



**Cohere Medicare Advantage Policy –
Magnetic Resonance Angiography (MRA), Head**
Clinical Policy for Medical Necessity Review

Version: 2

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Important Notices

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Policy Information:

Specialty Area: Diagnostic Imaging

Policy Name: Cohere Medicare Advantage Policy - Magnetic Resonance Angiography (MRA), Head

Type: Adult (18+ yo) | Pediatric (0-17 yo)

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Medical Necessity Criteria

Service: Magnetic Resonance Angiography (MRA), Head

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

Imaging analysis utilizing magnetic resonance angiography (MRA) of the head can be performed alone or in conjunction with MRA of the neck. 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 providing a comprehensive analysis of the cerebral parenchyma. MRA also serves as a viable alternative to CT angiography when using iodinated contrast material is not feasible.

Medical Necessity Criteria

Indications

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

- **ALL** of the following:
 - **ANY** of the following¹:
 - 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}:
 - The patient requires post-procedure or post-treatment follow-up; **AND**
 - 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**
 - Circle of Willis; **OR**
 - Anterior, middle, or posterior cerebral arteries; **OR**
 - Basilar arteries; **OR**
 - Venous sinuses; **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**.¹⁰

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

*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
70544	Magnetic resonance angiography (MRA), head; without contrast material(s)
70545	Magnetic resonance angiography (MRA), head; with contrast material(s)
70546	Magnetic resonance angiography (MRA), head; 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.

Clinical coverage criteria for magnetic resonance angiography (MRA), neck were fully defined and established by NCDs and/or LCDs. Cohere Health did not supplement this policy with any additional criteria or interpretations.

Medical Evidence

Amin et al. (2023) presented 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) demonstrated 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 (without contrast) MRA. If there is a concern regarding administering iodinated contrast, expedited magnetic resonance imaging (MRI) with MRA is a viable alternative. Time-of-flight 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.¹¹

AbuRahma et al. (2022) reviewed 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 less radiation exposure to the individual, and the use of iodinated-based contrast materials is not needed. Furthermore, 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, focusing 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.¹²

Cummins et al. (2022) discussed the role of TOF MRA for pulsatile tinnitus (PT) and the identification of vascular causes of PT, including dural arteriovenous fistulas (DAVFs). The annual intracranial hemorrhage risk of DAVFs is over 24%. TOF-MRA is considered 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%. Stenoses are also detected by MRA (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 is nearly 100%. Advantages of MRA include a greater pooled sensitivity for diagnosis than CT as well as excellent spatial resolution and is the most powerful sequence for DAVF diagnosis. 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.¹³

References

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Policy Revision History/Information

Original Date: October 24, 2025		
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 include 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.