Evolent Clinical Guideline 2005 for Abdomen Pelvis Computed Tomography Angiography (CTA)

Guideline Number: Evolent_CG_2005	**Applicable Codes**	
"Evolent" refers to Evolent Health LLC and Evolent Specialty Services, Inc. 		
Original Date: September 1997	**Last Revised Date:** July 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

Computed tomography angiography (CTA) generates images of the arteries that can be evaluated for evidence of stenosis, occlusion, or aneurysms with the use of ionizing radiation, which is a potential hazard in patients with impaired renal function.

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

Special Note

- When vascular imaging of the aorta and both legs is desired (sometimes incorrectly requested as Abdomen and Pelvis CTA & Lower Extremity CTA), only one authorization request is required, using CPT Code 75635 CT Angiography, Abdominal Aorta with Lower Extremity Runoff. This study provides for imaging of the abdomen, pelvis, and both legs.

INDICATIONS FOR ABDOMEN PELVIS CTA

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 CTA is needed rather than CT has been provided, (e.g., complex vascular

anatomy or suspected complications)

- The study is ordered at the appropriate AAA screening 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 aortic syndromes and follow-up of known aortic syndromes (such as 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 CTA 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:
      - Every 6 months x 2 years, then annually (does not require prior ultrasound)
- Routine follow up after open repair of AAA when a reason CTA is needed rather than CT

has been provided (e.g., complex vascular anatomy or suspected complications) with any **ONE** of the following:

- 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 complications (such as new onset lower extremity claudication, ischemia, or reduction in ankle brachial index (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 (CT rather than MRA/CTA is the modality of choice for diagnosing hemorrhage) [4]
- Evaluation of known or suspected mesenteric ischemia/ischemic colitis [5]
- To localize active lower gastrointestinal bleeding, or non-localized intermittent bleeding in a hemodynamically stable patient when colonoscopy was unsuccessful, contraindicated or unavailable [6–8]

Other Vascular Abnormalities of the Abdomen and Pelvis

- Initial evaluation of inconclusive vascular findings on prior imaging of the abdomen and/or pelvis
- For evaluation or monitoring of non-aortic large vessel or visceral vascular disease of the abdomen (e.g., aneurysm, dissection, arteriovenous malformations (AVM), vascular fistula, intramural hematoma, compression syndromes and vasculitis involving any of the following: inferior vena cava, superior/inferior mesenteric, celiac, hepatic, splenic or renal arteries/veins) [9]
- As part of an extracardiac vascular assessment in patients with spontaneous coronary artery dissection (SCAD), can be done at time of coronary angiography [10,11]
- Suspected complications of known aneurysm of the abdomen and/or pelvis as evidenced by clinical findings such as new onset of abdominal pain (prior ultrasound is **NOT** required)
- For patients with fibromuscular dysplasia (FMD) [12,13]:

- One-time vascular study from brain to pelvis

- For patients with Takayasu's Arteritis [14]:
  - At initial diagnosis
  - Every 6 months for the first 2 years while on therapy
  - Annually after the first 2 years

Venous Disease

- Suspected venous thrombosis (including renal vein thrombosis and/or portal venous thrombosis) if previous studies (such as ultrasound) have not resulted in a clear diagnosis [15,16]
- Suspected pelvic congestive syndrome (including May-Thurner and nutcracker syndromes) when ultrasound is indeterminant **with no contraindications to CT** [17]
- For acute unilateral (or asymmetric) lower extremity edema with negative or inconclusive doppler US and CT [18]
- For chronic (greater than 3 months) unilateral (or asymmetric) lower extremity edema and suspicion of malignant cause when Abdomen and Pelvis (or Pelvis CT) is negative or inconclusive [18]

Evaluation of Tumor

- When needed for clarification of vascular involvement from tumor (including suspected renal vein thrombosis) [16]
- For imaging of the deep inferior epigastric arteries prior to breast reconstructive surgery [19]

PREOPERATIVE OR POSTOPERATIVE ASSESSMENT

When not otherwise specified in the guideline:

Preoperative Evaluation:

- Prior to the following procedures:
  - Solid organ transplantation
  - Endovascular aneurysm repair (EVAR)
  - Repair of abdominal aortic aneurysm
  - Transcatheter Aortic Valve Replacement (TAVR) [20]
  - Imaging of the deep inferior epigastric arteries prior to breast reconstructive surgery [19]
- Imaging of the area requested is needed to develop a surgical plan

Postoperative Evaluation:

- Evaluation of post-operative complications (e.g., pseudoaneurysms) following interventional vascular procedures (e.g., surgical bypass grafts, vascular stents, and IVC filters)
- Known or suspected complications
- A clinical reason is provided how imaging may change management

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 needed unless specified as highly suspicious or change was found on last follow-up exam)

IMAGING IN KNOWN GENETIC CONDITIONS

- Vascular Ehlers-Danlos syndrome (vEDS) [21]:
  - Every 18 months (including at diagnosis) **OR**
  - As clinically indicated to follow known vascular abnormalities
- Marfan syndrome [22]:
  - Every 3 years (including at diagnosis)
  - More frequently (annually) if either: history of dissection, dilation of aorta beyond aortic root **OR** aortic root/ascending are not adequately visualized on TEE (i.e., advanced imaging is needed to monitor the thoracic aorta)
- Loeys-Dietz [23]:
  - Every two years (including at diagnosis)
  - More frequently if abnormalities are found
- Williams Syndrome [24]:
  - Abnormal vascular exam or imaging findings (such as concern for renal artery stenosis, diminished pulses, bruits or signs of diffuse thoracic aortic stenosis)
- Neurofibromatosis Type 1 (NF-1) [25]:
  - 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 Diseases

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)

Brain/Neck/Chest/Abdomen and Pelvis CTA or MRA

- Vascular Ehlers-Danlos syndrome (vEDS): every 18 months (including at diagnosis) **OR** [21]
    - As clinically indicated to follow known vascular abnormalities
- Loeys-Dietz: every two years (including at diagnosis) **OR** [23]
    - More frequently if abnormalities are found

Chest/Abdomen (or Abdomen and Pelvis) CTA

- Marfan syndrome [22]:
    - Every 3 years (including at diagnosis)
    - More frequently (annually) if **EITHER**: history of dissection, dilation of the aorta beyond the 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 [24]
    - Abnormal vascular exam or imaging findings (such as concerns for renal artery stenosis, diminished pulses, bruits or signs of diffuse thoracic aortic stenosis)

OTHER COMBINATION STUDIES WITH ABDOMEN PELVIS CTA

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 and Pelvis CTA/Abdomen and Pelvis CT (or MRI)

- When needed for clarification of vascular involvement from tumor (including suspected renal vein thrombosis)

Brain/Neck/Chest/Abdomen and Pelvis CTA or MRA

- For patients with fibromuscular dysplasia (FMD), a one-time vascular study from brain to

pelvis is indicated [12,13]

- For assessment in patients with spontaneous coronary artery dissection (SCAD), (SCAD is a common initial diagnostic event for underlying fibromuscular dysplasia (FMD)) [10]

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

Chest/Abdomen (or Abdomen and Pelvis) CTA

- Evaluation prior to endovascular aneurysm repair (EVAR) when thoracic involvement is present
- Evaluation prior to Transcatheter Aortic Valve Replacement (TAVR) [20]
- Acute aortic dissection [26]
- Significant post-traumatic or post-procedural vascular complications reasonably expected to involve the chest, abdomen and pelvis

Brain/Neck/Chest/Abdomen and Pelvis CTA

- Takayasu's Arteritis [14]:
  - At initial diagnosis
  - Every 6 months for the first 2 years while on therapy
  - Annually after the first 2 years

CODING AND STANDARDS

Codes

74174

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

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 document is an update on the ACR Appropriateness Criteria for the radiologic management of mesenteric ischemia. It is based on evidence from peer-reviewed journals and expert panel reviews.

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

Key Factors: Endovascular interventions such as embolectomy, thrombolysis, and angioplasty are recommended. Endovascular revascularization is preferred, with surgical options considered as alternatives. Transarterial infusion of vasodilators is recommended. Systemic anticoagulation is the initial therapy, with thrombolytic infusion as a secondary option. Importance of CT and MR angiography in identifying the underlying cause and evaluating target vessels

Visceral artery aneurysms [9]

Study Design: This document is a review article on visceral artery aneurysms, discussing their incidence, causes, clinical presentation, diagnosis, and treatment.

Target Population: Patients with visceral artery aneurysms, including those diagnosed during pregnancy.

Key Factors: Visceral artery aneurysms are rare, often caused by arteriosclerosis, fibromuscular dysplasia, and other conditions. Symptoms vary depending on the affected organ, with larger aneurysms posing a higher risk of rupture. Cross-sectional imaging, Doppler duplex ultrasound, and CT/MR angiography are used for diagnosis. Elective treatment is recommended for aneurysms larger than 2 cm, with endovascular and open surgical options.

ANALYSIS OF EVIDENCE

Analysis [1,5,9]:

In summary, while all three articles underscore the importance of imaging techniques and the need for a multidisciplinary approach to managing vascular conditions, they differ in their focus on specific conditions, imaging protocols, and treatment recommendations. Detailed guidelines for aortic disease, mesenteric ischemia, and visceral artery aneurysms. These differences highlight the need for tailored approaches to diagnosing and treating various vascular conditions based on the latest evidence and expert recommendations.

Shared Conclusions

- **Importance of Imaging Techniques**: All three articles emphasize the critical role of imaging techniques in diagnosing and managing vascular conditions. Computed Tomography Angiography (CTA) is highlighted as a key diagnostic tool for identifying vascular abnormalities and guiding treatment decisions.
- **Endovascular vs. Surgical Interventions**: There is a consensus that both endovascular and open surgical interventions are viable options for treating vascular conditions. The choice between these approaches depends on the patient's condition, the location and size of the aneurysm, and the availability of expertise.
- **Risk Factors and Patient Management**: All articles discuss the importance of identifying risk factors such as atherosclerosis, genetic predispositions, and other underlying conditions. They also stress the need for a multidisciplinary approach to patient management, involving various specialists to optimize treatment outcomes.

POLICY HISTORY

Date	Summary
July 2025	• Added a Summary of Evidence and Analysis of Evidence

Date	Summary
	• Moved further evaluation section under preoperative
June 2025	• This guideline replaces Evolent Clinical Guideline 069 for Abdomen Pelvis CTA • 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 • Added CTA is needed vs CT due to complex vascular anatomy to the AAA section • Removed prior imaging requirement for vascular disease • Added Takayasu's arteritis and its surveillance to Other Vascular Abnormalities section • Adjusted the language in the Venous Disease section for pelvic congestion syndrome to include nutcracker syndrome and no contraindications to CT • Added language in the Venous Disease section for acute and chronic unilateral lower extremity edema • Updated language in the preoperative/postoperative section • Genetics section surveillance language adjusted in vEDS, Marfan Syndrome, and Loey's Dietz Syndrome sections • Combinations Studies for Known Genetic Diseases section was added • Segment added to combinations studies about if the required use of conscious sedation is needed the entire combination is indicated • Brain added to the Neck/Chest/Abdomen and Pelvis CTA combo with surveillance added to Takayasu's arteritis • Background reduced
June 2024	• Aortic Revised: separated out aortic syndromes to be more clear • Added Genetic Syndromes and Tumors Section • Statement put for contraindications and preferred studies; put in indications and background sections • Combo section adjusted and made uniform

Date	Summary
	• Updated references and background sections

LEGAL AND COMPLIANCE

Guideline Approval

Committee

Reviewed / Approved by Evolent Specialty Services Clinical Guideline Review Committee

Disclaimer

Evolent Clinical Guidelines do not constitute medical advice. Treating health care professionals are solely responsible for diagnosis, treatment, and medical advice. Evolent uses Clinical Guidelines in accordance with its contractual obligations to provide utilization management. Coverage for services varies for individual members according to the terms of their health care coverage or government program. Individual members' health care coverage may not utilize some Evolent Clinical Guidelines. Evolent clinical guidelines contain guidance that requires prior authorization and service limitations. A list of procedure codes, services or drugs may not be all inclusive and does not imply that a service or drug is a covered or non-covered service or drug. Evolent reserves the right to review and update this Clinical Guideline in its sole discretion. Notice of any changes shall be provided as required by applicable provider agreements and laws or regulations. Members should contact their Plan customer service representative for specific coverage information.

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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