



Cohere Medical Policy - Magnetic Resonance Angiography (MRA), Neck

Clinical Policy for Medical Necessity Review

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Important Notices

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Policy Information:

Specialty Area: Diagnostic Imaging

Policy Name: Cohere Medical Policy - Magnetic Resonance Angiography (MRA), Neck

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

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Medical Necessity Criteria

Service: Magnetic Resonance Angiography (MRA), Neck

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 clinical evaluation by the treating provider, which may include a 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 laterality, body part, or CPT code—may be denied for lack of medical necessity due to insufficient or inconsistent clinical information.
- Repeat diagnostic testing due to technical issues—such as patient motion, incomplete exams, or incorrect imaging sequences—may not be considered medically necessary, as it is the responsibility of the imaging center to deliver appropriate, high-quality studies as originally authorized. Similarly, repeat imaging requested at a different facility based solely on provider preference may not be approved for medical necessity.
- 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.
- Cohere Health evaluates imaging exams based on medical necessity, regardless of contrast use. If an initial non-contrast study is completed and the radiologist later determines that contrast is needed to clarify a finding, the original authorization number may be used—provided the contrast-enhanced exam is performed at the same imaging center and within the original request's validity period, unless otherwise directed by the health plan.

Description

Magnetic resonance angiography (MRA) of the neck allows for visualizing blood vessels, including the arteries and veins, in the neck. 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.¹

Medical Necessity Criteria

Indications

Magnetic resonance angiography (MRA), neck is considered appropriate if **ANY** of the following are **TRUE**²⁻⁴:

- Vascular conditions, including **ANY** of the following⁵⁻⁷:
 - Loeys-Dietz syndrome with repeat imaging at least every two years; **OR**
 - Fibromuscular dysplasia; **OR**
 - Spontaneous coronary artery dissection (SCAD); **OR**
- Ultrasound is incomplete, inconclusive, or abnormal, and **ANY** of the following:

- Detection, surveillance, and follow-up of vascular neck mass (e.g., paraganglioma, pulsatile neck mass [not parotid region or thyroid])⁸; **OR**
- Known carotid artery stenosis surveillance; **OR**
- Trauma-related conditions as indicated by **ANY** of the following:
 - Trauma of the head with a suspected intracranial arterial injury based on clinical findings or prior imaging⁹; **OR**
 - Traumatic and nontraumatic orbital pathology with clinical or imaging findings that indicate vascular involvement¹⁰; **OR**
 - Traumatic injury to cervicocerebral vessels, suspected¹¹; **OR**
 - Dissection (carotid or vertebral), known or suspected¹²; **OR**
 - Extracranial vascular disease requiring additional evaluation; **OR**
- Giant cell and Takayasu arteritis (large vessel vasculitis)¹³; **OR**
- Ischemic stroke or transient ischemic attack (TIA) when the patient is a candidate for revascularization^{14,15}; **OR**
- Subclavian steal syndrome for treatment planning¹⁶; **OR**
- Pulsatile tinnitus for the evaluation of vascular etiology¹⁷; **OR**
- Penetrating neck injury; **OR**
- Vascular malformation and **ALL** of the following are **TRUE**^{18,19}:
 - Performed in conjunction with MRI head and MRA head; **AND**
 - To assess the status of neck vasculature; **OR**
- For evaluation of **ANY** of the following uncategorized/miscellaneous symptoms when applicable:
 - Ataxia with suspected arterial pathologies²⁰; **OR**
 - Horner syndrome²¹; **OR**
 - Persistent vertigo with or without neurological symptoms (central vertigo); **OR**
- Preoperative, postoperative, or pretreatment evaluation for **ANY** of the following:
 - Before surgical procedures that provide detailed vascular mapping of the neck; **OR**
 - Postprocedural evaluation to evaluate the patient's progress following a procedure; **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 symptoms²².

*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

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.²³

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 less radiation exposure to the individual, and the use of iodinated-based contrast materials is not needed. 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, 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.²⁴

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 intracranial hemorrhage risk of 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 is nearly 100%. The advantages of MRA include a greater pooled sensitivity for diagnosis compared to CT, excellent spatial resolution, and 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.²⁵

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Policy Revision History/Information

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Review History		
Version 2	08/15/2024	Annual review and policy restructure.
Version 3	10/30/2024	Edited repeat imaging criteria language.
Version 4	08/21/2025	Annual review Updated content to align with revised template, including repeat imaging criteria