



Cohere Medicare Advantage Policy – Magnetic Resonance Angiography (MRA), Lower Extremity

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 Medicare Advantage Policy - Magnetic Resonance Angiography (MRA), Lower Extremity

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

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Medical Necessity Criteria

Service: Cohere Medicare Advantage Policy - Magnetic Resonance Angiography (MRA), Lower Extremity

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) 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 X-ray 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**¹⁰:

- Arterial entrapment syndrome, when ultrasound is indeterminate or for pretreatment planning; **OR**
- Adventitial cystic disease¹⁰; **OR**
- When catheter angiography was unable to identify a viable run-off vessel for bypass; **OR**
- 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**
- Trauma-related conditions including **ANY** of the following¹¹:
 - Expanding hematoma¹²; **OR**
 - Major blunt trauma and the patient is hemodynamically stable¹³; **OR**
 - Neurologic deficit of lower extremity in association with trauma¹⁴; **OR**
 - Known or suspected knee dislocation¹⁵; **OR**
 - Vascular trauma to a lower extremity¹⁶; **OR**
- Vascular conditions, known or suspected, including **ANY** of the following:
 - Aneurysm; **OR**
 - Intramural hematoma; **OR**
 - Dissection; **OR**
 - Critical limb ischemia strongly suspected with **ANY** of the following lower extremity signs or symptoms^{17,18}:
 - 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 planned¹⁹; **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)¹⁸; **AND**
 - Symptoms persist despite participation in guideline-directed medical therapy (GDMT)¹⁸; **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**²⁰:
 - 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 post-intervention 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 dislocation¹⁶; **OR**
- Trauma-related conditions only if a computed tomography angiography (CTA) cannot be performed as indicated by **ANY** of the following¹²:
 - Major blunt trauma and the patient is hemodynamically stable¹⁴; **OR**
 - Neurologic deficit of lower extremity in association with trauma¹⁵; **OR**
 - Vascular trauma to a lower extremity²⁰; **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 are **TRUE**:

- Ultrasound is contraindicated, inconclusive or abnormal with **ANY** of the following:
 - Suspected venous entrapment syndrome; **OR**
 - 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**
 - Initial evaluation for a known venous leg ulcer, when ultrasound is indeterminate or non-diagnostic¹⁸; **OR**
 - Known or suspected acute or chronic deep venous thrombosis, when results would change management and ultrasound has been completed; **OR**
 - Known severe post-thrombotic changes incompletely evaluated by ultrasound¹⁸; **OR**
 - Evidence of severe venous reflux disease and **ALL** of the following²¹:
 - Duplex ultrasound evaluation indeterminate, incomplete, or non-diagnostic; **AND**
 - Surgical or endovascular intervention planned; **OR**
- Pre- and post-intervention 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**:

- Catheter angiography has been previously performed and demonstrated conclusive findings; **OR**
- The patient has undergone advanced imaging of the same body part within 3 months without undergoing treatment or developing new or worsening symptoms.²²

*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

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 may include:

- Inherent risk of procedure: There are inherent risks of imaging and contrast exposure.^{[23-26](#)}
- Despite not requiring radiation, MRA is relatively expensive compared to other imaging modalities and its use may be difficult to justify when cost-effective alternatives are available.^{[27](#)}
- MRA exams may use gadolinium-based contrast agents to improve the quality of the images. Such agents must be used with caution when imaging patients with moderate to severe renal failure, who may be at risk of nephrogenic systemic fibrosis.^{[28](#)}
- There is a risk of malfunction of implanted medical devices (e.g., implanted pacemakers, cochlear implants).
- Use of gadolinium-based contrast is not recommended in patients with acute or chronic kidney injury or disease.^{[29-31](#)}
- If sedation is used for the study (for anxiety or claustrophobia), there is a risk of over-sedation. The patient will be monitored during the procedure to reduce this risk.
- There is uncertain risk for MR imaging 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.^{[32](#)}
- There is a risk of increased healthcare costs and complications from the inappropriate use of additional interventions.^{[33](#)}

The clinical benefits of using these criteria include:

- Non-invasive: An MRA is a non-invasive examination that does not require sedation, catheterization, or ionized radiation, yet can be more accurate than conventional venography, offering an alternative imaging technique for patients with contrast allergies or renal dysfunction.^{27,28,34} The non-invasive nature of MRA, which allows for examinations of vessel anatomy without ionizing radiation, makes the imaging technique particularly suited to preoperative imaging.²⁷
- Quick and accurate: Magnetic resonance angiography can produce timely and highly accurate assessments of arterial disease in the lower extremity, with high levels of clarity and fidelity.¹⁰ Compared to conventional angiography, MRA provides more sensitive visualizations of blood vessel pathology.³⁴
- Enhanced overall patient satisfaction and healthcare experience.

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 is 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.²⁷

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. Of the 72 patients, 55.6% had bilateral varicose leg veins, 2.8% had DVT, and 4.2% were diagnosed with iliac vein thrombosis. The remaining patients underwent saphenous vein stripping. The study concluded that non-contrast MRV helps evaluate the lower extremity venous system.³⁴

Koelmay et al. (2001) conducted a meta-analysis of 34 studies (1090 patients) that reported 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.¹⁰

Ersoy et al. (2008) reported that 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.²⁸

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Policy Revision History/Information

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Version 1.1	05/01/2025	<p>Revised per CMS update for 03/27/2025</p> <p>Updated Revision Date</p> <p>Updated Links and References for L34424, A56775</p>
Version 2	10/16/2025	<p>Annual review.</p> <p>Added note at top of indications regarding separate authorization requests.</p> <p>Added indications regarding suspected peripheral arterial disease, pre- and post-treatment evaluations, knee dislocations, and trauma..</p> <p>Expanded indications for vascular malformation and vasculitis.</p> <p>Updated reference citations (renumbered to reflect order of first appearance in policy and removed duplicative citations).</p> <p>Removed non-indications related to contrast media, implantable devices, and foreign objects. Added non-indication related to repeat imaging in short timeframes.</p>