Evolent Clinical Guideline 2044 for Pelvis Magnetic Resonance Angiography (MRA)

Guideline Number: Evolent_CG_2044	**Applicable Codes**	
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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 (both arteries and veins) 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 pelvis.

Special Note

When the criteria for imaging of peripheral vascular disease are met (see relevant guidelines), 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 PELVIS MRA

Abdominal Aortic Disease

Abdominal Aortic Aneurysm

- Suspected or known **asymptomatic** Abdominal Aortic Aneurysm (AAA) with **ALL** of the following:
  - Prior ultrasound is inconclusive or insufficient
  - A reason MRA is needed rather than CT has been provided (e.g., complex vascular anatomy or suspected complications)
  - The study is ordered at the appropriate AAA surveillance interval [(1)]:

- Aneurysm size 2.5-3 cm, every 10 years
- Aneurysm size 3.0-3.9 cm, every 3 years
- Aneurysm size 4.0-4.9 cm, annually
- Aneurysm size 5.0-5.4 cm, every 6 months

- Known or suspected **symptomatic** AAA [1,2]
  - Symptoms may include:
    - Abrupt onset of severe sharp or stabbing pain in the chest, back or abdomen (could indicate possible aneurysm rupture)
    - Acute abdominal or back pain with a pulsatile or epigastric mass
    - Acute abdominal or back pain and at high risk for aortic aneurysm and/or aortic syndrome (risk factors include hypertension, atherosclerosis, prior cardiac or aortic surgery, underlying aneurysm, connective tissue disorder (e.g., Marfan syndrome, vascular form of Ehlers-Danlos syndrome, Loeys-Dietz syndrome), and bicuspid aortic valve) [3]

Aortic Syndromes

For initial diagnosis of suspected and follow-up of known aortic syndromes, including aortic dissection, intramural hematoma and penetrating atherosclerotic ulcer

- Frequency for follow up is as clinically indicated

Postoperative Follow-up of Aortic Repair [1,2]

Follow-up for post-endovascular repair (EVAR) or open repair of AAA or abdominal extent of iliac artery aneurysms at the following intervals (CT preferred for routine follow-up):

- Routine, baseline post-EVAR study when a reason MRA rather than CT is needed has been provided (such as complex anatomy or suspected complications with any **ONE** of the following:
  - Within one month of procedure
  - Continued follow up imaging at the following intervals:
    - If no endoleak or sac enlargement is seen:
      - Annually with past inconclusive or insufficient ultrasound
      - Every 5 years (inconclusive or insufficient ultrasound not required at the 5-year interval)
    - If type II endoleak or sac enlargement is seen at any point in time (US not needed):
      - Every 6 months x 2 years, then annually (does not require US)
- Routine follow up after open repair of AAA when a reason MRA is needed rather than CT has been provided (e.g., complex vascular anatomy or suspected complications) with and **ONE** of the following [1]:

- Within 1 year postoperatively then
- Annually with past inconclusive or insufficient ultrasound
- Every 5 years (inconclusive or insufficient ultrasound not required at the 5-year interval)

- If symptomatic or imaging shows increasing, or new findings related to stent graft – more frequent imaging may be needed as clinically indicated
- Suspected complication (such as new-onset lower extremity claudication, ischemia, or reduction in ABI after aneurysm repair)
- Evaluation of endovascular/interventional abdominal vascular procedures for luminal patency versus restenosis due to conditions such as atherosclerosis, thromboembolism, and intimal hyperplasia
- Evaluation of post-operative complications, such as pseudoaneurysms, related to surgical bypass grafts, vascular stents, and stent-grafts in the peritoneal cavity

Ischemia or Hemorrhage

- To determine the vascular source of retroperitoneal hematoma or hemorrhage when CT is insufficient to determine the source and CTA is **contraindicated or cannot be performed**; (CT rather than MRA/CTA is the modality of choice for diagnosing hemorrhage) [4]
- Evaluation of known or suspected mesenteric ischemia/ischemic colitis when CTA is **contraindicated or cannot be performed** [5]

Other Vascular Abnormalities of the Pelvis

- Initial evaluation of inconclusive vascular findings on prior imaging
- For evaluation or monitoring of non-aortic large vessel pelvic vascular disease (such as aneurysm, dissection, arteriovenous malformations (AVM), vascular fistula, intramural hematoma, compression syndromes and vasculitis) and the findings are reasonably expected to be limited to the pelvis [6]
- For assessment in patients with spontaneous coronary artery dissection (SCAD), can be done at time of coronary angiography [7,8]
- Suspected complications of known aneurysm as evidenced by clinical findings such as new onset of pelvic pain
- For patients with fibromuscular dysplasia (FMD) [9,10]:
  - One-time vascular study from brain to pelvis
- Takayasu's Arteritis [11]:
  - At initial diagnosis
  - Every 6 months for the first 2 years while on therapy
  - Annually after the first 2 years

Venous Disease

- Suspected pelvic congestive syndrome (including May-Thurner and nutcracker syndromes) when ultrasound is indeterminant (no contraindication to CT is needed) [12]
- For acute unilateral (or symmetric) lower extremity edema with negative or inconclusive doppler US and CT [13]
- For chronic (greater than 3 months) unilateral (or asymmetric) lower extremity edema and suspicion of malignant cause when Abdomen and Pelvis CT (or Pelvis CT) is negative or inconclusive [13]
- Venous thrombosis (including inferior vena cava thrombosis) if previous studies (such as ultrasound) have not resulted in a clear diagnosis [14,15]
- For pregnant women with suspected deep venous thrombosis (DVT) (including suspected extension to the iliac vein) after compression ultrasound [16]

Evaluation of Tumor

- When needed for clarification of vascular involvement from tumor [17]

PREOPERATIVE OR POSTOPERATIVE ASSESSMENT

When otherwise specified in the guideline:

Preoperative Evaluation:

- Evaluation prior to interventional vascular for luminal patency versus restenosis due to conditions such as atherosclerosis, thromboembolism, and intimal hyperplasia
- Evaluation prior to endovascular aneurysm repair (EVAR) [19]
- Evaluation prior to Transcatheter Aortic Valve Replacement (TAVR) CTA is **contraindicated or cannot be performed** [20]
- For imaging of the deep inferior epigastric arteries prior to breast reconstructive surgery [18]
- Evaluation of vascular anatomy prior to solid organ transplantation
- Prior to uterine artery embolization for fibroids [21]
- For evaluation of erectile dysfunction when a vascular cause is confirmed by doppler ultrasound, revascularization is planned and there is a contraindication to selective internal pudendal angiography (SIPA) [22]
- Imaging of the area requested is needed to develop a surgical plan

Postoperative Evaluation

- Follow-up study may be needed to help evaluate a patient's progress after treatment, procedure, intervention, or surgery. Documentation requires a medical reason that

clearly indicates why additional imaging is needed for the type and area(s) requested.

- Endovascular/interventional vascular procedures for luminal patency versus restenosis due to conditions such as atherosclerosis, thromboembolism, and intimal hyperplasia
- Post-operative complications (e.g., pseudoaneurysms related to surgical bypass grafts, vascular stents, and stent-grafts in the pelvis)
- Post-operative complications of renal transplant allograft [23]
- 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 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 OF KNOWN GENETIC CONDITIONS

- Vascular Ehlers-Danlos syndrome (vEDS) [24]:
  - Every 18 months (including at diagnosis) **OR**
  - As clinically indicated to follow known vascular abnormalities
- Marfan syndrome [25]:
  - Every 3 years (including at diagnosis)
  - More frequently (annually) if **EITHER**: history of dissection, dilation of aorta beyond aortic root **OR** aortic root/ascending aorta are not adequately visualized on TTE (i.e. advanced imaging is needed to monitor the thoracic aorta)
- Loeys-Dietz [26]:
  - Every two years (including at diagnosis)
  - More frequently if abnormalities are found
- Williams Syndrome [27]:

- Abnormal vascular exam or imaging findings (such as concern for renal artery stenosis, diminished pulses, bruits or signs of thoracic aortic stenosis)

- Neurofibromatosis Type 1 (NF-1) [28]:
  - Development of hypertension (including concern for renal artery stenosis)
- For other syndromes and rare diseases not otherwise addressed in the guideline, coverage is based on a case-by-case basis using societal guidance

Combination Studies for Known Genetic Conditions

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 MRA

- Marfan syndrome [25]
  - Every 3 years (including at diagnosis)
  - More frequently (annually) if **EITHER**: history of dissection, dilation of aorta beyond aortic root **OR** aortic root/ascending aorta are not adequately visualized on TTE (i.e. advanced imaging is needed to monitor the thoracic aorta)
- Williams Syndrome [27]
  - Abnormal vascular exam or imaging findings (such as concern for renal artery stenosis, diminished pulses, bruits or signs of diffuse thoracic aortic stenosis)

Brain/Neck/Chest/Abdomen/Pelvis MRA

- Vascular Ehlers-Danlos syndrome: At diagnosis and then every 18 months; more frequently if abnormalities are found [24]
- Loeys-Dietz: at diagnosis and then every two years, more frequently if abnormalities are found [26]

OTHER COMBINATION STUDIES WITH PELVIS 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)

Abdomen/Pelvis MRA

- As a dedicated CPT code does not exist for Abdomen and Pelvis MRA, when a disease process is reasonably expected to involve both the abdomen and pelvis **AND** the guideline criteria have been met, two separate authorizations are required: Abdomen MRA (CPT code 74185) and Pelvis MRA (CPT 72198)

Brain/Neck/Chest/Abdomen/Pelvis MRA

- For patients with fibromuscular dysplasia (FMD), a one-time vascular study from brain to pelvis is indicated [9,10]
- For assessment in patients with spontaneous coronary artery dissection (SCAD), (SCAD is a common initial diagnostic event for underlying fibromuscular dysplasia (FMD))can be done at time of coronary angiography [7]

  NOTE: Body vascular imaging for SCAD can be performed at the time of coronary angiography

Chest/Abdomen/Pelvis MRA

- Evaluation prior to endovascular aneurysm repair (EVAR) when thoracic involvement is present when CTA is contraindicated or cannot be performed [19]
- Evaluation prior to Transcatheter Aortic Valve Replacement (TAVR) when CTA is **contraindicated or cannot be performed** [20]
- Acute aortic dissection [29]
- Significant post-traumatic or post-procedural vascular complications reasonably expected to involve the chest, abdomen and pelvis

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.

Brain/Neck/Chest/Abdomen/Pelvis MRA

- Takayasu's Arteritis [11]:
  - At initial diagnosis
  - Every 6 months for the first 2 years while on therapy
  - Annually after the first 2 years

Pelvis MRA and Pelvis MRI (or CT)

- When needed for clarification of vascular involvement from tumor (including suspected renal vein thrombosis) [30]
- Prior to uterine artery embolization for fibroids [31]

CODING AND STANDARDS

Codes

72198

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 wight limit/dimensions of MRI machine

SUMMARY OF EVIDENCE

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 [(1)]

Study Design: This document is a guideline report from the American Heart Association (AHA) and American College of Cardiology (ACC) Joint Committee on Clinical Practice Guidelines. It provides recommendations for the diagnosis and management of aortic disease based on a comprehensive literature search and evidence review.

Target Population: The guidelines are intended for clinicians managing patients with aortic disease, including asymptomatic, stable symptomatic, and acute aortic syndromes.

Key Factors: Recommendations cover genetic evaluation, family screening, medical therapy, endovascular and surgical treatment, and long-term surveillance. Emphasis on involving patients and multidisciplinary teams in determining optimal therapies, especially for pregnant patients. Guidelines for computed tomography, magnetic resonance imaging, and echocardiographic imaging. Lowered thresholds for surgical intervention in specific scenarios. Importance of institutional volume and expertise in patient outcomes.

ACR Appropriateness Criteria® Radiologic Management of Mesenteric Ischemia: 2022 Update [5]

Study Design: This is an update on the ACR Appropriateness Criteria for the radiologic management of mesenteric ischemia.

Target Population: Patients with mesenteric ischemia, including acute and chronic cases.

Key Factors: The article discusses various endovascular and surgical interventions for mesenteric ischemia, including embolectomy, thrombolysis, angioplasty, and stent placement. It provides evidence-based guidelines for the appropriate use of these interventions based on the clinical scenario, such as the presence of embolus, atherosclerotic plaque, or venous mesenteric ischemia. The guidelines aim to improve patient outcomes by recommending the most suitable imaging and treatment procedures.

Insights into pelvic venous disorders [12]

Study Design: This is a review article that focuses on pelvic venous disorders (PeVD), also known as pelvic congestion syndrome (PCS).

Target Population: Mainly young women between the ages of 20 and 50 years, who experience chronic pelvic pain (CPP) due to venous-related symptoms.

Key Factors: The article discusses the multifactorial etiology of PeVD, including genetic predisposition, anatomical abnormalities, and hormonal factors. It emphasizes the importance of imaging in diagnosing PeVD and proposes a new classification scheme to assist clinical decision-making. The review also covers various therapeutic approaches, including minimally invasive techniques, and highlights the need for standardized guidelines for treatment.

ANALYSIS OF EVIDENCE

Analysis [1,5,12]:

In summary, while all three articles share common themes such as the importance of imaging, multidisciplinary approaches, and minimally invasive techniques, they differ in their specific focus, treatment recommendations, and classification systems. Each article provides valuable insights into the management of their respective conditions, contributing to the overall understanding of vascular disorders.

Shared Conclusions

- **Importance of Imaging and Diagnostic Techniques**: All three articles emphasize the critical role of imaging in diagnosing and managing vascular conditions. Discusses the

use of CT, MRI, and echocardiography for aortic disease. Highlights the use of CT, MRI, and ultrasound for diagnosing mesenteric ischemia. Focuses on various imaging modalities like ultrasound, CT, and MRI for diagnosing pelvic venous disorders.

- **Multidisciplinary Approach**: The need for a multidisciplinary team is a common theme. Importance of a multidisciplinary aortic team for optimal patient outcomes, involvement of various specialists in managing mesenteric ischemia, and also advocates for a multidisciplinary approach to manage pelvic venous disorders effectively.
- **Emphasis on Minimally Invasive Techniques**: All three articles highlight the preference for minimally invasive techniques.

POLICY HISTORY

Date	Summary
July 2025	• Adjusted guideline title-name spelled out • Added a Summary of Evidence and Analysis of Evidence • Moved further evaluation section below Preop
June 2025	• This guideline replaces Evolent Clinical Guideline 039 for Pelvis MRA/MRV (Angiography/Venography) • Added in general information statement regarding guideline criteria development by reputable sources, standard of care, and best practices • Moved AAA screening intervals from background to AAA indications section • Moved FMD and Takayasu's arteritis to Other Vascular Abnormalities section • Adjusted the language in the Venous Disease section for pelvic congestion syndrome to include nutcracker syndrome • Added and adjusted language in the Venous Disease section for acute and chronic unilateral lower extremity edema • Updated language in the preoperative/postoperative section • Segment added to the combination's studies about if the required use of conscious sedation is needed the entire combination is indicated • Genetics section surveillance language adjusted in vEDS, Marfan Syndrome, and Loey's Dietz Syndrome sections • Combinations Studies for Known Genetic Diseases section was added

Date	Summary
	• Brain added to the Neck/Chest/Abdomen and Pelvis CTA combo with surveillance added to Takayasu's arteritis • Applicable Line of Business adjusted – Medicare checked • Background reduced
April 2024	• Separated out aortic syndromes to be more clear • EVAR studies clarified order of which studies would be ordered • Renal artery stenosis: updated per new clinical guidance • Added Genetic Syndromes and Tumors Section • Statement put in all Guidelines for contraindications put in indications and background sections • Combo section adjusted and made uniform • Updated references and background sections

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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