Cohere Medicare Advantage 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. This policy may be superseded by existing and applicable Centers for Medicare & Medicaid Services (CMS) statutes.

Other Notices:

Policy Information:

Specialty Area: Diagnostic Imaging
Policy Name: Cohere Medicare Advantage Policy - Computed Tomography Angiography (CTA), Abdomen/Pelvis, including Lower Extremity Runoff
Type: [**X**] Adult (18+ yo) | [**X**] Pediatric (0-17 yo)

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Medical Necessity Criteria

Service: Computed Tomography Angiography (CTA), Abdomen/Pelvis, Including Lower Extremity Runoff

Related CMS Documents

Please refer to the CMS Medicare Coverage Database for the most current applicable CMS National Coverage.

- There are no NCDs or LCDs for computed tomography angiography (CTA), abdomen/pelvis.

Description

Computed tomography angiography (CTA) is an imaging test for various aortic conditions with 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 used to image aneurysms before intervention and evaluate the aorta in acute settings to assess traumatic injury, dissection, and aneurysm rupture. 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.[1-4]

Medical Necessity Criteria

Computed tomography angiography or venography (CTA/CTV) of the abdomen/pelvis 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 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 Population

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.[26,27]

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.[26,27]

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.[26,27]

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.[26,27]

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

Disclaimer: S Codes are non-covered per CMS guidelines due to their experimental or investigational nature.

Evaluation of Clinical Harms and Benefits

Clinical determinations for Medicare Advantage beneficiaries are made in accordance with 42 CFR 422.101 guidance outlining CMS's required approach to decision hierarchy in the setting of NCDs/LCDs identified as being "not fully established". When clinical coverage criteria are "not fully established" Medicare Advantage organizations are instructed to create publicly accessible clinical coverage criteria based on widely-accepted clinical guidelines and/or scientific studies backed by a robust clinical evidence base. Clinical coverage criteria provided by Cohere Health in this manner include coverage rationale and risk/benefit analysis.

The potential clinical harms of using these criteria for computed tomography angiography (CTA), abdomen/pelvis, including lower extremity runoff may include:

- Inherent risk of procedure: There are inherent risks of imaging, including cumulative radiation exposure, contrast, allergy, nephrotoxicity, and contrast extravasation into surrounding tissues.[28-30]
- Potential danger to pregnancy: CT imaging completed during pregnancy confers a dose of ionizing radiation to the fetus and is generally only utilized when the potential benefits of this specific imaging modality outweigh the risks to the pregnancy.[31] Fetal risk includes fetal demise, intrauterine growth restriction, microcephaly, delayed intellectual development, risk of childhood cancer, and fetal thyroid injury.[31]
- Increased healthcare costs and complications from the inappropriate use of additional interventions.[32]

The clinical benefits of using these criteria for computed tomography angiography (CTA), abdomen/pelvis, including lower extremity runoff may include:

- Improved patient outcomes through timely and appropriate access to the procedure. Allam et al. (2024) reviewed CTA as a component of multi-modality imaging in vasculitis. The authors note that CTA is widely accessible and is widely used in large vessel vasculitis, with excellent spatial and temporal resolution. CTA may reveal both early vascular

changes as well as late complications, such as stenosis, dissection, or aneurysms.[33]

- Reduction in complications and adverse effects from unnecessary procedures. The ACR-NASCI-SIR-SPR practice parameter for the performance and interpretation of body computed tomography angiography (CTA)(2021) enumerates indications for the modality's use in diagnosis and treatment of vascular aneurysms and dissections, trauma evaluation, and anatomic mapping for organ transplantation and autograft planning.[7]
- Enhanced diagnostic accuracy for complex medical conditions. Hansen (2016) reviewed the use of CTA of the abdominal aorta, stating that it has become the preferred method for planning repair, monitoring complications, and follow-up of abdominal aortic aneurysms.[34]
- Enhanced overall patient satisfaction and healthcare experience. Patients may tolerate computed tomography scanning better than magnetic resonance imaging, due to the shorter amount of time involved for the study and lower risk for claustrophobia.

Medical Evidence

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. Additionally, coronary CTA can be performed simultaneously if there is a suspicion of coronary artery disease (CAD).

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.[14]

Rotzinger et al. (2020) prospectively compared three image acquisition techniques in lower extremity CT angiography. Of the 60 consecutive patients enrolled, each was randomly assigned to one of three groups: the standard anterograde technique (SA), the adaptive anterograde technique (AA), and the retrograde acquisition technique (RA). Quantitative image quality was evaluated by measuring intraluminal attenuation at 536 different levels. Additionally, occlusive or aneurysmal disease was documented for each patient and limb. The RA technique demonstrated lower attenuation compared to the SA and AA techniques. The highest and most consistent attenuation was found with the AA technique. Qualitative analysis revealed that AA had the lowest rate of non-diagnostic vascular segments, followed by SA and RA. Venous contamination was significantly higher with RA, particularly at the aortic level. The presence of stenosis or occlusion did not significantly affect attenuation values across all techniques, whereas aneurysmal disease significantly impacted luminal attenuation in AA (increased attenuation) and RA (decreased attenuation) at the iliac and femoral levels.[36]

A prospective study by Lariviere et al. (2016) demonstrated 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.[33,35]

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Policy Revision History/Information

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Review History		
Version 2	09/18/2025	Annual review. Revised Description section. Refined and edited indications throughout for clarity. Rearranged bullets for improved usability and organization. Revised Medical Evidence section for clarity.