



Cohere Medical Policy - Magnetic Resonance Angiography (MRA), Lower Extremity

Clinical Policy for Medical Necessity Review

Version: 4

Cohere Health UMC Approval Date: August 21, 2025

Last Annual Review: August 21, 2025

Revision: Not Applicable

Next Annual Review: August 21, 2026

Important Notices

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Policy Information:

Specialty Area: Diagnostic Imaging

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

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

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Medical Necessity Criteria

Service: Magnetic Resonance Angiography (MRA), Lower Extremity

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) is a noninvasive alternative to catheter angiography for evaluating vascular structures in the lower extremities. Magnetic resonance venography (MRV) images veins instead of arteries. MRA and MRV are less invasive than conventional digital subtraction angiography.¹

Medical Necessity Criteria

Indications

Abdomen/Pelvis Magnetic Resonance Angiography (MRA) with Lower Extremity MRA Runoff requires two separate authorization requests: one for Abdomen MRA (CPT 74185) and one for Lower Extremity MRA (CPT 73725). A separate request for Pelvic MRA is not necessary, as this combination provides imaging of the abdomen, pelvis, and both legs.

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

- **ANY** of the following:
 - Arterial entrapment syndrome, when ultrasound is indeterminate or for pretreatment planning; **OR**
 - Adventitial cystic disease¹; **OR**
- Ultrasound is incomplete, inconclusive, or abnormal with **ANY** of the following:

- Neoplastic conditions (including masses or mass-like conditions) when the arterial blood supply needs to be evaluated (e.g., for treatment planning, treatment response, or prognostication); **OR**
- Neoplastic invasion of arteries or veins; **OR**
- Vascular conditions, known or suspected, including **ANY** of the following:
 - Aneurysm, seen on ultrasound or where ultrasound is nondiagnostic; **OR**
 - Intramural hematoma; **OR**
 - Dissection; **OR**
 - Critical limb ischemia strongly suspected with **ANY** of the following lower extremity signs or symptoms^{8,10}:
 - Sudden onset of a cold leg with pain; **OR**
 - Gangrene; **OR**
 - Rest pain; **OR**
 - Nonhealing lower extremity ulceration; **OR**
 - Suspected peripheral arterial disease when **ALL** of the following are **TRUE**:
 - Leg pain worsens with activity and is relieved with rest (claudication); **AND**
 - **ALL** of the following:
 - Limitation of performance of daily activities; **AND**
 - Expected mobility after treatment warrants revascularization; **AND**
 - Revascularization is planned⁹; **AND**
 - Abnormal ankle-brachial index (ABI) as evidenced by **ANY** of the following:
 - ABI is inconclusive or nondiagnostic; **OR**
 - ABI less than 0.9 or greater than 1.4 on at least one leg; **OR**
 - ABI less than 1.1 in patients with risk factors for atherosclerosis (e.g., personal history of diabetes or known cardiac disease)¹⁰; **AND**
 - Symptoms persist despite participation in guideline directed medical therapy (GDMT)¹⁰; **AND**
 - Either low concern for aortic and iliac artery disease or aorta and iliac arteries previously imaged; **OR**
 - Localization and characterization of vascular malformation or fistula (e.g., assessing treatment response, treatment planning) with **ANY** of the following:
 - Duplex ultrasound is indeterminate or nondiagnostic; **OR**

- High flow lesion suspected clinically or by imaging; **OR**
 - Preoperative planning; **OR**
- Vasculitis, initial evaluation, when **ANY** of the following are **TRUE**⁷:
 - Biopsy proven; **OR**
 - Rheumatologic panel work-up including but not limited to erythrocyte sedimentation rate (ESR) and C-reactive protein (CRP) is suggestive of vasculitis; **OR**
 - The requesting clinician specializes in rheumatology and the outcome of the imaging is expected to change management and/or treatment plan; **OR**
- Pre- and postintervention evaluation when **ANY** of the following are **TRUE**:
 - Postoperative evaluation of the effectiveness of arterial or venous reconstruction or bypass; **OR**
 - Characterization of normal and variant vascular anatomy; **OR**
 - Determination of the patency, location, or integrity of grafts and other vascular devices (e.g., stents); **OR**
 - Planning autografts for musculoskeletal reconstruction; **OR**
 - Treatment of popliteal entrapment syndrome; **OR**
- Known or suspected knee dislocation*⁶; **OR**
- Trauma-related conditions only if a CTA cannot be performed as indicated by **ANY** of the following²:
 - Major blunt trauma and the patient is hemodynamically stable⁴; **OR**
 - Neurologic deficit of lower extremity in association with trauma⁵; **OR**
 - Vascular trauma to a lower extremity⁷; **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.

Magnetic resonance venography (MRV), lower extremity is considered appropriate if **ANY** of the following is **TRUE**:

- Ultrasound is incomplete, inconclusive, or abnormal with **ANY** of the following:
 - Suspected venous entrapment syndrome; **OR**
 - Neoplastic conditions (including masses or mass-like conditions) when the blood supply needs to be evaluated (e.g., for treatment planning, treatment-response, or prognostication); **OR**
 - Neoplastic invasion of arteries or veins; **OR**
 - Initial evaluation for a known venous leg ulcer, when ultrasound is indeterminate or nondiagnostic¹; **OR**
 - Known or suspected acute or chronic deep venous thrombosis, when results would change management and ultrasound has been completed; **OR**
 - Known severe postthrombotic changes incompletely evaluated by ultrasound¹; **OR**
 - Evidence of severe venous reflux disease and **ALL** of the following¹:
 - Duplex ultrasound evaluation indeterminate, incomplete, or nondiagnostic; **AND**
 - Surgical or endovascular intervention planned; **OR**
- Pre- and postintervention evaluation when **ANY** of the following is **TRUE**:
 - Postoperative evaluation of the effectiveness of arterial or venous reconstruction or bypass; **OR**
 - Characterization of normal and variant vascular anatomy; **OR**
 - Determination of the patency, location, or integrity of grafts and other vascular devices (e.g., stents); **OR**
 - Planning autografts for musculoskeletal reconstruction; **OR**
 - Treatment of popliteal entrapment syndrome; **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), lower extremity 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.¹²

*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
73725	Magnetic resonance angiography (MRA), lower extremity, with or without contrast material(s)
C8912	Magnetic resonance angiography (MRA) with contrast, lower extremity
C8913	Magnetic resonance angiography (MRA) without contrast, lower extremity
C8914	Magnetic resonance angiography (MRA) without contrast followed by with contrast, lower extremity

Medical Evidence

Nassar et al. (2022) reviewed imaging modalities for preoperative planning. Computed tomography angiography (CTA) and magnetic resonance angiography (MRA) can generate detailed 3D images of vascular structures and surrounding anatomy, with applications in preoperative planning for breast, head, neck, and extremity reconstructions. While MRA eliminates the need for radiation exposure, it is less precise than CTA in detecting perforators smaller than 1 mm and contraindicated in specific patient groups. For assessing venous anatomy, the most effective modalities include duplex ultrasound, MRV, and the outflow phase of conventional angiography. While MR scanners and software continue to advance, the general preference is for strength 1.5-T scanners in reconstructive applications. Lower-strength scanners allow enhanced fat suppression, contributing to more precise imaging of vascular structures.¹³

Tamura and Nakahara (2014) conducted a retrospective study to assess pelvic and deep vein thrombosis (DVT) in the lower extremities with magnetic resonance venography (MRV) before surgical intervention for varicose veins. Time-of-flight MRV evaluated the 72 patients enrolled in the study before stripping varicose veins of the lower extremities. A total of 63.9% were female, with a mean age of 65.2 plus or minus 10.2 years; 55.6% of patients had bilateral varicose leg veins; 2.8% of patients had DVT; and 4.2% were diagnosed with iliac vein thrombosis. The remaining patients could undergo the stripping procedure in the saphenous veins. The study concluded that non-contrast MRV helps evaluate the lower extremity venous system.¹⁴

Koelmay et al. (2001) conducted a meta-analysis of 34 studies (1090 patients) that reports a high accuracy for assessing arteries in the lower extremities using MRA. Three-dimensional (3D) gadolinium-enhanced MRA demonstrated enhanced diagnostic accuracy compared to 2D MRA. The estimated thresholds for equal sensitivity and specificity were 94% and 90% for 3D gadolinium-enhanced MRA and 2D MRA, respectively. Recent investigations specifically examined the diagnostic capabilities of lower extremity 3D gadolinium-enhanced MRA compared to digital subtraction angiography.¹⁵

Ersoy et al. (2008) reported on the precision of 3D MRA in assessing bypass grafts and detecting recurrent issues within the graft lumen is comparable to its accuracy in native arteries. Foot and calf MRA exhibit sensitivity and specificity exceeding 80% and 90%, respectively. In contrast to digital subtraction angiography, gadolinium-enhanced MRA generates a 3D dataset that can create displays reminiscent of multilane digital subtraction angiography after reformatting. These displays emphasize pertinent information for prognosis and treatment planning, such as arterial wall inflammation, plaque composition, and mural and intramural thrombus formation.¹⁶

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Policy Revision History/Information

Original Date: March 18, 2022		
Review History		
Version 2	08/13/2024	Annual review and policy restructure.
Version 3	10/30/2024	Edited repeat imaging criteria language.
Version 4	08/21/2025	Annual review Clarified prior imaging requirements and added new indications. Broke out and expanded upon indications (e.g. critical limb ischemia; hematoma).