

04-70540-18

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Subject: Magnetic Resonance Angiography (MRA) Brain (Head)

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DESCRIPTION:

Magnetic resonance angiography (MRA) is a noninvasive imaging technology used for the evaluation and imaging of vessels in the head and neck. Magnetic resonance angiography (MRA) or magnetic resonance venography (MRV) may be used as a first line investigation of intracranial vascular disease. It is an alternative to invasive intracatheter angiography. A contrast agent (gadolinium) may be used with MRA/MRV for better visualization 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)/magnetic resonance venography (MRV) of the brain (head) 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.

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

Evaluation of known intracranial vascular disease

- Evaluation of known intracranial aneurysm or arteriovenous malformation (AVM).
- Evaluation of known vertebral basilar insufficiency (VBI).
- Re-evaluation of vascular abnormality visualized on prior brain MRI.

- Evaluation of known vasculitis.

Evaluation for suspected intracranial vascular disease

- Screening for suspected intracranial aneurysm in member whose parent or sibling has history of intracranial aneurysm. Note: If there is a first degree familial history, repeat study is recommended every 5 years.
- Screening for aneurysm in polycystic kidney disease, Ehlers-Danlos syndrome, fibromuscular dysplasia, neurofibromatosis, or known aortic coarctation.
- Evaluation of previously diagnosed subarachnoid hemorrhage (SAH).
- Evaluation of suspected vertebral basilar insufficiency (VBI) in members with symptoms such as vision changes, vertigo, or abnormal speech.
- Evaluation of suspected arteriovenous malformation (AVM) in member with previous or indeterminate imaging study.
- Evaluation of suspected venous thrombosis (dural sinus thrombosis).
- Distinguishing benign intracranial hypertension (pseudotumor cerebri) from dural sinus thrombosis.
- Evaluation of pulsatile tinnitus for vascular etiology.
- Evaluation of suspected vasculitis with abnormal lab results suggesting acute inflammation or autoimmune antibodies.
- Evaluation of stroke risk in sickle cell members (2-16 years of age) with a transcranial Doppler velocity >200.
- Evaluation of neurological findings in sickle cell disease.

Pre-operative evaluation

- Pre-operative evaluation for brain/skull surgery.

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.

Indications for Brain MRA/Neck MRA combination studies

- Evaluation of members who have had a stroke or transient ischemic attack (TIA) within the past 2 weeks .
- Evaluation of known or suspected vertebrobasilar insufficiency (VBI) in members with symptoms such as vision changes, vertigo, or abnormal speech.
- Evaluation of known or suspected carotid or cerebral artery occlusion in members with a sudden onset of one-sided weakness, abnormal speech, vision defects or severe dizziness.
- Evaluation of head trauma in a member with closed head injury for suspected carotid or vertebral artery dissection.

- Evaluation of pulsatile tinnitus for vascular etiology.

BILLING/CODING INFORMATION:

CPT Coding:

70544	Magnetic resonance angiography, head; without contrast material(s)
70545	Magnetic resonance angiography, head; with contrast material(s)
70546	Magnetic resonance angiography, head; without contrast material(s), followed by contrast material(s) and further sequences

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 brain (head).

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	18779-9	18805-2	Include all data of the selected type that

comparison study- date and time			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

PROGRAM EXCEPTIONS:

Coverage for the radiology services referenced in this guideline performed and billed in an outpatient or office location will be handled through the BCBSF Radiology Management program for select products. The National Imaging Associates (NIA) will determine coverage for these services for select products. Refer to the member's contract benefits.

Federal Employee Plan (FEP): FEP is excluded from the National Imaging Associates (NIA) review; 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 \(MRA\) Chest, 04-70540-20](#)

[Magnetic Resonance Angiography \(MRA\) Extremity \(Upper and Lower, 04-70540-22](#)

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

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

OTHER:

None applicable.

REFERENCES:

1. American College of Radiology ACR Appropriateness Criteria®: Ataxia, 2012.
2. American College of Radiology ACR Appropriateness Criteria®: Cerebrovascular Disease, Last review date: 2016.
3. American College of Radiology ACR Appropriateness Criteria®: Focal Neurological Deficit, 2012.
4. American College of Radiology ACR Appropriateness Criteria®: Headache, 2013.
5. American College of Radiology ACR Appropriateness Criteria®: Head Trauma, Last review date: 2015.
6. American College of Radiology ACR Appropriateness Criteria® Pre-Irradiation Evaluation and Management of Brain Metastases, 2014.
7. ACR-NASCI-SPR Practice Parameter for the Performance of Cervicocerebral Magnetic Resonance Angiography (MRA), Revised 2015.
8. Colen TW, Wang LC, Ghodke BV, et al. Effectiveness of MDCT angiography for the detection of intracranial aneurysms in patients with nontraumatic subarachnoid hemorrhage. American Journal of Roentgenology 2007; 89:898-903.
9. Dong-Kee K, Yong Sam S, Jae Hong L et al 2012. Pulsatile Tinnitus as the Sole Manifestation of an Internal Carotid Artery Aneurysm Successfully Treated by Coil Embolization. Clinical and Experimental Otorhinolaryngology 2012; 5(3): 170-172.
10. National Imaging Associates, Inc. MR Angiography Head/Brain Clinical Guidelines, 2018.
11. Wermer MJH, Rinkel GJE, van Gijn J. et al. Repeated screening for intracranial aneurysms in familial subarachnoid hemorrhage, Stroke, 2003; 34:2788-2791.

COMMITTEE APPROVAL:

This Medical Coverage Guideline (MCG) was approved by the Florida Blue Medical Policy & Coverage Committee on 07/26/18.

GUIDELINE UPDATE INFORMATION:

11/15/13	New Medical Coverage Guideline.
11/15/14	Added magnetic resonance venography (MRV).
04/15/15	Annual review. Revised description. Revised indication for pre-operative evaluation (brain/skull). Updated references.
08/15/18	Revision; revised position statement. Updated references.