



Cohere Medical Policy - Magnetic Resonance Angiography (MRA), Spinal Canal

Clinical Policy for Medical Necessity Review

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Important Notices

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Policy Information:

Specialty Area: Diagnostic Imaging

Policy Name: Cohere Medical Policy - Magnetic Resonance Angiography (MRA), Spinal Canal
Type: Adult (18+ yo) | Pediatric (0-17 yo)

Table of Contents

| | |
|--|-----------|
| Important Notices | 2 |
| Medical Necessity Criteria | 4 |
| Service: Magnetic Resonance Angiography (MRA), Spinal Canal | 4 |
| Description | 5 |
| Medical Necessity Criteria | 5 |
| Indications | 5 |
| Non-Indications | 7 |
| Level of Care Criteria | 7 |
| Procedure Codes (CPT/HCPCS) | 7 |
| Medical Evidence | 8 |
| References | 9 |
| Policy Revision History/Information | 11 |

Medical Necessity Criteria

Service: Magnetic Resonance Angiography (MRA), Spinal Canal

Cohere Health takes an evidence-based approach to reviewing imaging and procedure requests, meaning that sufficient clinical information must be provided at the time of submission to determine medical necessity.

Documentation must include a recent and detailed history, physical examination related to the onset or change in symptoms, relevant lab results, prior imaging, and details of previous treatments. Advanced imaging or procedures should be requested after a clinical evaluation by the treating provider, which may include a referral to a specialist.

- When a specific clinical indication is not explicitly addressed in the Cohere Health medical policy, medical necessity will be determined based on established clinical best practices, as supported by evidence-based literature, peer-reviewed sources, professional society guidelines, and state or national recommendations, unless otherwise directed by the health plan.
- Requests submitted without clinical documentation, or those that do not align with the provided clinical information—such as mismatched laterality, body part, or CPT code—may be denied for lack of medical necessity due to insufficient or inconsistent clinical information.
- Repeat diagnostic testing due to technical issues—such as patient motion, incomplete exams, or incorrect imaging sequences—may not be considered medically necessary, as it is the responsibility of the imaging center to deliver appropriate, high-quality studies as originally authorized. Similarly, repeat imaging requested at a different facility based solely on provider preference may not be approved for medical necessity.
- When there are multiple diagnostic or therapeutic procedures requested simultaneously or within the past three months, each will be reviewed independently. Clinical documentation must clearly justify all of the following:
 - The medical necessity of each individual request

- Why prior imaging or procedures were inconclusive or why additional/follow-up studies are needed
- How the results will impact patient management or treatment decisions
- Requests involving adjacent or contiguous body parts may be considered not medically necessary if the documentation demonstrates that the patient's primary symptoms can be adequately assessed with a single study or procedure.
- Cohere Health evaluates imaging exams based on medical necessity, regardless of contrast use. If an initial non-contrast study is completed and the radiologist later determines that contrast is needed to clarify a finding, the original authorization number may be used—provided the contrast-enhanced exam is performed at the same imaging center and within the original request's validity period, unless otherwise directed by the health plan.

Description

Magnetic resonance angiography (MRA) is a diagnostic technique that allows for the visualization of blood vessels in the spinal canal. Typically used as adjunct to conventional magnetic resonance imaging (MRI), it aids in diagnosing and evaluating vascular conditions, such as aneurysms, stenosis, occlusions, and vascular malformations. Unlike computed tomography angiography (CTA), MRA does not use ionizing radiation yet provides detailed images of blood vessels and surrounding tissues. It also provides an alternative for patients who do not tolerate the iodinated contrast used in CTA. MRA is less invasive than conventional radiographic digital subtraction angiography.

Medical Necessity Criteria

Indications

Magnetic resonance angiography (MRA), spinal canal is considered appropriate if **ANY** of the following is **TRUE**:

- Evaluation and characterization of suspected vascular lesions when detected on prior imaging, including **ANY** of the following:
 - Spinal arteriovenous fistula (AVF), including vascular flow voids on magnetic resonance imaging (MRI) spine that are suspicious for spinal AVF¹; **OR**
 - Spinal arteriovenous malformation (AVM)¹⁻⁶; **OR**

- Diagnosis and evaluation of known or suspected vascular conditions involving the spinal vessels, including **ANY** of the following^{2,7}:
 - Thrombosis; **OR**
 - Dissection; **OR**
 - Embolism; **OR**
- Preoperative, postoperative, or pretreatment evaluation for **ANY** of the following:
 - To localize the spinal arteries before complex spinal surgery or aortic aneurysm repair; **OR**
 - To characterize suspected vascular lesions, including tumors or masses of the spinal canal and its contents⁸; **OR**
 - To assess progressive myelopathy when MRI suggests an underlying vascular cause, such as an AVM⁹; **OR**
 - To guide a subsequent digital subtraction angiography meant to assess for a spinal AVM or AVF; **OR**
- For further evaluation of a previously inconclusive finding on prior imaging (e.g., MRI, digital substance angiography) that necessitates additional clarification; **OR**
- As a follow-up study for **ANY** of the following as needed to assess progression or response to treatment:
 - Known AVM^{10,11}; **OR**
 - Known AVF¹; **OR**
- Repeat imaging (defined as a repeat request following recent imaging of the same anatomic region with the same or similar modality) will be considered reasonable and necessary if **ALL** of the following are **TRUE**:
 - There are no established guidelines; **AND**
 - **ANY** of the following:
 - There are new or worsening symptoms not addressed in the guidelines, such that repeat imaging would influence treatment; **OR**
 - There is need for a 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.

Non-Indications

Magnetic resonance angiography (MRA), spinal canal is not considered appropriate if **ANY** of the following is **TRUE**:

- The patient has undergone advanced imaging of the same body part within 3 months without undergoing treatment or developing new or worsening symptoms¹².

*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

Procedure Codes (CPT/HCPCS)

| CPT/HCPCS Code | Code Description |
|----------------|--|
| 72159 | Magnetic resonance angiography (MRA) of spinal canal and contents with contrast material material |
| C8931 | Magnetic resonance angiography with contrast, spinal canal and contents |
| C8932 | Magnetic resonance angiography without contrast, spinal canal and contents |
| C8933 | Magnetic resonance angiography without contrast followed by with contrast, spinal canal and contents |

Medical Evidence

Raman et al. (2022) performed a systematic review comparing digital subtraction angiography (DSA) with magnetic resonance angiography (MRA) for the evaluation of cerebral arteriovenous malformations (AVMs). In brain AVMs, there is aberrant communication between arteries and veins, resulting in the formation of a nidus, a complex network of intertwined blood vessels. DSA is generally the preferred method due to its superior spatial resolution and hemodynamic properties, representing the current gold standard. There is a need for further research to determine whether MR studies alone could serve as a diagnostic imaging alternative to the current gold standard, DSA, for AVM diagnosis. Numerous studies have highlighted the combined use of both imaging modalities, and some have suggested that specific MR imaging techniques closely resemble the outcomes of invasive conventional scans.¹³

Sharma et al. (2019) compare computed tomography angiography (CTA) and MRA for traumatic vertebral artery injury (TVAI). The primary diagnostic approach for patients with trauma and meeting screening criteria for potential cervical vascular injury is CTA. At the same time, MRA, DSA, and Doppler duplex ultrasound have supportive roles as complementary imaging modalities. The authors also review anatomic variations and potential mimics. Early detection is crucial, and prompt initiation of therapy can significantly reduce the risk of associated strokes.¹⁴

Mathur et al. (2017) evaluated the effectiveness of first-pass contrast-enhanced MRA in diagnosing and localizing spinal epidural AVFs with intradural venous reflux, as well as differentiating them from other types of spinal AVFs. Of the 42 patients with suspected spinal AVF, 7 patients received a diagnosis. The authors conclude that MRA can identify lesions associated with spinal dural AVFs.¹

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Policy Revision History/Information

| Original Date: March 18, 2022 | | |
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| Review History | | |
| Version 2 | 08/02/2024 | Annual review and policy restructure |
| Version 3 | 10/30/2024 | Edited repeat imaging criteria language |
| Version 4 | 08/21/2025 | Annual review Reorganized indications to eliminate redundancy and improve clarity Updated content to align with revised template, including repeat imaging criteria |