

**FIRST COAST SERVICE OPTIONS  
FLORIDA MEDICARE PART B  
LOCAL COVERAGE DETERMINATION**

**CPT/HCPCS Codes**

70544 Magnetic resonance angiography, head; without contrast material(s)

70545 with contrast material(s)

70546 without contrast material(s), followed by contrast material(s) and further sequences

70547 Magnetic resonance angiography, neck; without contrast material(s)

70548 with contrast material(s)

70549 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)

72198 Magnetic resonance angiography, pelvis, 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)

**LCD Number**

70544

**LCD Database ID Number**

L5841

**Contractor Name**

First Coast Service Options, Inc.

**Contractor Number**

00590

**Contractor Type**

Carrier

**LCD Title**

Magnetic Resonance Angiography (MRA)

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**CMS National Coverage Policy**

Language quoted from CMS National Coverage Determinations (NCDs) and coverage provisions in interpretive manuals are italicized throughout the Local Coverage Determination (LCD). NCDs and coverage provisions in interpretive manuals are not subject to the LCD Review Process (42 CFR 405.860[b] and 42 CFR 426 [Subpart D]). In addition, an administrative law judge may not review an NCD. See § 1869(f)(1)(A)(i) of the Social Security Act.

Unless otherwise specified, *italicized* text represents quotation from one or more of the following CMS sources:

CMS Manual System, Pub. 100-3, Medicare National Coverage, Chapter 1, Section 220.3  
Program Memorandum, Transmittal 38, 170, 803, 1795, (Change Request 2673)

**Primary Geographic Jurisdiction**

Florida

**Secondary Geographic Jurisdiction**

N/A

**CMS Region**

Region IV

**CMS Consortium**

Southern

**Original Determination Effective Date**

07/15/1995

**Original Determination Ending Date**

N/A

**Revision Effective Date**

10/01/2005

**Revision Ending Date**

09/30/2005

## **Indications and Limitations of Coverage and/or Medical Necessity**

Magnetic Resonance Angiography (MRA) is an application of magnetic resonance (MR) imaging that provides visualization of blood flow, as well as images of normal and diseased blood vessels. Since MRA contrast agents are not nephrotoxic and are rarely associated with allergic type reactions, MRA without or with gadolinium-based contrast enhancement is an imaging alternative for patients who cannot tolerate iodine-based contrast media.

Although MRA appears to be a rapidly developing technology, the clinical safety and effectiveness of this procedure for all anatomical regions has not been proven. As a result Medicare will provide coverage on a limited basis. Below are the indications for which Medicare coverage is allowed for MRA. All other uses of MRA will not be covered.

### **Head and Neck (procedure codes 70544-70549)**

*All of the following criteria must apply in order for Medicare to provide coverage for MRA of the head and neck:*

*a. to evaluate the carotid arteries, the circle of Willis, the anterior, middle or posterior cerebral arteries, the vertebral or basilar arteries or the venous sinuses;*

*b. to verify the need for anticipated surgery for conditions that include, but are not limited to, tumor, aneurysms, vascular malformations, vascular occlusion, or thrombosis. Within this broad category of disorders, medical necessity is the underlying determinant of the need for an MRA. Because MRA and CA perform the same diagnostic function, the medical records should clearly justify and demonstrate the existence of medical necessity; and*

*c. MRA and contrast angiography (CA) are not expected to be performed on the same patient for diagnostic purposes prior to the application of anticipated therapy. Only one of these tests will be covered routinely unless the physician can demonstrate the medical need to perform both tests.*

### **Chest (procedure code 71555)**

*a. Diagnosis of Pulmonary Embolism*

*Patients who are allergic to iodinated contrast material face a high risk of developing complications if they undergo pulmonary angiography or computed tomography angiography. Therefore, Medicare will cover MRA of the chest for diagnosing a suspected pulmonary embolism only when it is contraindicated for the patient to receive intravascular iodinated contrast material.*

*b. Evaluation of Thoracic Aortic Dissection and Aneurysm*

*Medicare will provide coverage only for MRA or for CA when used as a diagnostic test. However, if both MRA and CA of the chest are used, the physician must demonstrate the medical need for performing these tests. While the intent of this policy is to provide reimbursement for either MRA or CA, CMS is also allowing flexibility for physicians to make appropriate decisions concerning the use of these tests based on the needs of individual patients.*

### **Peripheral Arteries of Lower Extremities (procedure code 73725)**

*Studies have proven that MRA of peripheral arteries is useful in determining the presence and extent of peripheral vascular disease in lower extremities. This procedure is non-invasive and has been shown to find occult vessels in some patients for which those vessels were not apparent when CA was performed.*

Medicare will cover either MRA or CA to evaluate peripheral arteries of the lower extremities. However, both MRA and CA may be useful in some cases, such as:

a. A patient has had CA and this test was unable to identify a viable run-off vessel for bypass. When exploratory surgery is not believed to be a reasonable medical course of action for this patient, MRA may be performed to identify the viable runoff vessel; or

b. A patient has had MRA, but the results are inconclusive.

### **Abdomen (procedure codes 74185) and Pelvis (procedure codes 72198)**

#### **a. Pre-operative Evaluation of Patients Undergoing Elective Abdominal Aortic Aneurysm (AAA) Repair (Effective July 1, 1999)**

The MRA is covered for pre-operative evaluation of patients undergoing elective AAA repair if the scientific evidence reveals MRA is considered comparable to CA in determining the extent of AAA, as well as in evaluating aortoiliac occlusion disease and renal artery pathology that may be necessary in the surgical planning of AAA repair. These studies also reveal that MRA could provide a net benefit to the patient. If preoperative CA is avoided, then patients are not exposed to the risks associated with invasive procedures, contrast media, end-organ damage, or arterial injury.

#### **b. Imaging the Renal Arteries and the Aortoiliac Arteries in the Absence of AAA or Aortic Dissection (Effective July 1, 2003)**

The MRA coverage is expanded to include imaging the renal arteries and the aortoiliac arteries in the absence of AAA or aortic dissection. MRA should be obtained in those circumstances in which using MRA is expected to avoid obtaining CA, when physician history, physical examination, and standard assessment tools provide insufficient information for patient management, and obtaining an MRA has a high probability of positively affecting patient management. However, CA may be ordered after obtaining the results of an MRA in those rare instances where medical necessity is demonstrated.

All other uses of MRA for which CMS has not specifically indicated coverage continue to be noncovered.

Studies show that diagnostic evaluation of several upper abdominal malignancies may require an evaluation for vascular invasion by the tumor in deciding if the patient is a candidate for surgical resection of the tumor. One example is with pancreatic carcinoma. Pancreatic head carcinomas can grow in close proximity to the superior mesenteric vein.

Evidence suggests that MRA provides reliable, noninvasive evaluation of the portal and hepatic veins. MRA can provide focused evaluation of particular areas of interest as well as a broad overview anatomic display that is helpful to surgeons and interventionalists planning procedures.

### **Coverage Topic**

Diagnostic Tests and X-Rays

### **CPT/HCPCS Codes**

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### **ICD-9 Codes that Support Medical Necessity**

#### **MRA of head and neck (procedure codes 70544-70549)**

094.89	Other specified neurosyphilis
191.0-191.9	Malignant neoplasm of brain
192.1	Malignant neoplasm of cerebral meninges
194.5	Malignant neoplasm of carotid body
227.5	Benign neoplasm of carotid body
228.02	Hemangioma, any site, of intracranial structures
239.6	Neoplasms of unspecified nature of brain
325	Phlebitis and thrombophlebitis of intracranial venous sinuses
430	Subarachnoid hemorrhage
431	Intracerebral hemorrhage
432.1	Subdural hemorrhage
432.9	Unspecified intracranial hemorrhage
433.00-433.91	Occlusion and stenosis of precerebral arteries
434.00-434.91	Occlusion of cerebral arteries
435.0-435.9	Transient cerebral ischemia
436	Acute, but ill-defined, cerebrovascular disease
437.3	Cerebral aneurysm, nonruptured
437.4	Cerebral arteritis
437.6	Nonpyogenic thrombosis of intracranial venous sinus
442.81	Other aneurysm of artery of neck
446.5	Giant cell arteritis
747.81	Anomalies of cerebrovascular system
900.00-900.9	Injury to blood vessels of head and neck

#### **MRA of chest (procedure code 71555)**

415.0	Acute cor pulmonale
415.11-415.19	Pulmonary embolism and infarction
416.0	Primary pulmonary hypertension
416.8	Other chronic pulmonary heart diseases
416.9	Chronic pulmonary heart disease, unspecified
441.01	Thoracic dissection of aorta
441.03	Thoracoabdominal dissection of aorta
441.2	Thoracic aneurysm without mention of rupture
441.7	Thoracoabdominal aneurysm, without mention of rupture
786.00	Respiratory abnormality, unspecified
786.05	Shortness of breath
786.06	Tachypnea
786.3	Hemoptysis

**MRA of pelvis (procedure code 72198)**

233.9	Carcinoma in situ of other and unspecified urinary organs
236.90-236.99	Neoplasm of uncertain behavior of other and unspecified urinary organs
442.2	Other aneurysm of iliac artery
443.22	Dissection of iliac artery
444.81	Arterial embolism and thrombosis of iliac artery

**MRA of peripheral arteries of lower extremities (procedure code 73725)**

250.70-250.73	Diabetes with peripheral circulatory disorders
440.20-440.29	Atherosclerosis of native arteries of the extremities
440.30-440.32	Atherosclerosis of bypass graft of extremities
442.3	Other aneurysm of artery of lower extremity
443.1	Thromboangiitis obliterans [Buerger's disease]
443.81	Peripheral angiopathy in diseases classified elsewhere
443.82	Erythromelalgia
443.89	Other specified peripheral vascular diseases
443.9	Peripheral vascular disease, unspecified
444.22	Arterial embolism and thrombosis of the arteries of the lower extremity

**MRA of abdomen (procedure code 74185)**

151.0-151.9	Malignant neoplasm of stomach
152.0-152.9	Malignant neoplasm of small intestine, including duodenum
153.0-153.9	Malignant neoplasm of colon
154.0	Malignant neoplasm of rectosigmoid junction
155.0-155.2	Malignant neoplasm of liver and intrahepatic bile ducts
156.0-156.9	Malignant neoplasm of gallbladder and extrahepatic bile ducts
157.0-157.9	Malignant neoplasm of pancreas
158.0-158.9	Malignant neoplasm of retroperitoneum and peritoneum

159.0-159.9	Malignant neoplasm of other and ill-defined sites within the digestive organs and peritoneum
188.0-189.9	Malignant neoplasm of bladder, kidney, and other and unspecified urinary organs
198.0	Secondary malignant neoplasm of kidney
223.0	Benign neoplasm of kidney, except pelvis
223.1	Benign neoplasm of renal pelvis
233.9	Carcinoma in situ of other and unspecified urinary organs
236.90-236.99	Neoplasm of uncertain behavior of other and unspecified urinary organs
401.0-401.9	Essential hypertension
402.00-402.91	Hypertensive heart disease
403.00-403.91	Hypertensive kidney disease
404.00-404.93	Hypertensive heart and kidney disease
405.01	Secondary hypertension, malignant, renovascular
405.11	Secondary hypertension, benign, renovascular
405.91	Secondary hypertension, unspecified, renovascular
440.1	Atherosclerosis of renal artery
441.02	Abdominal dissection of aorta
441.03	Thoracoabdominal dissection of aorta
441.4	Abdominal aneurysm without mention of rupture
441.7	Thoracoabdominal aneurysm, without mention rupture
441.9	Aortic aneurysm of unspecified site without mention of rupture
444.0	Arterial embolism and thrombosis of abdominal aorta
447.1	Stricture of artery
447.3	Hyperplasia of renal artery
580.0-580.9	Acute glomerulonephritis
581.0-581.9	Nephrotic syndrome
582.0-582.9	Chronic glomerulonephritis
583.0-583.9	Nephritis and nephropathy, not specified as acute or chronic
588.0-588.9	Disorders resulting from impaired renal function
593.81	Vascular disorders of kidney
593.9	<b>Unspecified disorder of kidney and ureter</b>
996.81	<b>Complications of transplanted kidney</b>
V12.59	<b>Personal history of certain other diseases of circulatory system]</b>

**Diagnoses that Support Medical Necessity**

N/A

**ICD-9 Codes that DO NOT Support Medical Necessity**

N/A

**Diagnoses that DO NOT Support Medical Necessity**

N/A

## **Documentation Requirements**

Documentation maintained in the patient's file must indicate the medical necessity of this procedure. All coverage criteria listed in the "Indications and Limitations of Coverage and/ or Medical Necessity" section must be documented in the patient's medical record, as well as a hard copy of the procedure results and made available to Medicare upon request. This information can generally be found in the office/progress notes, history and physical, and/or operative notes.

If the provider of the magnetic resonance angiography study is other than the ordering/referring physician, the provider of the service must maintain hard copy documentation of test results and interpretation, along with copies of the ordering/referring physician's order for the studies. The physician must state the reason for the MRA in his order for the test.

MRA and contrast angiography (CA) are not expected to be performed on the same patient for diagnostic purposes prior to the application of anticipated therapy. Only one of these tests will be covered routinely unless the physician can demonstrate the medical need to perform both tests. The medical record must clearly document the medical necessity of performing both tests.

Examples of indications that support medical necessity of contrast angiography (CA) performed as an adjunct to MRA are given below:

- Clarify conditions where test results or clinical information are contradictory (e.g., MRA and duplex Doppler ultrasound are discordant with the clinical differential diagnosis and conventional angiography, with its ability to directly measure pressure gradients across stenosis of questionable hemodynamic significance, can provide more definitive information).
- Verify the site of clinically important vascular stenosis and help map out the surgical/endovascular approach (e.g., to determine which lesions should have an angioplasty and/or stent vs. which lesions require surgical bypass graft or no treatment at all).
- Identify situations where MRA is nonconclusive or degraded by metallic artifact.

## **Utilization Guidelines**

It is expected that these services would be performed as indicated by current medical literature and/or standards of practice. When services are performed in excess of established parameters, they may be subject to review for medical necessity.

## **Sources of Information and Basis for Decision**

American College of Radiology (2001). ACR Practice Guideline for the Performance of Pediatric and Adult Neurovascular Magnetic Resonance Angiography (MRA).

Grainger & Allison's. (2001). "Diagnostic Radiology: A Textbook of Medical Imaging", (4<sup>th</sup> ed.) Churchill Livingstone Inc.

Koelemay, M. et al. (2001). "Magnetic Resonance Angiography for the Evaluation of Lower Extremity Arterial Disease", JAMA. 2001; 285:1338-1345.

Leung, D.A., et al., "MR Angiography of the Renal Arteries", Radiology Clinics of North America, 40(4): 847-65, 2002.



NIA Diagnostic Imaging Guidelines. [on-line]. Available:  
[http://www.radmd.com/assets/20050305\\_guidelines.pdf](http://www.radmd.com/assets/20050305_guidelines.pdf) [2005, March]

### **Advisory Committee Notes**

This policy does not reflect the sole opinion of the contractor or Contractor Medical Director. Although the final decision rests with the contractor, this policy was developed in cooperation with advisory groups, which includes representatives from numerous societies.

Carrier Advisory Committee Meeting held on 07/19/2003.

### **Start Date of Comment Period**

N/A

### **End Date of Comment Period**

N/A

### **Start Date of Notice Period**

11/01/2005

### **Revision History**

Revision Number	14	LCR B2005-095
Start Date of Comment Period	N/A	
Start Date of Notice Period	11/01/2005	1 <sup>st</sup> Quarter 2006 Update
Revised Effective Date	10/01/2005	

Explanation of Revision: Annual 2006 ICD-9-CM Update. Addition of code 443.82 to ICD-9- code section Peripheral Arteries of Lower Extremities (procedure code 73725). Descriptor change to codes 403.00-403.91 and 404.00-404.93 in the ICD-9 section for Abdomen (procedure code 74185). The effective date of policy revision is based on date of service.

Revision Number	13	LCR B2005-048
Start Date of Comment Period	N/A	
Start Date of Notice Period	08/01/2005	4 <sup>th</sup> Quarter 2005 Update
Revised Effective Date	06/20/2005	

Explanation of Revision: Adding additional ICD-9-CM codes for procedure code 74185 (401.0-401.9 and 402.00-402.91). Indications are reflected from NCD Manual. The effective date of the policy revision is based on date of service. Converted into LCD format.

Revision Number	12	PCR B2003-254
Start Date of Comment Period	07/11/2003	
Start Date of Notice Period	11/01/2003	1 <sup>st</sup> Quarter 2004 Update
Revised Effective Date	01/05/2004	

Explanation of Revision: Adding procedure code 72198 to policy. Adding additional ICD-9 Codes for procedure code 74185 (444.0, 447.1, 996.81, and V12.59). Adding Indications and Limitations and ICD-9

Codes that Support Medical Necessity for 72198. Expanding LMRP description and documentation requirements. The effective date of the policy revisions is based on date of service.

Revision Number	11	PCR B2003-214
Start Date of Comment Period	N/A	
Start Date of Notice Period	08/01/2003	4 <sup>th</sup> Quarter 2003 Update
Revised Effective Date	07/01/2003	

Explanation of Revision: Additional ICD-9 codes added to MRA of the abdomen (CPT 74185).

Revision Number	10	PCR B2003-150
Start Date of Comment Period	N/A	
Start Date of Notice Period	08/01/2003	4 <sup>th</sup> Quarter 2003 Update
Revised Effective Date	06/09/2003	

Explanation of Revision: Additional indication and ICD-9 codes added to MRA of the abdomen (CPT 74185).

Revision Number	9	PCR B2001-017
Start Date of Comment Period	N/A	
Start Date of Notice Period	02/01/2001	2 <sup>nd</sup> Quarter 2001 Update
Revised Effective Date	01/01/2001	

Explanation of Revision: Annual 2001 HCPCS Update.

Revision Number	8	PCR B99-152
Start Date of Comment Period	05/13/1999	
Start Date of Notice Period		Jan/Feb 2000 Update
Revised Effective Date	11/29/1999 & 02/21/2000	
Revision Number	7	PCR B99-112
Start Date of Comment Period	N/A	
Start Date of Notice Period	09/01/1999	Sept/Oct 1999 Update
Revised Effective Date	07/01/1999	
Revision Number	6	PCR B99-100
Start Date of Comment Period	N/A	
Start Date of Notice Period	07/01/1999	July/Aug 1999 Update
Revised Effective Date	07/01/1999	

Explanation of Revision: Original policy struck out.

Revision Number	5	PCR B98-163
Start Date of Comment Period	08/1998	
Start Date of Notice Period	11/13/1998	
Revised Effective Date	01/01/1999	
Revision Number	4	PCR B97-106A
Start Date of Comment Period	N/A	
Start Date of Notice Period	09/04/1997	
Revised Effective Date	10/01/1997	

Revision Number 3 PCR B97-106  
Start Date of Comment N/A  
Period 09/04/1997  
Start Date of Notice Period 10/01/1997  
Revised Effective Date

Revision Number 2 PCR B96-138  
Start Date of Comment N/A  
Period N/A  
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Revised Effective Date

Revision Number 1 PCR B95-093A  
Start Date of Comment N/A  
Period N/A  
Start Date of Notice Period 09/15/1995  
Revised Effective Date

Revision Number Original PCR B95-093  
Start Date of Comment 04/28/1995  
Period:  
Start Date of Notice 07/15/1995  
Period:  
Original Effective Date

**Related Documents**

N/A

**LCD Attachments**

N/A