

04-70540-22

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## Subject: Magnetic Resonance Angiography (MRA) Extremity (Upper and Lower)

THIS MEDICAL COVERAGE GUIDELINE IS NOT AN AUTHORIZATION, CERTIFICATION, EXPLANATION OF BENEFITS, OR A GUARANTEE OF PAYMENT, NOR DOES IT SUBSTITUTE FOR OR CONSTITUTE MEDICAL ADVICE. ALL MEDICAL DECISIONS ARE SOLELY THE RESPONSIBILITY OF THE PATIENT AND PHYSICIAN. BENEFITS ARE DETERMINED BY THE GROUP CONTRACT, MEMBER BENEFIT BOOKLET, AND/OR INDIVIDUAL SUBSCRIBER CERTIFICATE IN EFFECT AT THE TIME SERVICES WERE RENDERED. THIS MEDICAL COVERAGE GUIDELINE APPLIES TO ALL LINES OF BUSINESS UNLESS OTHERWISE NOTED IN THE PROGRAM EXCEPTIONS SECTION.

<a href="#">Position Statement</a>	<a href="#">Billing/Coding</a>	<a href="#">Reimbursement</a>	<a href="#">Program Exceptions</a>	<a href="#">Definitions</a>	<a href="#">Related Guidelines</a>
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### DESCRIPTION:

Magnetic resonance angiography (MRA) is a noninvasive imaging alternative to catheter angiography for evaluation of vascular structures in the upper extremity and for imaging arterial obstructive disease in the lower extremity. In the upper extremity, magnetic resonance venography (MRV) may be used to image veins instead of arteries. MRA and MRV are less invasive than conventional x-ray digital subtraction angiography. In the lower extremity, MRA may be used to image tibia and pedal arteries and evaluate symptoms that occur after angiography. A contrast material (gadolinium) may be used to enable visualization of a body system or body structure and may be used in individuals who have a history of contrast allergy and who are at high risk of kidney failure.

**Summary and Analysis of Evidence:** Magnetic resonance angiography (MRA) has important attributes that make it valuable in assessing vascular disease. Compared with radiographic catheter-based invasive angiography, it is considerably less invasive with no significant risk of vascular injury. MRA has also shown promising results for atherosclerotic plaque characterization, notably for detection of high-risk features (e.g., intraplaque hemorrhage, lipid-rich necrotic core, or fibrous cap thinning/rupture) of carotid atherosclerotic plaque. MRA is also useful in diagnosing vascular disease in children and is more advantageous for this patient population given the lack of radiation exposure and ability to include time-resolved scans. Indications for MRA include, but not limited to the following: vascular stenosis or occlusion due to atherosclerosis, vasculitis, or thromboembolism, thoracic, abdominal, or pelvic hemorrhage, mapping vascular anatomy for preprocedural planning and postprocedural surveillance of treatment, aneurysms and vascular malformations, venous malformations, presence, nature, and extent of injury to vessels, including dissection, venous disease, including occlusion, thrombosis, and tumor invasion, and congenital abnormalities (ACR–NASCI–SPR, 2020).

## **POSITION STATEMENT:**

### **Documentation Requirements**

Documentation containing the medical necessity of the magnetic resonance angiography (MRA) of the extremity (upper and lower) and imaging results (e.g., images, clinical reports) should be maintained in the member's medical record. Documentation may be requested as part of the review process.

### **Upper Extremity**

Magnetic resonance angiography (MRA)/ magnetic resonance venography (MRV) of the upper extremity **meets the definition of medical necessity** for the following indications:

#### **Hand ischemia**

- Acute:
  - Ischemic ulceration without segmental temperature change
  - Ischemic ulceration with painful ischemia
  - Acute sustained loss of perfusion with or without acral ulceration
  - Imminent loss of digit.
- Clinical symptoms without the above features, arterial Doppler abnormal and will change management.

#### **Deep venous thrombosis (DVT) or embolism**

- After abnormal ultrasound of arm veins if it will change management, or negative or indeterminate ultrasound to rule out other causes or suspicion of upper arterial emboli.

**Clinical suspicion of vascular disease** (with abnormal or indeterminate ultrasound or other imaging)

#### **Vascular malformation**

- Non-diagnostic doppler ultrasound

#### **Traumatic injuries**

- With clinical findings suggestive of arterial injury

#### **Assessment/evaluation of known vascular disease/condition**

#### **Preoperative/procedural evaluation**

- Preoperative evaluation for a planned surgery or procedure.

#### **Post-operative/procedural evaluation**

- A follow-up study may be needed to evaluate a member's progress after treatment, procedure, intervention or surgery. Documentation required.

### **Special circumstances**

- High suspicion of an acute arterial obstruction
- Renal impairment
  - Not on dialysis
    - Mild to moderate, GFR 30-89 ml/min MRA can be done
    - Severe, GFR < 30 ml/min MRA without contrast
- On dialysis
  - CTA with contrast can be done

### **Lower Extremity**

Magnetic resonance angiography (MRA)/magnetic resonance venography (MRV) of the lower extremity **meets the definition of medical necessity** for the following indications:

#### **Peripheral vascular disease**

- Critical limb ischemia **AND** any of the below with clinical signs of peripheral artery disease:
  - Ischemic rest pain
  - Tissue loss
  - Gangrene
- Claudication with abnormal (ankle/brachial index, pulse volume recording or arterial Doppler).
- Clinical concern for vascular cause of ulcers with abnormal or indeterminate ultrasound (ankle/brachial index, arterial Doppler).
- After stenting or surgery with signs of recurrent symptoms or abnormal ankle/brachial index; abnormal or indeterminate arterial Doppler or pulse volume recording).

#### **Popliteal artery entrapment syndrome**

- With abnormal arterial ultrasound

#### **Deep venous thrombosis (DVT)**

- With clinical suspicion of lower extremity DVT after abnormal or non-diagnostic ultrasound where a positive study would change management

**Clinical suspicion of vascular disease** (with abnormal or indeterminate ultrasound or other imaging)

**Vascular malformation**

- Non-diagnostic doppler ultrasound

**Traumatic injuries**

- With clinical findings suggestive of arterial injury

**Assessment/evaluation of known vascular disease/condition**

**Pre-operative/procedural evaluation**

- Pre-operative evaluation for a planned surgery or procedure.

**Post-operative/procedural evaluation**

- A follow-up study may be needed to help evaluate a member’s progress after treatment, procedure, intervention or surgery. Documentation required.

**Special circumstances**

- High suspicion of an acute arterial obstruction
- Renal impairment
  - Not on dialysis
    - Mild to moderate, GFR 30-89 ml/min MRA can be done
    - Severe, GFR < 30 ml/min MRA without contrast
  - On dialysis
    - CTA with contrast can be done

**BILLING/CODING INFORMATION:**

**CPT Coding:**

73225	Magnetic resonance angiography, upper extremity, with or without contrast material(s)
73725	Magnetic resonance angiography, lower extremity, with or without contrast material(s)

**REIMBURSEMENT INFORMATION:**

Refer to section entitled [POSITION STATEMENT](#).

Re-imaging or additional imaging due to poor contrast enhanced exam or technically limited exam is the responsibility of the imaging provider.

## LOINC Codes:

The following information may be required documentation to support medical necessity: physician history and physical, physician progress notes, plan of treatment and reason for magnetic resonance angiography (MRA) of the extremity (upper and lower).

<b>Documentation Table</b>	<b>LOINC Codes</b>	<b>LOINC Time Frame Modifier Code</b>	<b>LOINC Time Frame Modifier Codes Narrative</b>
Physician history and physical	28626-0	18805-2	Include all data of the selected type that represents observations made six months or fewer before starting date of service for the claim
Attending physician progress note	18741-9	18805-2	Include all data of the selected type that represents observations made six months or fewer before starting date of service for the claim
Plan of treatment	18776-5	18805-2	Include all data of the selected type that represents observations made six months or fewer before starting date of service for the claim
Radiology reason for study	18785-6	18805-2	Include all data of the selected type that represents observations made six months or fewer before starting date of service for the claim
Radiology comparison study-date and time	18779-9	18805-2	Include all data of the selected type that represents observations made six months or fewer before starting date of service for the claim
Radiology comparison study observation	18834-2	18805-2	Include all data of the selected type that represents observations made six months or fewer before starting date of service for the claim
Radiology-study observation	18782-3	18805-2	Include all data of the selected type that represents observations made six months or fewer before starting date of service for the claim
Radiology-impression	19005-8	18805-2	Include all data of the selected type that represents observations made six months or fewer before starting date of service for the claim
Radiology study-recommendation (narrative)	18783-1	18805-2	Include all data of the selected type that represents observations made six months or

			fewer before starting date of service for the claim
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## PROGRAM EXCEPTIONS:

**Federal Employee Plan (FEP):** Follow FEP guidelines.

### Medicare Advantage products

The following Local Coverage Determination (LCD) was reviewed: Magnetic Resonance Angiography (MRA), (L34372) located at fcso.com.

The following National Coverage Determination (NCD) was reviewed: Magnetic Resonance Imaging (MRI), (220.2) located at cms.gov.

## DEFINITIONS:

No guideline specific definitions apply.

## RELATED GUIDELINES:

[Magnetic Resonance Angiography \(MRA\) Abdomen and Pelvis, 04-70540-21](#)

[Magnetic Resonance Angiography \(MRA\) Brain \(Head\), 04-70540-18](#)

[Magnetic Resonance Angiography \(MRA\) Chest, 04-70540-20](#)

[Magnetic Resonance Angiography \(MRA\) Neck, 04-70540-19](#)

[Magnetic Resonance Angiography \(MRA\) Spinal Canal, 04-70540-23](#)

## OTHER:

None applicable.

## REFERENCES:

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6. American College of Radiology ACR Appropriateness Criteria® Lower Extremity Arterial Revascularization–Post-Therapy Imaging, 2017.
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9. American College of Radiology ACR Appropriateness Criteria®: Suspected Upper Extremity Deep Vein Thrombosis, 2019.
10. American College of Radiology ACR Appropriateness Criteria®: Upper Extremity Swelling, 2014.
11. American College of Radiology ACR Appropriateness Criteria® Vascular Claudication–Assessment for Revascularization, Revised 2016
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21. AdWilliams C, Kennedy D, Bastian-Jordan M et al. A new diagnostic approach to popliteal artery entrapment syndrome. *J Med Radiat Sci* 2015 Sep;62(3):226-229.
22. Zhang, H.L., Khilnani, N.M., Prince, M.R., et al. Diagnostic accuracy of time-resolved 2D projection MR angiography for symptomatic infrapopliteal arterial occlusive disease. *American Journal of Radiology* 2005; 184(3): 938-947.

## COMMITTEE APPROVAL:

This Medical Coverage Guideline (MCG) was approved by the Florida Blue Medical Policy and Coverage Committee on 09/26/24.

## GUIDELINE UPDATE INFORMATION:

12/15/13	New Medical Coverage Guideline.
04/15/15	Annual review. Revised description and position statement. Updated references.
08/15/18	Revision; revised position statement. Updated references.
03/15/20	Review/revision. Upper extremity: Deleted assessment/evaluation of known or suspected vascular disease/condition. Upper extremity: Added indication and criteria for: hand ischemia, deep venous thrombosis or embolism, clinical suspicion of vascular disease and evaluation of traumatic injuries to the upper extremity. Upper extremity: Revised indication and criteria for preoperative evaluation. Lower extremity: Added indication for peripheral vascular disease, popliteal artery entrapment syndrome, deep venous thrombosis and clinical suspicion of vascular disease. Lower extremity: Deleted criteria for assessment/evaluation of suspected or known vascular disease/condition and post-operative or interventional vascular procedure for post-operative/procedural evaluation. Lower extremity: Revised indication and criteria for preoperative evaluation. Updated references.
05/15/22	Review. Revised position statement and updated references.
07/01/22	Revision to Program Exceptions section.
12/09/23	Review: position statements and references updated.
10/15/24	Review; update position statement. Updated references.