

## Medical Policy



An Independent Licensee of the  
Blue Cross and Blue Shield Association.

### Title: Magnetic Resonance Angiography (MRA)

<b>Professional</b>	<b>Institutional</b>
Original Effective Date: April 1992	Original Effective Date: June 3, 2004
Revision Date(s): November 1, 1995; January 1, 2000; February 1, 2001; November 1, 2001; November 2, 2002; July 1, 2003; February 23, 2004; July 20, 2004; October 25, 2005; December 1, 2005; February 21, 2006; March 9, 2006	Revision Date(s): July 20, 2004; October 25, 2005; December 1, 2005; February 21, 2006; March 9, 2006
Current Effective Date: May 1, 2006	Current Effective Date: May 1, 2006

### **DESCRIPTION**

Magnetic resonance angiography (MRA) is an application of magnetic resonance imaging (MRI) that provides visualization of blood flow, as well as images of normal and diseased blood vessels. MRA does not use ionizing radiation and the contrast agents used are associated with less risk of allergic reaction or nephrotoxicity than those used for conventional angiography. Technical capabilities of current MRA make it most suitable for evaluation of medium to large size vessels. In the head, this includes the Circle of Willis and major posterior circulation vessels, while in the body this includes the aorta and its major arterial branches such as carotid, renal, hepatic, and mesenteric arteries.

### **POLICY (Diagnosis alone is not sufficient documentation of medical necessity. The clinical record should provide documentation of medical necessity.)**

MRA of the head may be considered medically necessary for:

- patients suspected of having:
  - steno-occlusive disease of the mid or large size intracranial arteries
  - cerebral aneurysm
  - intracranial vascular malformation
  - cerebral venous sinus compression or thrombosis
- patients with pulsatile tinnitus

MRA of the neck may be considered medically necessary for:

- suspected carotid stenosis or occlusion
- suspected cervicocranial arterial dissection

- suspected abnormalities of the vertebrobasilar system in members with symptoms highly suggestive of vertebrobasilar syndrome (binocular vision loss, positional vertigo, dysarthria, dysphagia, diplopia, etc.)

MRA of the chest is considered medically necessary for:

- evaluation of conditions of the thoracic aorta
- evaluation of congenital heart disease or developmental anomalies of the thoracic vasculature
- suspected pulmonary embolism when the use of iodinated contrast is contraindicated or as a substitute for pulmonary angiography

MRA of the abdomen/pelvis may be considered medically necessary for:

- suspected atherosclerotic renal artery stenosis which would be considered clinically significant in candidates for intervention
- suspected chronic mesenteric ischemia
- abdominal aortic aneurysm prior to elective repair
- patients requiring evaluation of portal and/or hepatic venous system
- patients requiring evaluation of the systemic venous system

MRA of the pelvis/lower extremities may be considered medically necessary for:

- clinically significant atherosclerotic disease of the lower extremity for which intervention would be a consideration
- atherosclerotic disease of the lower extremity in patients being evaluated for bypass surgery and in whom angiography fails to identify runoff vessels suitable for bypass

Cardiovascular Magnetic Resonance (CMR) – See separate policy

## **CODING**

### REVENUE CODE

0615, 0616, 0618

### CPT/HCPCS

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
70547	Magnetic resonance angiography, neck; without contrast material(s)
70548	Magnetic resonance angiography, neck; with contrast material(s)
70549	Magnetic resonance angiography, neck; without contrast material (s), followed by contrast material (s) and further sequences
71555	Magnetic resonance angiography, chest (excluding myocardium), with or without contrast material (s)
72159	Magnetic resonance angiography, spinal canal and contents, with or

- without contrast material (s)
- 72198 Magnetic resonance angiography, pelvis, with or without contrast material(s)
- 73225 Magnetic resonance angiography, upper extremity, with or without contrast material (s)
- 73725 Magnetic resonance angiography, lower extremity, with or without contrast material(s)
- 74185 Magnetic resonance angiography, abdomen, with or without contrast material(s)
- C8900 Magnetic resonance angiography with contrast, abdomen
- C8901 Magnetic resonance angiography without contrast, abdomen
- C8902 Magnetic resonance angiography without contrast followed by with contrast, abdomen
- C8909 Magnetic resonance angiography with contrast, chest (excluding myocardium)
- C8910 Magnetic resonance angiography without contrast, chest (excluding myocardium)
- C8911 Magnetic resonance angiography without contrast followed by with contrast, chest (excluding myocardium)
- C8912 Magnetic resonance angiography with contrast, lower extremity
- C8913 Magnetic resonance angiography without contrast, lower extremity
- C8914 Magnetic resonance angiography without contrast followed by with contrast, lower extremity

### DIAGNOSIS

**These diagnoses are otherwise subject to medical policy as stated above**

- 337.9 Unspecified disorder or autonomic nervous system
- 362.11 Hypertensive retinopathy
- 403.01 Hypertensive renal disease; malignant, with renal failure
- 404.02 Hypertensive heart and renal disease; malignant, with renal failure
- 404.03 Hypertensive heart and renal disease; malignant, with heart failure and renal failure
- 405.11 Secondary hypertension; benign, renovascular
- 430 Subarachnoid hemorrhage
- 441.00 Dissecting of aorta, unspecified site
- 441.01 Dissecting of aorta, thoracic
- 441.02 Dissecting of aorta, abdominal
- 441.03 Dissecting of aorta, thoracoabdominal
- 441.1 Thoracic aneurysm, ruptured
- 441.2 Thoracic aneurysm without mention of rupture
- 441.3 Abdominal aneurysm, ruptured
- 441.4 Abdominal aneurysm without mention of rupture
- 441.5 Aortic aneurysm of unspecified site, ruptured
- 441.6 Thoracoabdominal aneurysm, ruptured
- 441.7 Thoracoabdominal aneurysm without mention of rupture

- 441.9 Aortic aneurysm of unspecified site without mention of rupture
- 442.0 Aneurysm of artery of upper extremity
- 442.1 Aneurysm of renal artery
- 442.2 Aneurysm of iliac artery
- 442.3 Aneurysm of artery of lower extremity
- 442.81 Aneurysm of artery of neck
- 442.82 Aneurysm of subclavian artery
- 442.83 Aneurysm of splenic artery
- 442.84 Aneurysm of other visceral artery
- 442.89 Aneurysm; other
- 442.9 Aneurysm of unspecified site
- 444.0 Arterial embolism and thrombosis of abdominal aorta
- 444.1 Arterial embolism and thrombosis of thoracic aorta
- 444.21 Arterial embolism and thrombosis of arteries of upper extremity
- 444.22 Arterial embolism and thrombosis of arteries of lower extremity
- 444.81 Arterial embolism and thrombosis of iliac artery
- 444.89 Arterial embolism and thrombosis of other
- 444.9 Arterial embolism and thrombosis of unspecified artery
- 446.0 Polyarteritis (nodosa)(renal)
- 446.7 Takayasu's disease
- 747.81 Anomalies of cerebrovascular system
- 851 Cerebral laceration and contusion (check 4th and 5th digits) to include 851.00 - 851.99
- 852 Subarachnoid, subdural, and extradural hemorrhage, following injury (check 4th and 5th digits) to include 852.00 – 852.59
- 853.0 Other and unspecified intracranial hemorrhage following injury; without mention of open intracranial wound (check 5th digits) to include 853.00 – 853.09
- 853.1 Other and unspecified intracranial hemorrhage following injury; with open intracranial wound (check 5th digits) to include 853.10 – 853.19
- 854.0 Intracranial injury of other and unspecified nature; without mention of open intracranial wound (check 5th digits) to include 854.00 – 854.09
- 854.1 Intracranial injury of other and unspecified nature; with open intracranial wound (check 5th digits) to include 854.10 – 854.19

**REVISIONS**

July 20, 2004	Removed ICD-9 codes 362.01, 362.02, 440.1, 447.3, 784.0, 785.9, and 850.0 from Covered Diagnosis section.
October 25, 2005	In "Coding", Covered Diagnosis section, removed ICD-9 codes 362.01, 362.02, 440.1, 447.3, 784.0, 785.9, and 850.0.

February 21, 2006	<p>In "Description" section, removed entire content and replaced it with "Magnetic resonance angiography (MRA) is an application of magnetic resonance imaging (MRI) that provides visualization of blood flow, as well as images of normal and diseased blood vessels. MRA does not use ionizing radiation and the contrast agents used are associated with less risk of allergic reaction or nephrotoxicity than those used for conventional angiography. Technical capabilities of current MRA make it most suitable for evaluation of medium to large size vessels. In the head, this includes the Circle of Willis and major posterior circulation vessels, while in the body this includes the aorta and its major arterial branches such as carotid, renal, hepatic, and mesenteric arteries."</p> <p>In "Policy" title, added "(Diagnosis alone is not sufficient documentation of medical necessity. The clinical record should provide documentation of medical necessity.)"</p> <p>In "Policy" section, removed entire content and replaced it with "MRA head, neck, chest, abdomen/pelvis, pelvis/lower extremities" (including bullets under each heading) and "Cardiovascular Magnetic Resonance (CMR) – See separate policy".</p> <p>In "Coding" title, added "NOTE: Use of any diagnosis code does not guarantee reimbursement. Medical necessity will be based on documentation in the clinical record."</p>
March 9, 2006	<p>In "Coding" Covered Diagnosis, added 441.00, 441.01, 441.02, 441.03, 441.1, 441.2, 441.3, 441.4, 441.5, 441.6, 441.7, 441.9, 442.0, 442.1, 442.2, 442.3, 442.81, 442.82, 442.83, 442.84, 442.89, 442.9, 444.0, 444.1, 444.21, 444.22, 444.81, 444.89, 444.9.</p>

## **REFERENCES**

1. American College of Radiology Expert Panel on Neuro Imaging. Asymptomatic Cerebrovascular Disease. ACR Appropriateness Criteria 1996; Vol 1&2:NI-1.1-NI-1.25.
2. American College of Radiology Expert Panel on Cardiovascular Imaging. Acute Chest Pain, Blunt Trauma, Sudden Onset of Cold, Painful Leg, Recurrent Symptoms Following Lower Extremity Angioplasty, Recurrent Symptoms Following Lower Extremity Bypass Surgery. ACR Appropriateness Criteria 1996; Vol 1&2:CV-1.1-CV-1.7, CV-3.1-CV3.7. CV-6.1-CV-6.7, CV2-1.1-CV2-1.8, CV2-7.1-CV2-7.6, CV2-8.1-CV2-8.8, CV2-9.1-CV2-9.10.
3. Cambria RP, Kaufman JA, et al. Magnetic resonance angiography in the management of lower extremity arterial occlusive diseases: A prospective study. J Vasc Surg 1997;25(2):380-389.

4. Fattori R, Celletti F, et al. Evolution of post-traumatic aortic aneurysm in the subacute phase: Magnetic resonance imaging follow-up as a support of the surgical timing. *Eur J Cardiothorac Surg* 1998;13(5):582-586.
5. Postma CT, Joosten FBM, et al. Magnetic resonance angiography has a high reliability in the detection of renal artery stenosis. *Am J Hypertens* 1997; 10(9 Pt 1):957-963.
6. Remonda L, Heid O, Schroth G. Carotid artery stenosis, occlusion, and pseudo-occlusion: First-pass, gadolinium-enhanced, three-dimensional MR angiography - preliminary study. *Radiology* 1998; 209(1):95-102.

### **Government Agency; Medical Society; and Other Authoritative Publications**

1. Blue Cross and Blue Shield of Kansas, Medical Advisory Committee meeting, April 24, 2003 (see Blue Cross and Blue Shield of Kansas Newsletter, Blue Shield Report MAC-02-03).
2. Blue Cross and Blue Shield of Kansas, Radiology Liaison Committee meeting, February 11, 2003 (see Blue Cross and Blue Shield of Kansas Newsletter, Blue Shield Report MAC-02-03).

### **Web site for Additional Information**

1. American College of Radiology. (No date). Vascular/MRA: Techniques and indications [ACR Standard for MRI]. Retrieved June 15, 1999 at [http://www.acr.org/departments/stand\\_accred/standards/pdf\\_standards/mri/monograph\\_vasc.pdf](http://www.acr.org/departments/stand_accred/standards/pdf_standards/mri/monograph_vasc.pdf)