

Subject: Abdomen MRA, (74185)		Original Effective Date: 12/13/17
Policy Number: MCR: 641	Revision Date(s):	
Review Date: 12/13/17, 12/19/18, 12/10/19		

DISCLAIMER

This Molina Clinical Review (MCR) is intended to facilitate the Utilization Management process. It expresses Molina's determination as to whether certain services or supplies are medically necessary, experimental, investigational, or cosmetic for purposes of determining appropriateness of payment. The conclusion that a particular service or supply is medically necessary does not constitute a representation or warranty that this service or supply is covered (i.e., will be paid for by Molina) for a particular member. The member's benefit plan determines coverage. Each benefit plan defines which services are covered, which are excluded, and which are subject to dollar caps or other limits. Members and their providers will need to consult the member's benefit plan to determine if there are any exclusion(s) or other benefit limitations applicable to this service or supply. If there is a discrepancy between this policy and a member's plan of benefits, the benefits plan will govern. In addition, coverage may be mandated by applicable legal requirements of a State, the Federal government or CMS for Medicare and Medicaid members. CMS's Coverage Database can be found on the CMS website. The coverage directive(s) and criteria from an existing National Coverage Determination (NCD) or Local Coverage Determination (LCD) will supersede the contents of this Molina Clinical Review (MCR) document and provide the directive for all Medicare members.

DESCRIPTION OF PROCEDURE/SERVICE/PHARMACEUTICAL

Magnetic Resonance Angiography (MRA) is a non- X-ray (no ionizing radiation) imaging scan that uses a strong magnetic field and radiofrequency waves to produce detailed images of vascular structures. MRA may be performed either without or with the injection of (gadolinium) contrast material into a vein. MRA images are electronically processed to remove surrounding non-vascular anatomy, so that only the arteries or veins of interest are displayed. These vascular images can be reconstructed and rotated in different planes. MRA can sometimes replace or can be used to supplement conventional invasive catheter angiography.

RECOMMENDATIONS

Duplex ultrasonography is frequently the study of choice for initial evaluation and surveillance for many clinical scenarios involving the vasculature of the abdomen.

- Aneurysm/Dissection
 - For evaluation of a known or suspected aneurysm and ultrasound was indeterminate
 - For follow up evaluation of an aortic aneurysm and repair is being considered (generally aneurysms ≥ 5.5cm)
 - For evaluation of a known aneurysm and having new symptoms (E.g. pain)
 - For evaluation of known or suspected dissection

- Embolism or other occlusions
 - For evaluation of suspected embolism or thrombus of the abdomen (E.g. hepatic or renal vein thrombosis)

- For evaluation of known or suspected vasculitis (e.g. Takayasu's arteritis)
- Fistula/AVM
 - For evaluation of known or suspected arteriovenous malformation or fistula
- Stenosis
 - For evaluation of known or suspected vascular disease
 - For evaluation of ischemic colitis
 - For evaluation of mesenteric ischemia/angina (ultrasound can be attempted)
 - For evaluation of known or suspected peripheral vascular disease as identified on ankle/brachial index testing or arterial Doppler studies
 - For evaluation of renovascular hypertension with any of the following: (ultrasound can be attempted)
 - Failure of three (3) or more anti-hypertensive medications at optimal dosing.
 - Acute elevation of creatinine after initiation of an angiotension converting enzyme inhibitor (ACE inhibitor) or angiotension receptor blocker (ARB).
 - Asymmetric kidney size noted on ultrasound.
 - Onset of hypertension in a person younger than age 30 without any other risk factors or family history of hypertension.
 - New onset of hypertension after age 55 (>160/100).
 - Acute rise in blood pressure in a person with previously stable blood pressures.
 - Flash pulmonary edema without identifiable causes.
 - Malignant hypertension.
- Differentiate between vascular and nonvascular tumors
 - To evaluate for vascular invasion or displacement by tumor
- Evaluate hemorrhage or trauma
 - To evaluate the source of hemorrhage or vascular compromise due to trauma
- Congenital
 - To evaluate congenital disorders of the blood vessels involving the abdomen
- Other
 - For evaluation of a vascular abnormality seen on other imaging and additional clarification is required
- Pre/Post Procedural
 - Pre-operative/ Pre procedural evaluation when blood vessel detail is needed.
 - Post-operative/Post-procedural for routine recommended follow up or for potential post-operative complications.
 - A repeat study may be needed to help evaluate a patient's progress after treatment procedure intervention or surgery. The reason for the repeat study and that it will affect care must be clear.
- Combination requests
 - Abdomen MRA and Pelvic MRA is appropriate for evaluation of an aortic dissection or aneurysm.

- Abdomen MRA and Lower Extremity MRA is appropriate for evaluation of peripheral vascular disease as identified on ankle/brachial index testing or arterial Doppler studies and an “MRA runoff” study is needed.

ADDITIONAL CRITICAL INFORMATION

The above medical necessity recommendations are used to determine the best diagnostic study based on a patient’s specific clinical circumstances. The recommendations were developed using evidence based studies and current accepted clinical practices. Medical necessity will be determined using a combination of these recommendations as well as the patient’s individual clinical or social circumstances.

- Tests that will not change treatment plans should not be recommended.
- Same or similar tests recently completed need a specific reason for repeat imaging.

REFERENCES USED FOR DETERMINATIONS

1. Willmann JK, Baumert B, Schertler T, Wildermuth S, et al. Aortoiliac and Lower Extremity Arteries Assessed with 16–Detector Row CT Angiography: Prospective Comparison with Digital Subtraction Angiography1. *Radiology* 2005;236:1083-1093 and 1094-1103
2. Godshall, C.J. (2005). Computed tomographic angiography allows accurate planning of the setting and technique of open and percutaneous vascular interventions. *The American Journal of Surgery*, 190(2), 218-220. doi:10.1016/j.amjsurg.2005.05.015.
3. Rybicki FJ, Bucklye O, Yucel EK, et al, Expert panel on vascular imaging, ACR appropriateness criteria-claudication-suspected vascular etiology, accessed at http://www.acr.org/SecondaryMainMenuCategories/quality_safety/app_criteria/pdf/Vascular/ClaudicationDoc9.aspx.
4. Lin, P.H. (2009). Assessment of aortic pathology and peripheral arterial disease using multidetector computed tomographic angiography. *Vascular and Endovascular Surgery*, 42(6), 583-598. doi: 10.1177/1538574408320029
5. Shih, M.C., & Hagspiel, K.D. (2007). CTA and MRA in mesenteric ischemia: Part 1, role in diagnosis and differential diagnosis. *American Journal of Roentgenology*, 188, 452-461. Retrieved from <http://www.ajronline.org/content/188/2/452.full.pdf+html>
6. Stavropoulos, S.W., Clark, T.W., Carpenter, J.P., Fairman, R.M., Litt, H., Velazquez, O.C. . . . Baum, R.A. (2005). Use of CT angiography to classify endoleaks after endovascular repair of abdominal aortic aneurysms. *Official Journal of the Society of International Radiology*, 16(5), 663-667. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/15872321>
7. Liu, P.S., & Platt, J.F. (2010). CT angiography of the renal circulation. *Radiol Clin North Am.* 48(2), 347-65. doi: 10.1016/j.rcl.2010.02.005.
8. Angeliki Theodoropoulou, Ioannis E Koutroubakis Ischemic colitis: Clinical practice in diagnosis and treatment *World J Gastroenterol* 2008 December 28; 14(48): 7302-7308.
9. Willmann JK, Wildermuth S, Pfammatter T, et al, Aortoiliac and renal arteries: prospective intra-individual comparison of contrast enhanced three-dimensional MR angiography and multi– detector row CT angiography, *Radiology*, 2003; 226:798-811.
10. Lee SS, et al. Hepatic arteries in potential donors for living related liver transplantation: evaluation with multi–detector row CT angiography, *Radiology*, 2003; 227:391-399.
11. Maki, J.H., Wilson, G.J., Eubank, W.B., Glickerman, D.J., Millan, J.A., & Hoogveen, R.M. (2007). Navigator-gated MR angiography of the renal arteries: A potential screening tool for renal artery stenosis. *American Journal of Roentgenology*, 188(6), W540-546. Retrieved from <http://www.ajronline.org/content/188/6/W540.long>

12. Leung DA, Hagspiel KD, Angle JF, et al. MR angiography of the renal arteries, Radiol Clin N Am, 2002; 40:847-865.
13. Collins R, Cranny G, Burch J, et al. A systematic review of duplex ultrasound, magnetic resonance angiography and computed tomography angiography for the diagnosis and assessment of symptomatic, lower limb peripheral arterial disease. Health Technol Assess. 2007; 11(20): iii-iv, xi- xiii, 1-184.
14. Lakshminarayan R, Simpson JO, Ettles DF. Magnetic resonance angiography: Current status in the planning and follow-up of endovascular treatment in lower-limb arterial disease. Cardiovasc Intervent Radiol. 2009; 32(3):397-405.

CODING INFORMATION: THE CODES LISTED IN THIS POLICY ARE FOR REFERENCE PURPOSES ONLY. LISTING OF A SERVICE OR DEVICE CODE IN THIS POLICY DOES NOT IMPLY THAT THE SERVICE DESCRIBED BY THIS CODE IS COVERED OR NON-COVERED. COVERAGE IS DETERMINED BY THE BENEFIT DOCUMENT. THIS LIST OF CODES MAY NOT BE ALL INCLUSIVE.

74185	MR (Magnetic Resonance) Angiography Abdomen)
-------	--