Cohere Medicare Advantage Policy - Magnetic Resonance Angiography (MRA), Abdomen/Pelvis

Clinical Guidelines for Medical Necessity Review

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Table of Contents

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Medical Necessity Criteria

Service: Magnetic Resonance Angiography (MRA), Abdomen/Pelvis

Benefit Category

Diagnostic Services in Outpatient Hospital
Diagnostic Tests (other)

Please Note: This may not be an exhaustive list of all applicable Medicare benefit categories for this item or service.

Related CMS Documents

Please refer to CMS Medicare Coverage Database for the most current applicable CMS National Coverage.[12-20]

- National Coverage Determination (NCD). Magnetic resonance imaging (MRI)(220.2)
- Local Coverage Determination (LCD) Magnetic resonance angiography (MRA) (L33633)
- Local Coverage Determination (LCD) Magnetic resonance angiography (MRA) (L34865)
- Local Coverage Determination (LCD) Magnetic resonance angiography (MRA) (L34424)
- Local Coverage Determination (LCD) Magnetic resonance angiography (MRA) (L34372)
- Billing and Coding: Magnetic resonance angiography (MRA) (A57779)
- Billing and Coding: Magnetic resonance angiography (MRA) (A56747)
- Billing and Coding: Magnetic resonance angiography (MRA) (A56775)
- Billing and Coding: Magnetic resonance angiography (MRA) (A56805)

Recommended Clinical Approach

Magnetic resonance angiography (MRA) visualizes the blood vessels in the abdomen and pelvis. It aids in diagnosing and evaluating vascular conditions such as aneurysms, stenosis, occlusions, and vascular malformations. Unlike CT angiography, MRA does not use ionizing radiation yet provides detailed images of blood vessels and surrounding tissues. Magnetic resonance venography (MRV) of the abdomen and pelvis is a non-invasive imaging technique that uses magnetic resonance imaging (MRI) to visualize the veins in these regions. This method is particularly useful for evaluating venous

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disorders without exposing patients to ionizing radiation. MRA and MRV are less invasive than conventional X-ray digital subtraction angiography.[1]

Evaluation of Clinical Harms and Benefits

Cohere Health uses the criteria below to ensure consistency in reviewing the conditions to be met for coverage of MRA of the abdomen and pelvis. This process helps to prevent both incorrect denials and inappropriate approvals of medically necessary services. Specifically, limiting incorrect approvals reduces the risks associated with unnecessary procedures, such as complications from surgery, infections, and prolonged recovery times.

The potential clinical harms of using these criteria may include:

- There is a risk of malfunction of implanted medical devices (e.g., implanted pacemakers, cochlear implants).
- A potential exists for allergic reactions to contrast material, if used in the study. The MRI department staff will monitor the patient for an allergic reaction and treat as recommended by a physician.[21-23]
- Use of gadolinium-based contrast is not recommended during pregnancy or in patients with acute or chronic kidney injury or disease.[21-23]
- If sedation is used for the study (for anxiety or claustrophobia), there is a risk of over-sedation. The patient will be monitored during the procedure to reduce this risk.
- There is uncertain risk for MR imaging in pregnant patients. The decision to image in a pregnant patient should be made on an individual basis in consultation with the patient's obstetric provider.[24]
- There is a risk of increased healthcare costs and complications from the inappropriate use of additional interventions.[25]

The clinical benefits of using these criteria include:

- As MR imaging techniques evolve, the scan time of MR angiography of the pelvis and abdomen have significantly shortened, leading to an overall better patient experience.[26]
- MRA produces images with high spatial resolution and wide fields of view, resulting in improved visualization of hard-to-image structures, such as the abdominal vasculature.
- Radiation avoidance: MRA images approach the quality of CTA images while sparing the patient from radiation.[26] Patients avoid risks

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associated with CTA, including risks of contrast media, end-organ damage, or arterial injury.[12]
- Enhanced overall patient satisfaction and healthcare experience.

This policy includes provisions for expedited reviews and flexibility in urgent cases to mitigate risks of delayed access. Evidence-based criteria are employed to prevent inappropriate denials, ensuring that patients receive medically necessary care. The criteria aim to balance the need for effective treatment with the minimization of potential harms, providing numerous clinical benefits in helping avoid unnecessary complications from inappropriate care.

In addition, the use of these criteria is likely to decrease inappropriate denials by creating a consistent set of review criteria, thereby supporting optimal patient outcomes and efficient healthcare utilization.

Medical Necessity Criteria

Indications

➔ **Magnetic resonance angiography (MRA), abdomen/pelvis** is considered appropriate if **ANY** of the following is **TRUE**[1-2]:
- ◆ **ALL** of the following:
  - **ANY** of the following is **TRUE**:
    - Conventional (catheter) angiography has not been performed; **OR**
    - Conventional (catheter) angiography has been performed, and the results are inconclusive or require further evaluation[16]; **AND**
  - **ANY** of the following is **TRUE**:
    - Evaluation of the renal arteries and the aortoiliac arteries if **ANY** of the following are true:
      - ◆ Evaluation for surgical planning prior to AAA repair; **OR**
      - ◆ When standard testing (history, physical examination, etc.) provides insufficient information for patient management; **OR**
      - ◆ Evaluation of possible renal artery stenosis with evidence of renovascular hypertension, including but not limited to **ANY** of the following

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- History of early or late onset of hypertension; **OR**
- Hypertension refractory to medication; **OR**
- Worsening renal function; **OR**
- Renal artery bruit; **OR**
- Abnormal diagnostic laboratory tests (elevated serum renins, increasing creatinine); **OR**
- Other radiologic tests (ultrasound, captopril scintigraphy, or other imaging showing small kidney or unequal kidney sizes); **OR**

○ Other abdominopelvic vascular evaluation, including **ANY** of the following:
- ◆ Vascular injury; **OR**
- ◆ Portal and hepatic veins; **OR**
- ◆ Thromboembolic disease; **OR**
- ◆ Suspected vascular invasion of malignancy; **OR**

○ Surgery or invasive procedure is anticipated and may be found to be appropriate based upon MRA results for conditions including, but not limited to, the following: tumor, aneurysms, vascular malformations, or thrombosis; **OR**

◆ Repeat imaging (defined as repeat request following recent imaging of the same anatomic region with the same modality), in the absence of established guidelines, will be considered reasonable and necessary if **ANY** of the following is **TRUE**:
- New or worsening symptoms, such that repeat imaging would influence treatment; **OR**
- One-time clarifying follow-up of a prior indeterminate finding; **OR**
- In the absence of change in symptoms, there is an established need for monitoring which would influence management.

➔ **Magnetic resonance venography (MRV), abdomen/pelvis** is considered appropriate if **ANY** of the following is **TRUE:**

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- Vascular conditions, known or suspected, including **ANY** of the following:
  - Diffuse unexplained lower extremity edema with negative or inconclusive ultrasound; **OR**
  - May-Thurner syndrome (iliac vein compression syndrome including pelvic CT venography)[9]; **OR**
  - Retroperitoneal hematoma or hemorrhage; **OR**
  - Large vein injury secondary to trauma; **OR**
  - Large vein thrombosis of the major abdominal or pelvic veins, including IVC, iliac, renal, portal, hepatic, and mesenteric veins, when Doppler ultrasound is inconclusive or indicates presence or complications; **OR**
  - Vascular invasion or displacement by tumor; **OR**
  - Detailed evaluation for Pelvic Congestion Syndrome; **OR**
- Vascular mapping for organ donation; **OR**
- Initial diagnostic, one-time pre or one-time post-treatment evaluation for treatment planning or evidence of clinical concern for **ANY** of the following:
  - Anastomotic integrity or stent patency; **OR**
  - Portal venous system (hepatic portal system) after Doppler ultrasound has been performed; **OR**
  - Vascular malformation; **OR**
  - Vascular mapping for organ donation or before procedure/surgery for planning purposes (including TIPS); **OR**
- Repeat imaging of a specific area or structure using the same imaging modality (in the absence of an existing follow-up guideline) is considered appropriate when **ALL** of the following is **TRUE**:
  - There is documented clinical necessity; **AND**
  - Prior imaging results of the specific area or structure, obtained using the same imaging modality, must be documented and available for comparison; **AND**
  - **ANY** of the following is **TRUE**:
    - A change in clinical status, such as worsening symptoms or the emergence of new symptoms, that may influence the treatment approach; **OR**
    - The requirement for interval reassessment, which

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may alter the treatment plan; **OR**
    - One-time follow-up of a prior indeterminate finding to assess for interval change; **OR**
    - The need for re-imaging either before or after performing an invasive procedure.

Non-Indications

➔ **Magnetic resonance angiography (MRA), abdomen/pelvis** is not considered appropriate if **ANY** of the following is **TRUE**:

- Used in conjunction with conventional contrast angiography when the criteria listed in the Indications section above have not been met[12-16]; **OR**
- If contrast is used, history of anaphylactic allergic reaction to gadolinium contrast media with detailed guidelines for use in patients with renal insufficiency; **OR**
- The patient has metallic clips on vascular aneurysms; **OR**
- Incompatible implantable devices (e.g., pacemakers, defibrillators, cardiac valves); **OR**
- Metallic foreign body in orbits/other critical area(s) or within the field of view and obscuring area of concern; **OR**

*NOTE: MRI in patients with claustrophobia should be requested at the discretion of the ordering provider.
**NOTE: MRI in pregnant patients should be requested at the discretion of the ordering provider and obstetric care provider.

Level of Care Criteria

Inpatient or Outpatient

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Procedure Codes (CPT/HCPCS)

CPT/HCPCS Code	Code Description
72198	Magnetic resonance angiography (MRA) of pelvis, with contrast material
74185	Magnetic resonance angiography (MRA) of abdomen, with contrast material
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
C8918	Magnetic resonance angiography with contrast, pelvis
C8919	Magnetic resonance angiography without contrast, pelvis
C8920	Magnetic resonance angiography without contrast followed by with contrast, pelvis

Disclaimer: S Codes are non-covered per CMS guidelines due to their experimental or investigational nature.

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Medical Evidence

Roditi et al. (2022) performed a review on abdominal and pelvic magnetic resonance angiography (MRA). The topics discussed include MRA for assessing renal vasculature in potential kidney donors and hypertensive patients, hepatic and mesenteric MRA for evaluating liver donors, individuals with portal hypertension, and those with chronic mesenteric ischemia. Pelvic MRA is also mentioned for pre-treatment planning in uterine fibroid embolization and patients with pelvic congestion syndrome. Abdominal wall MRA is also highlighted for planning breast reconstructive surgery.[10]

Chaikof et al. (2018) discuss updates to practice guidelines published by the Society for Vascular Surgery on the care of patients with an abdominal aortic aneurysm. Recommendations include surveillance imaging at 12-month intervals for AAA between 4.0 to 4.9 cm in diameter and utilizing the Vascular Quality Initiative mortality risk score for decision-making in aneurysm repair. Endovascular repair is also preferred for ruptured aneurysms. Color duplex ultrasound for postoperative surveillance after endovascular repair without complications is also recommended. Overall, the focus is to enhance decision-making and perioperative outcomes.[8]

Zucker et al. (2016) review noninvasive diagnostic imaging for assessing venous compression syndromes, including magnetic resonance venography (MRV). While the exam typically takes longer than CT scans, MRV offers the advantage of reducing ionizing radiation risks. Optimal timing is more easily achieved for venous contrast. Additionally, MRI enables non-contrast exams, which are safer for patients with renal insufficiency, who face a higher risk of nephrogenic systemic fibrosis with gadolinium contrast.[11]

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References

1. American College of Radiology (ACR). ACR–NASCI–SPR practice parameter for the performance of body magnetic resonance angiography (MRA). Published 2020. Accessed May 10, 2024. https://www.acr.org/-/media/ACR/Files/Practice-Parameters/Body-MRA.pdf.
2. François CJ. Abdominal magnetic resonance angiography. *Nephrol Dial Transplant*. 2006 Apr;21(4):1104-8. doi: 10.1093/ndt/gfk062. PMID: 16431890.
3. Suvila K, Langén V, Cheng S, et al. Age of hypertension onset: Overview of research and how to apply in practice. *Curr Hypertens Rep*. 2020 Aug 27;22(9):68. doi: 10.1007/s11906-020-01071-z. PMID: 32852608; PMCID: PMC7452883.
4. Centers for Medicare and Medicaid Services (CMS). Local coverage determination: Magnetic resonance angiography (MRA)(L33633). Revision Effective Date October 1, 2019. Accessed May 10, 2024. https://www.cms.gov/medicare-coverage-database/search.aspx.
5. Centers for Medicare and Medicaid Services (CMS). Local coverage determination: Magnetic resonance angiography (MRA)(L34865). Revision Effective Date July 1, 2020. Accessed May 10, 2024. https://www.cms.gov/medicare-coverage-database/search.aspx.
6. Expert Panels on Urologic Imaging and Vascular Imaging, Harvin HJ, Verma N, et al. ACR appropriateness criteria - renovascular hypertension. *J Am Coll Radiol*. 2017 Nov;14(11S):S540-S549. doi: 10.1016/j.jacr.2017.08.040. PMID: 29101991.
7. Unger T, Borghi C, Charchar F, et al. 2020 International Society of Hypertension global hypertension practice guidelines. *Hypertension*. 2020 Jun;75(6):1334-1357. doi: 10.1161/HYPERTENSIONAHA.120.15026. PMID: 32370572.
8. Chaikof EL, Dalman RL, Eskandari MK, et al. The Society for Vascular Surgery practice guidelines on the care of patients with an abdominal aortic aneurysm. *J Vasc Surg*. 2018 Jan;67(1):2-77.e2. doi: 10.1016/j.jvs.2017.10.044. PMID: 29268916.
9. Ibrahim W, Al Safran Z, Hasan H, et al. Endovascular management of may-thurner syndrome. *Ann Vasc Dis*. 2012;5(2):217-21. doi: 10.3400/avd.cr.12.00007. PMID: 23555515; PMCID: PMC3595863.

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10. Roditi G, Wieben O, Prince MR, et al. MR angiography series: Abdominal and pelvic MR angiography. *Radiographics*. 2022 May-Jun;42(3):E94-E95. doi: 10.1148/rg.210224. PMID: 35245106.
11. Zucker EJ, Ganguli S, Ghoshhajra BB, et al. Imaging of venous compression syndromes. *Cardiovasc Diagn Ther*. 2016 Dec;6(6):519-532. doi: 10.21037/cdt.2016.11.19. PMID: 28123973; PMCID: PMC5220205.
12. Centers for Medicare & Medicaid Services. National Coverage Determination (NCD). Magnetic resonance imaging (MRI)(220.2) https://www.cms.gov/medicare-coverage-database/view/ncd.aspx?ncdid=177&ncdver=6&bc=0
13. Centers for Medicare & Medicaid Services. Local Coverage Determination (LCD) Magnetic resonance angiography (MRA) (L33633). https://www.cms.gov/medicare-coverage-database/view/lcd.aspx?lcdid=33633&ver=49&bc=0
14. Centers for Medicare & Medicaid Services. Local Coverage Determination (LCD) Magnetic resonance angiography (MRA) (L34865). https://www.cms.gov/medicare-coverage-database/view/lcd.aspx?lcdid=34865&ver=72&bc=0
15. Centers for Medicare & Medicaid Services. Local Coverage Determination (LCD) Magnetic resonance angiography (MRA) (L34424). Revision Effective Date March 27, 2025. https://www.cms.gov/medicare-coverage-database/view/lcd.aspx
16. Centers for Medicare & Medicaid Services. Local Coverage Determination (LCD) Magnetic resonance angiography (MRA) (L34372). https://www.cms.gov/medicare-coverage-database/view/lcd.aspx?lcdid=34372&ver=22&bc=0
17. Centers for Medicare & Medicaid Services. Billing and Coding: Magnetic resonance angiography (MRA) (A57779) https://www.cms.gov/medicare-coverage-database/view/article.aspx?articleid=57779&ver=5&bc=0
18. Centers for Medicare & Medicaid Services. Billing and Coding: Magnetic resonance angiography (MRA) (A56747) https://www.cms.gov/medicare-coverage-database/view/article.aspx?articleId=56747&ver=22
19. Centers for Medicare & Medicaid Services. Billing and Coding: Magnetic resonance angiography (MRA) (A56775). Revision Effective Date: March 27, 2025. https://www.cms.gov/medicare-coverage-database/view/article.aspx?articleid=56775&ver=23&

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20. Centers for Medicare & Medicaid Services. Billing and Coding: Magnetic resonance angiography (MRA) (A56805) https://www.cms.gov/medicare-coverage-database/view/article.aspx?articleId=56805&ver=29
21. American College of Radiology (ACR). ACR manual on contrast media. 2024. https://www.acr.org/-/media/ACR/Files/Clinical-Resources/Contrast_Media.pdf.
22. American College of Radiology (ACR), North American Society for Cardiovascular Imaging (NASCI), Society for Pediatric Radiology (SPR). ACR–NASCI–SPR practice parameter for the performance of body magnetic resonance angiography (MRA). Published 2020. Accessed July 31, 2024. https://www.acr.org/-/media/ACR/Files/Practice-Parameters/Body-MRA.pdf.
23. American College of Radiology (ACR). ACR practice parameter for performing and interpreting magnetic resonance imaging (MRI). 2022. https://www.acr.org/-/media/ACR/Files/Practice-Parameters/MR-Perf-Interpret.pdf?la=en.
24. American College of Obstetricians and Gynecologists (ACOG). Guidelines for diagnostic imaging during pregnancy and lactation: Committee opinion (no. 723). Published October 2017. Accessed September 23, 2024.
25. Kjelle E, Brandsæter IØ, Andersen ER, Hofmann BM. Cost of Low-Value Imaging Worldwide: A Systematic Review. Appl Health Econ Health Policy. 2024;22(4):485-501. doi:10.1007/s40258-024-00876-2. PMID: 38427217.
26. François CJ. Abdominal magnetic resonance angiography. Magnetic Resonance Imaging Clinics. 2020 Aug 1;28(3):395-405.
27. Aghayev A, Steigner ML, Azene EM, Burns J, Chareonthaitawee P, Desjardins B, El Khouli RH, Grayson PC, Hedgire SS, Kalva SP, Ledbetter LN. ACR appropriateness criteria® noncerebral vasculitis. Journal of the American College of Radiology. 2021 Nov 1;18(11):S380-93.
28. Maz M, Chung SA, Abril A, Langford CA, Gorelik M, Guyatt G, Archer AM, Conn DL, Full KA, Grayson PC, Ibarra MF. 2021 American College of Rheumatology/Vasculitis Foundation guideline for the management of giant cell arteritis and Takayasu arteritis. Arthritis & Rheumatology. 2021 Aug;73(8):1349-65.
29. Writing Committee Members, Isselbacher EM, Preventza O, Hamilton

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Black III J, Augoustides JG, Beck AW, Bolen MA, Braverman AC, Bray BE, Brown-Zimmerman MM, Chen EP. 2022 ACC/AHA guideline for the diagnosis and management of aortic disease: a report of the American Heart Association/American College of Cardiology Joint Committee on Clinical Practice Guidelines. Journal of the American College of Cardiology. 2022 Dec 13;80(24):e223-393.
30. Chung SA, Gorelik M, Langford CA, Maz M, Abril A, Guyatt G, Archer AM, Conn DL, Full KA, Grayson PC, Ibarra MF. 2021 American College of Rheumatology/Vasculitis Foundation guideline for the management of polyarteritis nodosa. Arthritis Care & Research. 2021 Aug;73(8):1061-70.
31. Conte MS, Pomposelli FB, Clair DG, Geraghty PJ, McKinsey JF, Mills JL, Moneta GL, Murad MH, Powell RJ, Reed AB, Schanzer A. Society for Vascular Surgery practice guidelines for atherosclerotic occlusive disease of the lower extremities: management of asymptomatic disease and claudication. Journal of vascular surgery. 2015 Mar 1;61(3):2S-41S.

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