in patients with claustrophobia should be requested at the discretion of the ordering provider.
**NOTE: MRI in pregnant patients should be requested at the discretion of the ordering provider and obstetric care provider.

Level of Care Criteria

Inpatient or Outpatient

Procedure Codes (CPT/HCPCS)

CPT/HCPCS Code	Code Description
70547	Magnetic resonance angiography (MRA), neck; without contrast material(s)
70548	Magnetic resonance angiography (MRA), neck; with contrast material(s)
70549	Magnetic resonance angiography (MRA), neck; without contrast material(s), followed by contrast material(s) and further sequences

Disclaimer: S Codes are non-covered per CMS guidelines due to their experimental or investigational nature.

Evaluation of Clinical Harms and Benefits

Clinical determinations for Medicare Advantage beneficiaries are made in accordance with 42 CFR 422.101 guidance outlining CMS's required approach to decision hierarchy in the setting of NCDs/LCDs identified as being "not fully established". When clinical coverage criteria are "not fully established" Medicare Advantage organizations are instructed to create publicly accessible clinical coverage criteria based on widely-accepted clinical guidelines and/or scientific studies backed by a robust clinical evidence base. Clinical coverage criteria provided by Cohere Health in this manner include coverage rationale and risk/benefit analysis.

The potential clinical harms of using these criteria for magnetic resonance angiography (MRA), neck may include:

- There is a risk of malfunction of implanted medical devices (e.g., implanted pacemakers, cochlear implants).
- A potential exists for allergic reactions to contrast material if used in the study. The MRI department staff will monitor the patient for an allergic reaction and treat as recommended by a physician.[1,12,13]
- Use of gadolinium-based contrast is not recommended during pregnancy or in patients with acute or chronic kidney injury or disease.[1,12,13]
- If sedation is used for the study (for anxiety or claustrophobia), there is a risk of over-sedation. The patient should be monitored during the procedure to reduce this risk.
- There is an uncertain risk for MR in pregnant patients. The decision to image in a pregnant patient should be made on an individual basis in consultation with the patient's obstetric provider.[14]
- There is a risk of increased healthcare costs and complications from the inappropriate use of emergency services and additional treatments.[15]

The clinical benefits of using these criteria for MRA, neck may include:

- Improved patient outcomes through timely and appropriate access to the procedure. The non-invasive nature of MRA of the neck, particularly in the Medicare population, has increased accessibility and appropriate usage compared to conventional invasive angiography.[16]
- Reduction in complications and adverse effects from unnecessary procedures. According to the 2020 ACR-NASCI-SPR practice parameter for the performance of body MRA, the procedure is described as being significantly less invasive than standard catheter-based invasive angiography, thereby reducing the risk of vascular injury. For patients who are unable to receive gadolinium-based contrast agents, non-contrast study techniques are available. There is no associated ionizing radiation exposure as with computed tomography studies. MRA is stated to be useful in the diagnosis of vascular disease in pediatric patients, although sedation or general anesthesia may be required.[1]
- Enhanced diagnostic accuracy for complex medical conditions. Contrast-enhanced MRA of the neck is accurate for detecting aneurysms and dissections as well as carotid vessel stenoses and occlusions.[17]
- Enhanced overall patient satisfaction and healthcare experience.

Medical Evidence

Amin et al. (2023) present a scientific statement from the American Heart Association regarding the diagnosis, workup, and risk reduction of transient ischemic attack in the emergency department. Computed tomography angiography (CTA) demonstrates superior sensitivity and positive predictive value compared to magnetic resonance angiography (MRA) in detecting intracranial stenosis and occlusion. As a result, CTA is the recommended imaging modality over time-of-flight (TOF) (without contrast) MRA. If there is a concern regarding administering iodinated contrast, expedited magnetic resonance imaging (MRI) with MRA is a viable alternative. TOF MRA may result in images of lower quality, as there is a tendency to overestimate cervical carotid stenosis compared to gadolinium-enhanced MRA. However, this type of MRA may be suitable for screening purposes. Gadolinium-enhanced MRA of the neck is the preferred choice for patients who can safely receive gadolinium contrast.[18]

AbuRahma et al. (2022) review clinical guidelines for managing extracranial cerebrovascular disease published by the Society for Vascular Surgery. Contrast-enhanced MRA can produce three-dimensional images that rival those from a formal arteriography. A key advantage of MRA is that it reduces radiation exposure to the individual, and the use of iodinated contrast materials is not necessary. Further, MRA allows for the integration of MRI of the brain, enabling the identification of clinically silent cerebral infarction. It also facilitates the assessment of plaque morphology, with a focus on detecting intraplaque hemorrhage. The severity of carotid stenosis is more identifiable with MRA than CTA. While MRA excels in various aspects, it is unsuitable for screening carotid artery disease due to its substantial cost.[19]

Cummins et al. (2022) discuss the role of TOF MRA for pulsatile tinnitus (PT) and the identification of vascular causes of PT, including dural arteriovenous fistulas (DAVFs). The annual risk of intracranial hemorrhage from DAVFs is over 24%. TOF-MRA is one of the most sensitive and specific noninvasive methods for diagnosing DAVF. The diagnosis of arterial aneurysms is aided by the use of TOF MRA, with a sensitivity greater than 90% and specificity over 80%. MRA also detects stenoses (a sensitivity of 95.5% and specificity of 87.2%). When severe carotid artery stenosis is a cause of PT, the sensitivity

and specificity of TOF MRA are nearly 100%. The advantages of MRA include a greater pooled sensitivity for diagnosis compared with CT, excellent spatial resolution, and the most powerful sequence for diagnosing DAVF. In addition, MRA can diagnose intracranial and high cervical arterial etiologies (e.g., fibromuscular dysplasia, carotid stenosis, variant anatomy). Disadvantages include high cost, scanning time, and the dephasing of tortuous vessels.[20]

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Policy Revision History/Information

Original Date: October 24, 2024		
Review History		
Version 1.1	05/01/2025	Revised per CMS update for 03/27/2025. Updated Revision Date. Updated Links and References for L34424, A56775.
Version 2	10/16/2025	Annual review. Revised indications to better align with NCD/LCD language. Updated repeat imaging section to new standard language. Removed relative contraindications (contrast allergy, metallic clips, incompatible implantable devices, metallic foreign body). Revised Harms and Benefits section. Updated CMS links and references.