

04-70540-22

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Reviewed: 04/28/22

Revised: 07/01/22

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.

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|------------------------------------|--------------------------------|-------------------------------|------------------------------------|-----------------------------|------------------------------------|
| Position Statement | Billing/Coding | Reimbursement | Program Exceptions | Definitions | Related Guidelines |
| Other | References | Updates | | | |

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.

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:

Hand ischemia

- Arterial Doppler not needed with any of the following acute symptoms:
 - 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:
 - Includes Raynaud's (can be associated with scleroderma), Buerger disease and other vasculopathies.
- Clinical concern for vascular cause of ulcers with abnormal or indeterminate ultrasound.
- After stenting or surgery with signs of recurrence or indeterminate ultrasound.

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.
- Evaluation of central veins.
- Clinical suspicion of upper arterial emboli.

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

- Tumor invasion
- Trauma
- Vasculitis
- Aneurysm
- Stenosis/occlusions

Vascular Malformation

- Non-diagnostic doppler ultrasound

Traumatic injuries

- With clinical findings suggestive of arterial injury

Assessment/evaluation of suspected or 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 requires a medical reason that clearly indicates why additional imaging is needed for the type and areas(s) requested

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:

Peripheral vascular disease

- Critical limb ischemia **AND** any of the below with clinical signs of peripheral artery disease. [Ultrasound imaging is not needed. If done and negative, it should still be approved due to high false negative rate]:
 - 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)

- Tumor invasion
- Trauma
- Vasculitis
- Aneurysm
- Stenosis/occlusions

Vascular malformation

- Non-diagnostic doppler ultrasound

Traumatic injuries

- With clinical findings suggestive of arterial injury

Assessment/evaluation of suspected or 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 requires a medical reason that clearly indicates why additional imaging is needed for the type and area(s) requested.

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:

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| 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).

| Documentation Table | LOINC Codes | LOINC Time Frame Modifier Code | LOINC Time Frame Modifier Codes Narrative |
|--|--------------------|---------------------------------------|---|
| 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 |

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| 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 |

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 Angiography, (220.3) and 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:

1. Ahmed O, Hanley M, Bennett SJ et al. ACR Appropriateness Criteria® Vascular Claudication-Assessment for Revascularization. *J Am Coll Radiol* 2017 May;14(5S):S372-S379.
2. American College of Radiology ACR Appropriateness Criteria® Acute Trauma to the Knee, Revised 2019.
3. American College of Radiology ACR Appropriateness Criteria®: Chronic Elbow Pain, Last review date: 2015.
4. American College of Radiology ACR Appropriateness Criteria®: Claudication-Suspected Vascular Etiology, 2012.
5. American College of Radiology ACR Appropriateness Criteria®: Follow-up of Lower-Extremity Arterial Bypass Surgery, 2013.
6. American College of Radiology ACR Appropriateness Criteria® Lower Extremity Arterial Revascularization–Post-Therapy Imaging, 2017.
7. American College of Radiology ACR Appropriateness Criteria®: Recurrent Symptoms Following Lower-Extremity Angioplasty, 2012.
8. American College of Radiology ACR Appropriateness Criteria® Soft-Tissue Masses, Revised 2017.
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
12. ACR-NASCI-SPR Practice Guideline for the Performance of Body Magnetic Resonance Angiography (MRA), Revised 2015.
13. Bezooijen R, van den Bosch HCM, Tiebeek AV et al. Peripheral arterial disease: sensitivity-encoded multiposition MR angiography compared with intraarterial angiography and conventional multiposition MR angiography. *Radiology* 2004; 231(1): 263-271.
14. Bilecen D, Aschwanden M, Heidecker HG et al. Optimized assessment of hand vascularization on contrast-enhanced MR angiography with a subsystolic continuous compression technique. *American Journal of Radiology* 2004; 182(1): 180-182.
15. Centers of Medicare & Medicaid Services (CMS). Local Coverage Determination (LCD) Magnetic Resonance Angiography (MRA) (L34372) (10/01/15) (Revised 07/01/20).
16. Centers of Medicare & Medicaid Services (CMS). National Coverage Determination (NCD) Magnetic Resonance Imaging (220.2) (04/10/18) (Revised 12/10/18).
17. Centers of Medicare & Medicaid Services (CMS). National Coverage Determination (NCD) Magnetic Resonance Angiography (220.3). (07/01/03).
18. Heil J, Miesbach W, Vogl T et al. Deep Vein Thrombosis of the Upper Extremity. *Dtsch Arztebl Int* 2017 Apr 7;114(14):244-249.

19. Jin T, Wu G², Li X et al. Evaluation of vascular invasion in patients with musculoskeletal tumors of lower extremities: use of time-resolved 3D MR angiography at 3-T. *Acta Radiol.* 2018 May;59(5):586-592.
20. Karcaaltincaba M, Akata D, Aydingoz U et al. Three-dimensional MDCT angiography of the extremities: clinical applications with emphasis on musculoskeletal uses. *American Journal of Radiology* 2004; 183(1): 113-117.
21. Madani H, Farrant J, Chhaya N et al. Peripheral limb vascular malformations: an update of appropriate imaging and treatment options of a challenging condition. *Br J Radiol* 2015 Mar;88(1047):20140406.
22. National Imaging Associates, Inc. Clinical guideline: Lower Extremity MRA/MRV, 2022.
23. National Imaging Associates, Inc. Clinical guideline: Upper Extremity MRA/MRV, 2022.
24. Nguyen N, Sharma A, West JK et al. Presentation, clinical features, and results of intervention in upper extremity fibromuscular dysplasia. *J Vasc Surg.* 2017 Aug;66(2):554-563.
25. Sharma AM, Norton PT, Zhu D. Conditions presenting with symptoms of peripheral arterial disease. *Semin Intervent Radiol.* 2014 Dec;31(4):281-291.
26. 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.
27. 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 & Coverage Committee on 04/28/22.

GUIDELINE UPDATE INFORMATION:

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| 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.