Evolent Clinical Guideline 2034 for Lower Extremity Magnetic Resonance Angiography (MRA)

Ankle, Lower Extremity

Guideline Number: Evolent_CG_2034	**Applicable Codes**	
"Evolent" refers to Evolent Health LLC and Evolent Specialty Services, Inc. 		
Original Date: September 1997	**Last Revised Date:** June 2025	**Implementation Date:** January 2026

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STATEMENT

General Information

- *It is an expectation that all patients receive care/services from a licensed clinician. All appropriate supporting documentation, including recent pertinent office visit notes, laboratory data, and results of any special testing must be provided. If applicable: All prior relevant imaging results and the reason that alternative imaging cannot be performed must be included in the documentation submitted.*
- *Where a specific clinical indication is not directly addressed in this guideline, medical necessity determination will be made based on widely accepted standard of care criteria. These criteria are supported by evidence-based or peer-reviewed sources such as medical literature, societal guidelines and state/national recommendations.*
- *The guideline criteria in the following sections were developed utilizing evidence-based and peer-reviewed resources from medical publications and societal organization guidelines as well as from widely accepted standard of care, best practice recommendations.*

Purpose

Magnetic resonance angiography (MRA) generates images of the blood vessels that can be evaluated for evidence of stenosis, occlusion, or aneurysms without use of ionizing radiation. It is used to evaluate the blood vessels of the lower extremities.

NOTE: Authorization for MR Angiography (MRA) covers both arterial and venous imaging. The term *angiography* refers to both arteriography and venography.

Special Notes

- When a separate MRA and MRI exam is requested, documentation requires a medical reason that clearly indicates why additional MRI imaging of the lower extremity is needed.
- As there is no CPT code for MRA Aortogram with lower extremity runoff, two separate authorizations are required: Abdomen MRA (CPT 74185) and one Lower Extremity MRA (CPT 73725). This will provide imaging of the abdomen, pelvis and both legs. A separate Pelvis MRA authorization is **NOT** required. Only one Lower Extremity MRA is required (**NOT** two).

INDICATIONS FOR LOWER EXTREMITY MAGNETIC RESONANCE ANGIOGRAPHY (MRA)

Lower Extremity Peripheral Vascular Disease

For evaluation of known or suspected lower extremity vascular disease [(1)] when **CTA is contraindicated or cannot be performed:**

- For known or suspected atherosclerotic peripheral arterial disease when any **ONE** of the following non-invasive studies are abnormal or indeterminate [2–4]:
  - Ankle-brachial index (ABI) (< 0.9 is the cutoff for diagnosis of peripheral arterial disease and >1.4 is considered inconclusive)
  - Toe brachial index (< 0.7 is the cutoff for diagnosis of peripheral arterial disease)
  - Segmental pressure test (a pressure gradient ≥ 20 mmHg is considered abnormal)
  - Doppler ultrasound
  - Treadmill test
  - 6-minute walking test
- For acute critical limb ischemia with any **ONE** of the below clinical signs of peripheral vascular disease [5,6]:
  - Ischemic rest pain
  - Tissue loss
  - Gangrene
    - **NOTE**: Prior ultrasound is **NOT** needed
- For known predisposing conditions (such as Buerger disease, cystic adventitial disease, arterial endofibrosis, fibromuscular dysplasia, segmental arterial mediolysis and/or genetic conditions such as Marfan syndrome, Loeys-Dietz syndrome, or vascular Ehler-Danlos Syndrome) and any **ONE** of the following [7]:
  - Prior imaging suggestive of non-atherosclerotic peripheral vascular disease of the lower extremity
  - Signs or symptoms of lower extremity vascular disease (such as claudication, weak pulses)
- For leg/foot ulcers on exam from known/suspected peripheral vascular disease **after** prior abnormal or indeterminate ultrasound [1,2]
- After prior stenting or surgery (arterial and/or venous) with any **ONE** of the following [8,9]:
  - Recurrent symptoms
  - Signs of recurrent disease on examination
  - Abnormal / indeterminate prior non-invasive testing or imaging (such as ankle/brachial index, ultrasound)

Popliteal Artery Entrapment Syndrome

- For known/suspected popliteal artery entrapment syndrome with **ALL** the following [10]:
  - Prior ultrasound is abnormal or inconclusive
  - Advanced imaging study results will potentially change management

Deep Venous Thrombosis (DVT)

- For known/suspected DVT with **ALL** the following [11,12]:
  - Prior ultrasound is abnormal or inconclusive
  - Advanced imaging study results will potentially change management
  - CTA is contraindicated or not available

Arterial Thromboembolism

- Clinical findings (such as pulselessness, acute limb ischemia) and/or prior imaging suggestive of lower extremity arterial thromboembolism [9]

NOTE: Echocardiogram and advanced vascular imaging of the chest, abdomen, and/or pelvis may also be indicated to identify the source of the emboli.

Clinical Suspicion of Aneurysm

- With prior abnormal or indeterminate ultrasound or other imaging when CTA is contraindicated or not available [13]

Clinical Suspicion of Vasculitis

- With prior abnormal or indeterminate ultrasound or other imaging when CTA is contraindicated or not available [13]

Hemodialysis Graft Dysfunction

- If prior ultrasound was completed and not sufficient for required treatment decisions [14]

Vascular Malformation (VM) [15,16]

- For known / suspected lower extremity VM with **ALL** the following:
  - Prior abnormal or indeterminate ultrasound
  - Advanced imaging study results will potentially change management
- A concurrent MRI is also approvable for initial evaluation/preoperative planning or by surgeon preference.

Traumatic Injuries

- Clinical findings (such as bruit, hemorrhage, hematoma, pulselessness) and/or abnormal prior imaging suggestive of lower extremity vascular injury when **CTA is contraindicated or not available** [17]

Evaluation of Tumor

- When needed for clarification of vascular involvement from tumor after prior imaging

(may be approved in combination with CT or MRI of tumor)

PREOPERATIVE OR POSTOPERATIVE ASSESSMENT

When not otherwise specified in the guideline

Preoperative Evaluation:

- Imaging of the area requested is needed to develop a surgical plan

Postoperative Evaluation:

- Known or suspected complications
- A clinical reason is provided how imaging may change management

NOTE: This section applies only within the first few months following surgery

FURTHER EVALUATION OF INDETERMINATE FINDINGS

Unless follow-up is otherwise specified within the guideline:

- For initial evaluation of an inconclusive finding on a prior imaging report (i.e., x-ray, ultrasound or CT) that requires further clarification
- One follow-up exam of a prior indeterminate MR/CT finding to ensure no suspicious interval change has occurred. (No further surveillance unless specified as highly suspicious or change was found on last follow-up exam.)

IMAGING IN KNOWN GENETIC CONDITIONS

- Vascular Ehlers-Danlos Syndrome (vEDS): With inconclusive ultrasound or ultrasound suggestive of vascular pathology **OR** acute extremity pain and concern for dissection/rupture [18,19]
- Williams Syndrome: Abnormal vascular exam or imaging findings (such as diminished pulses, bruits or signs of diffuse thoracic aortic stenosis) [20]
- For other syndromes and rare diseases not otherwise addressed in the guideline, coverage is based on a case-by-case basis using societal guidance
- For known predisposing conditions (such as Buerger disease, cystic adventitial disease, arterial endofibrosis, fibromuscular dysplasia, segmental arterial mediolysis and/or genetic conditions such as Marfan syndrome, Loeys-Dietz syndrome, or vascular Ehler-Danlos Syndrome) and any **ONE** of the following [7]:
    - Prior imaging suggestive of non-atherosclerotic peripheral vascular disease of the lower extremity

- Signs or symptoms of lower extremity vascular disease (such as claudication, weak pulses)

OTHER COMBINATION STUDIES WITH LOWER EXTREMITY MRA

NOTE: When medical necessity is met for an individual study **AND** conscious sedation is required (such as for young pediatric patients or patients with significant developmental delay), the entire combination is indicated)

Chest/Abdomen/Pelvis/Lower Extremity MRA

- To evaluate for an embolic source of lower extremity thromboembolic vascular disease.
  - **NOTE**: Echocardiogram is also indicated as the heart is the most commonly reported source of lower extremity emboli

CODING AND STANDARDS

Codes

73725

Applicable Lines of Business

☒	CHIP (Children's Health Insurance Program)
☒	Commercial
☒	Exchange/Marketplace
☒	Medicaid
☒	Medicare Advantage

BACKGROUND

Contraindications and Preferred Studies

- Contraindications and reasons why a CT/CTA cannot be performed may include: impaired renal function, significant allergy to IV contrast, pregnancy (depending on trimester)

- Contraindications and reasons why an MRI/MRA cannot be performed may include: impaired renal function, claustrophobia, non-MRI compatible devices (such as non-compatible defibrillator or pacemaker), metallic fragments in a high-risk location, patient exceeds weight limit/dimensions of MRI machine

SUMMARY OF EVIDENCE

ACR Appropriateness Criteria Nonatherosclerotic Peripheral Arterial Disease [7]

Study Design: This study provides evidence-based guidelines for the diagnosis and treatment of nonatherosclerotic peripheral arterial diseases. The guidelines were developed by the American College of Radiology (ACR) and reviewed annually by a multidisciplinary expert panel.

Target Population: The guidelines are intended for radiologists, radiation oncologists, and referring physicians dealing with patients suspected of having nonatherosclerotic peripheral arterial diseases.

Key Factors: The study discusses various nonatherosclerotic diseases affecting peripheral arteries, including popliteal entrapment syndrome, external iliac artery endofibrosis, lower-extremity inflammatory vasculitides, and vascular trauma. It emphasizes the importance of accurate vascular imaging and provides recommendations for appropriate initial diagnostic imaging studies based on clinical presentation and suspicion of disease

2024 ACC/AHA/AACVPR/APMA/ABC/SCAI/SVM/SVN/SVS/SIR/VESS Guideline for the Management of Lower Extremity Peripheral Artery Disease [9]

Study Design: This guideline provides recommendations for the management of lower extremity peripheral artery disease (PAD) and was developed by the American College of Cardiology (ACC) and the American Heart Association (AHA).

Target Population: The guidelines are aimed at clinicians treating patients with lower extremity PAD across various clinical presentation subsets, including asymptomatic, chronic symptomatic, chronic limb-threatening ischemia, and acute limb ischemia.

Key Factors: The study includes a comprehensive literature review, covering studies, reviews, and other evidence conducted on human subjects. It provides updated recommendations for the diagnosis, medical therapy, exercise therapy, and revascularization for PAD. The guidelines also address special considerations such as risk amplifiers, health disparities, and management of PAD in older patients.

2024 ESC Guidelines for the management of peripheral arterial and aortic diseases [1]

Study Design: This guideline was developed by the European Society of Cardiology (ESC) and provides recommendations for the management of peripheral arterial and aortic diseases.

Target Population: The guidelines are intended for healthcare professionals managing patients with peripheral arterial and aortic diseases, including those with atherosclerotic and non-atherosclerotic conditions.

Key Factors: The study covers a wide range of topics, including epidemiology, risk factors, clinical assessment, diagnostic tests, medical therapy, and interventional treatment. It emphasizes a comprehensive approach to managing the entirety of the arterial circulation and highlights the importance of a multidisciplinary approach in expert and high-volume centers.

ANALYSIS OF EVIDENCE

Shared Findings [1,7,9]:

- Importance of Imaging Modalities: All three articles emphasize the significance of imaging modalities in diagnosing and managing peripheral arterial diseases. They highlight the use of techniques such as Duplex Ultrasound (DUS), Computed Tomography Angiography (CTA), and Magnetic Resonance Angiography (MRA) for accurate visualization of vascular abnormalities and guiding treatment decisions.
- Role of Non-invasive Imaging: The articles agree on the value of non-invasive imaging techniques like DUS and MRA for initial assessment and follow-up of patients with peripheral arterial diseases. These methods are preferred due to their ability to provide detailed information without the risks associated with invasive procedures.
- Use of CTA: CTA is recognized across the articles for its high spatial resolution and ability to visualize calcifications, making it a valuable tool for assessing the severity of arterial stenosis and planning revascularization.

Conclusion [1,7,9]:

The evidence across these articles reiterates the critical role of imaging in diagnosing and managing peripheral arterial diseases. Non-invasive imaging techniques like DUS and MRA are preferred for initial assessment and follow-up due to their safety and detailed visualization capabilities. CTA is valuable for its high spatial resolution and ability to visualize calcifications, making it essential for planning revascularization.

While the articles share common conclusions on the importance of imaging modalities, they differ in their specific recommendations, target populations, and key factors. Francois et al 2019 provides detailed appropriateness criteria for various imaging modalities based on specific clinical scenarios, while Gornik et al 2024 focuses on comprehensive management of lower extremity PAD and Mazzolai et al 2024 offers a holistic approach to peripheral arterial and aortic diseases, including genetic conditions.

Overall, the shared and differing conclusions highlight the multifaceted nature of extremity imaging and the need for tailored approaches based on the patient's specific condition and clinical scenario.

POLICY HISTORY

Date	Summary
June 2025	• Guideline number changed from 058-1 to 2034

Date	Summary
	• Guideline name changed from Lower Extremity MRA/MRV to Lower Extremity Magnetic Resonance Angiography (MRA) ○ Added a subtitle: Ankle, Lower Extremity • Added in general information statement regarding guideline criteria development by reputable sources, standard of care, and best practices • Added non-invasive studies and non-atherosclerotic PVD to Peripheral Vascular Disease section • Broke down clinical suspicion of vascular disease section for clarity • Added non-atherosclerotic PVD to Genetics Syndromes and Rare Diseases section • Standardized preoperative and postoperative assessment and Imaging in Known Genetic Conditions sections • Adjusted applicable lines of business – Medicare Advantage checked • Reduced Background section • Edited text for clarity and consistency • Updated references • Added Summary and Analysis of Evidence
June 2024	• Content clarified without change to clinical indications • Added Genetics Syndrome and Rare Diseases section • Added Contraindications and Preferred Studies section in background • Combination Studies updated • Updated References

LEGAL AND COMPLIANCE

Guideline Approval

Committee

Reviewed / Approved by Evolent Specialty Services Clinical Guideline Review Committee

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Evolent Clinical Guidelines are comprehensive and inclusive of various procedural applications for each service type. Our guidelines may be used to supplement Medicare criteria when such criteria is not fully established. When Medicare criteria is determined to not be fully established, we only reference the relevant portion of the corresponding Evolent Clinical Guideline that is applicable to the specific service or item requested in order to determine medical necessity.

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