Cohere Medical Policy - Computed Tomography Angiography (CTA), Abdomen/Pelvis, including Lower Extremity Runoff

Clinical Policy for Medical Necessity Review

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Important Notices

Notices & Disclaimers:

GUIDELINES ARE SOLELY FOR COHERE'S USE IN PERFORMING MEDICAL NECESSITY REVIEWS AND ARE NOT INTENDED TO INFORM OR ALTER CLINICAL DECISION-MAKING OF END USERS.

Cohere Health, Inc. ("**Cohere**") has published these clinical guidelines to determine the medical necessity of services (the "**Guidelines**") for informational purposes only, and solely for use by Cohere's authorized "**End Users**". These Guidelines (and any attachments or linked third-party content) are not intended to be a substitute for medical advice, diagnosis, or treatment directed by an appropriately licensed healthcare professional. These Guidelines are not in any way intended to support clinical decision-making of any kind; their sole purpose and intended use is to summarize certain criteria Cohere may use when reviewing the medical necessity of any service requests submitted to Cohere by End Users. Always seek the advice of a qualified healthcare professional regarding any medical questions, treatment decisions, or other clinical guidance. The Guidelines, including any attachments or linked content, are subject to change at any time without notice.

Other Notices:

Fee schedules, relative value units, conversion factors and/or related components are not assigned by the AMA, are not part of CPT, and the AMA is not recommending their use. The AMA does not directly or indirectly practice medicine or dispense medical services. The AMA assumes no liability for data contained or not contained herein.

Policy Information:

Specialty Area: Diagnostic Imaging
Policy Name: Cohere Medical Policy - Computed Angiography (CTA), Abdomen/Pelvis
Type: [**X**] Adult (18+ yo) | [**X**] Pediatric (0-17 yo)

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Medical Necessity Criteria

Service: Computed Tomography Angiography (CTA), Abdomen/Pelvis

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

Computed tomography angiography (CTA) is a preferred imaging test for various aortic conditions because of its excellent spatial resolution, rapid image acquisition, and wide availability. CTA provides a robust tool for planning aortic interventions and diagnosing acute and chronic vascular diseases in the abdomen. CTA is the standard for imaging aneurysms before intervention and evaluating the aorta in the acute setting to assess the traumatic injury, dissection, and aneurysm rupture. Knowledge of the imaging features of these disease processes, inflammatory vasculitides, and occlusive atherosclerotic disease is essential for guiding the surgical and medical management of patients. Computed tomography venography (CTV) is a diagnostic imaging procedure that uses computed tomography (CT) to visualize the veins in the body. CTV can detect deep vein thrombosis (DVT) and evaluate venous insufficiency. Advantages include the ability to capture high-resolution images and are non-invasive and efficient.[1]

Medical Necessity Criteria

Indications

Computed tomography angiography or venography (CTA/CTV) of the abdomen/pelvis (CPT 74191, 74174) is considered appropriate when **ANY** of the following is **TRUE**:

- **ALL** of the following are **TRUE**:
  - Ultrasound is incomplete, inconclusive, or abnormal; **AND**
  - Vascular conditions, known or suspected, including **ANY** of the following:
    - Suspected renal artery stenosis, when intervention is planned if diagnosed, including **ANY** of the following:
      - Previous imaging (e.g., ultrasound, captopril scintigraphy) indicates small kidney or unequal kidney sizes[2,3]; **OR**
      - Renal artery Doppler ultrasound suggests renal artery stenosis[3]; **OR**
      - Early-onset hypertension (age less than 35, diastolic greater than 110 mmHg)[3]; **OR**
      - Late-onset hypertension (age greater than 50)[3]; **OR**
      - Renal artery bruit[3]; **OR**
      - Malignant or accelerated hypertension[3]; **OR**
      - Sudden development or worsening of hypertension[3]; **OR**
      - Deterioration of renal function in response to angiotensin-converting enzyme (ACE) inhibitors[3]; **OR**
      - Hypertension resistant to medication, and the patient must be currently taking **ALL** of the following at maximally tolerated doses[3,4]:
        - Long-acting calcium channel blocker; **AND**
        - Long-acting ACE inhibitor or angiotensin receptor blocker (ARB); **AND**
        - Diuretic (e.g., loop or thiazide); **OR**
    - Thromboembolic disease; **OR**
    - Concern for aneurysm when ultrasound is inconclusive or nondiagnostic, based on documented clinical or imaging findings; **OR**
    - Unrepaired aortic aneurysm when ultrasound and noncontrast CT are inconclusive. Follow-up evaluation is based on aneurysm size when **ANY** of the following is **TRUE**[5,6]:

        - 3 to 3.9 cm, every 3 years; **OR**
        - 4-4.9 cm for male patients or 4-4.4 cm in female patients, annually; **OR**
        - Greater than 5 cm in male patients or greater than 4.5 cm in female patients, every 6 months; **OR**
- Other vascular conditions, including **ANY** of the following:
    - Preoperative planning for thoracoabdominal aortic aneurysm (TAAA) or dissection (with or without symptoms) and **ANY** of the following is **TRUE**[7]:
        - CTA of the chest has been performed; **OR**
        - Endovascular repair of thoracoabdominal aortic aneurysm (TAAA); **OR**
        - Open repair of thoracoabdominal aortic aneurysm (TAAA); **OR**
        - Follow-up after **ANY** of the following:
            - Endovascular repair of thoracoabdominal aortic aneurysm (TAAA); **OR**
            - Known thoracoabdominal aortic aneurysm (TAAA) or dissection without repair; **OR**
            - Open repair of thoracoabdominal aortic aneurysm (TAAA); **OR**
    - Preoperative planning for abdominal aortic aneurysm (AAA) or dissection (with or without symptoms), and **ANY** of the following[8]:
        - Endovascular repair of abdominal aortic aneurysm (EVAR); **OR**
        - Open repair of abdominal aortic aneurysm; **OR**
        - Follow-up after **ANY** of the following:
            - Endovascular repair of abdominal aortic aneurysm (TAAA); **OR**
            - Known thoracoabdominal aortic aneurysm (TAAA) or dissection without repair; **OR**
            - Open repair of thoracoabdominal aortic aneurysm (TAAA); **OR**
    - Concern for aneurysm as evidenced by **ANY** of the following[6]:
        - Pulsatile abdominal mass; **OR**
        - Other high-risk clinical sign or symptom concerning for aneurysm (e.g., severe abdominal pain, hypotension, suspicion on prior imaging)[9]; **OR**
    - Aortoenteric fistula[6]; **OR**
    - Arteriovenous anomalies (e.g., shunt, fistula, malformation); **OR**
    - Vascular invasion or displacement by tumor or other process; **OR**
    - Assessment of patients with spontaneous coronary artery dissection (SCAD), one-time; **OR**

- Trauma, with concern for solid organ or vascular injury[1,10,11]; **OR**
- Vasculitis, initial evaluation, when **ANY** of the following is **TRUE**[1,6,11-13]:
  - Biopsy proven; **OR**
  - Rheumatologic panel work-up is suggestive of vasculitis (e.g., erythrocyte sedimentation rate [ESR] and C-reactive protein [CRP]); **OR**
  - The requesting clinician specializes in rheumatology and the outcome of the imaging is expected to change the management and/or treatment plan; **OR**
- Evaluation of hepatic arteries, when ultrasound is inconclusive, nondiagnostic, or abnormal requiring confirmation; **OR**
- Evaluation of other visceral arteries, including, but not limited to, suspected superior mesenteric artery (SMA) syndrome and median arcuate ligament syndrome (MAL)[14,15]; **OR**
- Evaluation of the portal venous system (hepatic portal system) after Doppler ultrasound has been performed; **OR**
- Diffuse unexplained lower extremity edema with negative or inconclusive ultrasound; **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 needs additional evaluation; **OR**
- Vascular invasion or displacement by tumor; **OR**
- Other, unspecified vascular findings that were inconclusive on prior imaging; **OR**
- Pelvic venous disease with **ANY** of the following[16]:
  - Unexplained chronic pelvic pain; **OR**
  - Symptomatic perineal or pelvic varicosities; **OR**
  - Left flank or abdominal pain with hematuria; **OR**
  - Venous claudication; **OR**
  - Suspected May-Thurner syndrome (iliac vein compression)[17]; **OR**
- Persistent postpartum hemorrhage, following caesarian or vaginal delivery, with **ALL** of the following[18]:
  - Ultrasound is incomplete, inconclusive, or abnormal; **AND**
  - For preprocedure planning for planned endovascular embolization or to evaluate persistent bleeding after endovascular embolization is completed; **OR**

- Preoperative, postoperative, or pretreatment evaluation for **ANY** of the following:

- Surveillance imaging following endovascular aortic repair (EVAR) with **ALL** of the following:
  - Ultrasound is incomplete, inconclusive, or abnormal; **AND**
  - **ANY** of the following:
    - At one month postprocedure; **OR**
    - If a Type II endoleak is detected on first postprocedure screening, then repeat imaging at 6 months; **OR**
    - If a Type II endoleak is associated with a stable or shrinking aneurysm sac, then repeat imaging every 6 months for 2 years; **OR**
    - Annual imaging is recommended if no endoleak or aneurysm sac enlargement; **OR**
- Following open aortic aneurysm surgical repair (OSR), cross-sectional CT (or MR) imaging surveillance should be performed once every 5 years; **OR**
- Planning for vascular surgery, interventional procedure; **OR**
- Other procedures involving arteries (e.g., inferior epigastric arteries for breast reconstruction, ureteropelvic junction [UPJ] obstruction, solid organ transplant); **OR**
- Renal transplant rejection/dysfunction, when ultrasound and nuclear medicine (e.g., MAG3, DTPA) scans are inconclusive or are indicative of a vascular cause of rejection or dysfunction[19]; **OR**
- Anastomotic integrity or stent patency; **OR**
- Other vascular graft complication (e.g., suspected infection, pseudoaneurysm, or thrombosis)[6]; **OR**

- Gastrointestinal conditions, including **ANY** of the following:
  - Acute presentation of mesenteric ischemia or ischemic enteritis/colitis with **ANY** of the following[15]:
    - Suspicion for ischemic enteritis/colitis or mesenteric/bowel infarct by another imaging study; **OR**
    - High clinical suspicion for mesenteric ischemia and severe abdominal pain or abdominal pain that is out of proportion to the physical exam; **OR**
    - **ALL** of the following:
      - **ANY** of the following:
        - Known risk factors (e.g., hypercoagulable states, portal hypertension, recent surgery); **OR**

        - Known vascular disease (e.g., known coronary artery disease [CAD] or peripheral artery disease [PAD]); **AND**
      - Severe abdominal pain/pain that is out of proportion to the physical exam; **OR**
  - Suspicion for chronic mesenteric ischemia with **ALL** of the following:
    - Known risk factors (e.g., greater than or equal to 60 years of age, risk factors for atherosclerosis [i.e., hypertension, hyperlipidemia, and smoking history])[20]; **AND**
    - **ANY** of the following:
      - Post-prandial abdominal pain causing weight loss or fear of food; **OR**
      - Nausea and vomiting; **OR**
      - Diarrhea; **OR**
      - Hematachezia; **OR**
  - Lower gastrointestinal tract bleeding with **ANY** of the following[5,21]:
    - Active bleeding is clinically observed as hematochezia or melena in a hemodynamically stable patient, where colonoscopy is contraindicated or unavailable[22]; **OR**
    - Active bleeding in a hemodynamically unstable patient or a patient who has required more than 5 units of blood within 24 hours; **OR**
    - Concern for ongoing or recurrent bleeding after treatment (e.g., colonoscopy or transcatheter angiography); **OR**
  - Upper gastrointestinal bleeding (nonvariceal) with **ANY** of the following[5,23]:
    - High suspicion of an arterial source, endoscopy is contraindicated (e.g., post-surgical or traumatic cause), or inconclusive; **OR**
    - Source of bleeding is not identified on endoscopy; **OR**
- Known or suspected syndromes with increased risk of vascular anomalies, including **ALL** of the following[6]:
  - MRA is contraindicated or cannot be performed; **AND**
  - **ANY** of the following:
    - As a one-time screening for syndromes with a vascular component (e.g., fibromuscular dysplasia, neurofibromatosis, Williams syndrome, tuberous sclerosis); **OR**
    - Vascular Ehlers-Danlos syndrome (vEDS) (biannually; surveillance as indicated depending on abnormalities found)[24,25]; **OR**
    - Marfan syndrome (initial CTA at time of diagnosis, then every 3 years depending on abnormalities found)[26]; **OR**

        - Loeys-Dietz syndrome (every 2 years for screening; surveillance as indicated depending on abnormalities found); **OR**
        - Other syndromes not otherwise specified, follow-up as clinical documentation supports; **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.

Computed tomography angiogram and/or venography (CTA/CTV) of the abdomen/pelvis with runoff (CPT 74175, 75635) is considered appropriate when **ANY** of the following is **TRUE**:

- Vascular conditions, known or suspected, including **ANY** of the following:
    - Aneurysm, seen on ultrasound or where ultrasound is nondiagnostic; **OR**
    - Dissection; **OR**
    - Critical limb ischemia strongly suspected, and **ANY** of the following lower extremity signs or symptoms[27]:
        - Sudden onset of a cold leg with pain; **OR**
        - Gangrene; **OR**
        - Rest pain; **OR**
        - Nonhealing lower extremity ulceration; **OR**
    - Suspected peripheral arterial disease, and **ALL** of the following[28]:
        - Leg pain worsens with activity and is relieved with rest (claudication); **AND**
        - **ALL** of the following:
            - Limitation of performance of daily activities; **AND**
            - Expected mobility after treatment warrants revascularization; **AND**
            - Revascularization is planned[9]; **AND**

        - Abnormal ankle-brachial index (ABI) as evidenced by **ANY** of the following:
            - ABI is inconclusive or nondiagnostic; **OR**
            - ABI less than 0.9 or greater than 1.4 on at least one leg; **OR**
            - ABI less than 1.1 in patients with risk factors for atherosclerosis (e.g., personal history of diabetes or known cardiac disease); **AND**
        - Symptoms persist despite participation in guideline-directed medical therapy (GDMT); **OR**
- **ALL** of the following:
    - Evidence of severe venous reflux disease, including venous leg ulcer, when pelvic or abdominal etiology is suspected; **AND**
    - Doppler ultrasound is non-diagnostic; **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

Computed tomography angiogram and/or venography (CTA/CTV) of the abdomen/pelvis with contrast 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 symptoms.[29]

*NOTE: The referring professional and radiologist should discuss the risks and benefits of contrast media administration, including possible prophylaxis, in patients with chronic or worsening kidney disease or severe renal failure.

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

Disclaimer on Radiation Exposure in Pediatric Populations

Due to the heightened sensitivity of pediatric patients to ionizing radiation, minimizing exposure is paramount. At Cohere, we are dedicated to ensuring that every patient, including the pediatric population, has access to appropriate imaging following accepted guidelines. Radiation risk is dependent mainly on the patient's age at exposure, the organs exposed, and the patient's sex, though there are other variables. The following technical guidelines are provided to ensure safe and effective imaging practices:

Radiation Dose Optimization: Adhere to the lowest effective dose principle for pediatric imaging. Ensure that imaging protocols are specifically tailored for pediatric patients to limit radiation exposure.[30,31]

Alternative Modalities: Prioritize non-ionizing imaging options such as ultrasound or MRI when clinically feasible, as they are less likely to expose the patient to ionizing radiation. For instance, MRI or ultrasound should be considered if they are more likely to provide an accurate diagnosis than CT, fluoroscopy, or radiography.[30,31]

Cumulative Dose Monitoring: Implement systems to track cumulative radiation exposure in pediatric patients, particularly for those requiring multiple imaging studies. Regularly reassess the necessity of repeat imaging based on clinical evaluation.[30,31]

CT Imaging Considerations: When CT is deemed the best method for achieving a correct diagnosis, use the lowest possible radiation dose that still yields reliable diagnostic images.[30,31]

Cohere Imaging Gently Guideline

The purpose of this guideline is to act as a potential override when clinically indicated to adhere to Imaging Gently and Imaging Wisely guidelines and As

Low As Reasonably Possible (ALARA) principles.

Level of Care Criteria

Inpatient or Outpatient

Procedure Codes (CPT/HCPCS)

CPT/HCPCS Code	Code Description
72191	Computed tomographic angiography (CTA), pelvis; with contrast material(s) including non-contrast images, if performed, and image postprocessing
74174	Computed tomographic angiography (CTA), abdomen and pelvis; with contrast material(s), including non-contrast images, if performed, and image postprocessing
74175	Computed tomographic angiography (CTA), abdomen; with contrast material(s), including non-contrast images, if performed, and image postprocessing
75635	Computed tomographic angiography (CTA), abdominal aorta, and bilateral iliofemoral lower extremity runoff; with contrast material(s), including non-contrast images, if performed, and image postprocessing

Medical Evidence

Reintam Blaser et al. (2025) performed a systematic literature review and meta-analysis on the sensitivity and specificity of various radiological diagnostic practices of acute mesenteric ischemia in adults. A total of 81 studies (from 14 meta-analyses) were included for this analysis. Many studies included patients with strangulated bowel obstruction developing bowel ischemia under the definition of acute mesenteric ischemia, although there is no consensus on this subtype inclusion. Overall, the diagnostic accuracy of computed tomography angiography (CTA) was high, with a sensitivity of 92.0% and specificity of 98.8%. This study found that CTA is the method of choice for diagnosing acute mesenteric ischemia in adults.[32]

Allam et al. (2024) reviewed multiple imaging modalities in vasculitis. Advantages of computed tomography angiography (CTA) include its high availability and rapid execution, along with excellent spatial and temporal resolution.[33] Additionally, coronary CTA can be performed simultaneously if there is a suspicion of coronary artery disease (CAD). A prospective study by Lariviere et al. (2016) demonstrates that CTA can identify late complications such as stenosis, dissection, or aneurysms. In another prospective study, CTA showed a sensitivity of 73% and a specificity of 78% for diagnosing giant cell arteritis compared to clinical diagnosis.[34]

Fernando et al. (2022) conducted a meta-analysis to assess the effectiveness of various diagnostic methods, including presenting symptoms, physical examination findings, CTA, and point-of-care ultrasound (PoCUS) in accurately identifying ruptured abdominal aortic aneurysm (rAAA). A total of 2077 patients from 20 studies were included. While classic clinical symptoms related to rAAA may lack sensitivity, their absence does not always exclude the diagnosis. CTA exhibits reasonable accuracy but may still fail to detect some instances of rAAA. PoCUS may be a valuable resource when determining the transfer of suspected rAAA patients to a vascular center.[35]

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Policy Revision History/Information

Original Date: April 15, 2022		
Review History		
Version 2	08/15/2024	Annual review and policy restructure.
Version 3	10/30/2024	Edited repeat imaging criteria language.
Version 4	08/28/2025	Annual review. Reviewed indications and references for alignment with the most recent guidelines from ACR and aligned throughout (minor wording changes and restructuring). Aligned a few sections with Cohere Medical Policy - CT, Abdomen/Pelvis, or Cohere Medical Policy - MRA, Abdomen/Pelvis, including indications for: acute and chronic mesenteric ischemia, abdominal aortic aneurysm, vascular anomolies (e.g., Vascular Ehlers-Danlos syndrome, Marfan syndrome), and postpartum hemorrhage. Revised CTA/CTV with runoff section. Updated repeat imaging criteria to align with new standard language. Removed relative contraindication (contrast allergy). Literature review - Medical Evidence section updated.