Cohere Medicare Advantage Policy - Computed Tomography Angiography (CTA), Lower Extremity

Clinical Policy for Medical Necessity Review

Version: 2
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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 This policy may be superseded by existing and applicable Centers for Medicare & Medicaid Services (CMS) statutes.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), Lower Extremity
Type: [**X**] Adult (18+ yo) | [**X**] Pediatric (0-17 yo)

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Medical Necessity Criteria

Service: Computed Tomography Angiography, Lower Extremity

Related CMS Documents

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

- There are no applicable NCDs and/or LCDs for computed tomography angiography (CTA) of the lower extremity.

Description

Lower extremity computed tomography angiography (CTA) is used to assess peripheral artery disease (PAD), trauma, vascular anatomy, congenital malformations, and vasculitis. CTA of the lower extremity is also employed for surgical planning.[1] After an intravenous injection of an iodinated contrast medium, a thin-section CT scan is used to capture peak arterial and/or venous enhancement, depending on the targeted vascular structures. The resulting volumetric data set is analyzed using primary transverse reconstructions along with multiplanar reformations and 3-D renderings.[1]

Medical Necessity Criteria

Indications

Computed tomography angiography (CTA), lower extremity is considered appropriate if **ANY** of the following is **TRUE**:

- Neoplastic conditions (including masses or mass-like conditions) when the arterial blood supply needs to be evaluated (e.g., for treatment planning, treatment response, or prognostication); **OR**
- Neoplastic invasion of arteries or veins; **OR**
- Trauma-related conditions as indicated by **ANY** of the following[2]:
  - Expanding hematoma[3]; **OR**
  - Major blunt trauma and the patient is hemodynamically stable[4]; **OR**
  - Neurologic deficit of lower extremity in association with trauma[5]; **OR**
  - Known or suspected knee dislocation*[6]; **OR**
  - Vascular trauma to a lower extremity[7]; **OR**
- Vascular conditions, known or suspected, including **ANY** of the following:
  - Aneurysm, seen on ultrasound or where ultrasound is nondiagnostic; **OR**
  - Intramural hematoma; **OR**
  - Dissection; **OR**
  - Critical limb ischemia strongly suspected with **ANY** of the following lower extremity signs or symptoms:[8]
    - Sudden onset of a cold leg with pain; **OR**
    - Gangrene; **OR**
    - Rest pain; **OR**
    - Nonhealing lower extremity ulceration; **OR**
  - Suspected peripheral arterial disease with lower extremity ischemic symptoms when **ALL** of the following are **TRUE**:
    - 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)[10]; **AND**
      - Symptoms persist despite participation in guideline-directed medical therapy (GDMT)[10]; **AND**
      - Either low concern for aortic and iliac artery disease or aorta and iliac arteries previously imaged; **OR**
    - Determination of hemorrhage source (including non-surgical, spontaneous)[3]; **OR**
    - Localization and characterization of vascular malformation or fistula (e.g., assessing treatment response, treatment planning) and **ANY** of the following[11]:
      - Duplex ultrasound indeterminate or nondiagnostic; **OR**
      - High flow lesion suspected clinically or by imaging; **OR**
      - Preoperative planning; **OR**
    - Vasculitis, initial evaluation, with **ANY** of the following[7]:
      - Biopsy proven; **OR**
      - Rheumatologic panel work-up including, but not limited to, erythrocyte sedimentation rate (ESR) and C-reactive protein (CRP) is suggestive of vasculitis; **OR**
      - The requesting clinician specializes in rheumatology and the outcome of the imaging is expected to change management and/or treatment plan; **OR**
- Pre-and post-intervention evaluation and **ANY** of the following[5]:
  - Postoperative evaluation of the effectiveness of arterial or venous reconstruction or bypass; **OR**
  - Characterization of normal or variant vascular anatomy; **OR**
  - Determination of the patency, location, or integrity of grafts and other vascular devices (e.g., stents); **OR**
  - Planning autografts for musculoskeletal reconstruction; **OR**
  - Treatment of popliteal entrapment syndrome; **OR**
- Hemodialysis access evaluation when **ALL** of the following are **TRUE**:
  - Duplex ultrasound is inconclusive; **AND**
  - Fistulogram cannot be performed; **AND**
  - Vascular steal syndrome is suggested by ischemic symptoms in the toes distal to the fistula; **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** 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 venography (CTV), lower extremity is considered appropriate for **ANY** of the following[13]:

- Neoplastic conditions (including masses or mass-like conditions) when the arterial blood supply needs to be evaluated (e.g., for treatment planning, treatment response, or prognostication); **OR**
- Neoplastic invasion of arteries or veins; **OR**
- Known or suspected acute or chronic deep venous thrombosis, when results would change management and ultrasound has been completed[15]; **OR**
- Known severe post-thrombotic changes incompletely evaluated by ultrasound[16]; **OR**
- Evidence of severe venous reflux disease and **ALL** of the following[15]:
  - Duplex ultrasound evaluation indeterminate, incomplete, or non-diagnostic; **AND**
  - Surgical or endovascular intervention planned; **OR**
- Pre- or post-intervention evaluation for **ANY** of the following[5,16]:
  - Postoperative evaluation of the effectiveness of arterial or venous reconstruction or bypass; **OR**
  - Characterization of normal and variant vascular anatomy[17]; **OR**
  - Determination of the patency, location, or integrity of grafts and other vascular devices (e.g. stents)[16]; **OR**
  - Planning autografts for musculoskeletal reconstruction; **OR**
  - Treatment of popliteal entrapment syndrome[18]; **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** 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 angiography (CTA)/computed tomography venography (CTA/CTV), lower extremity with contrast is not considered appropriate if **ANY** of the following is **TRUE**[19]:

- The patient has undergone advanced imaging of the same body part within 3 months without undergoing treatment or developing new or worsening symptoms; **OR**
- Evaluation of lower extremity arterial perfusion, such as for claudication, when there may be a concern for aorta or iliac disease and aorta and iliac have not been imaged.

*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.[20-21]

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.[20-21]

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.[20-21]

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.[20-21]

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
73706	Computed tomographic angiography (CTA), lower extremity; 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) of the lower extremity may include:

- Adverse effects from delayed or denied treatment: Delays in, or denials of, computed tomography angiography of the lower extremity can result in increased symptoms and complications. CTA of the lower extremity is comparatively less invasive than other, similar modalities, including the previous gold standard of digital subtraction angiography.[22] Less invasive imaging is generally associated with a better safety profile and improved patient satisfaction.[22]
- Inherent risk of procedure: There are inherent risks of imaging, including cumulative radiation exposure, contrast, allergy, nephrotoxicity, and contrast extravasation into surrounding tissues.[20,23-25]

- Potential danger to pregnancy: CT imaging completed during pregnancy confers a dose of ionizing radiation to the fetus.[26] Fetal risks include fetal demise, intrauterine growth restriction, microcephaly, delayed intellectual development, risk of childhood cancer, and fetal thyroid injury.[26]
- Increased healthcare costs and complications from the inappropriate use of additional interventions: A systematic review conducted by Kjelle et al. (2024) found that a reduction in low-value diagnostic imaging, i.e. imaging that does not inform, nor affect, treatment, can greatly improve the quality of patient care.[26]

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

- Versatility: CTA of the lower extremity is a multipurpose, versatile modality that plays a role in the detection of a variety of conditions with similar symptomatology, including congenital vascular anomalies, trauma, peripheral artery disease, and other ischemic diseases, as well as a range of nonischemic etiologies.[22] Further, it serves both surgical planning purpose and complete characterization of peripheral artery disease and can be employed in surgical planning in other contexts, such as plastic surgery procedures which require detailed preoperative assessment of the lower vasculature for flap or vascular harvest.[22]
- Improved trauma triage: CTA of the lower extremity represents a rapid method to identify trauma patients requiring emergent operative intervention.[22]
- Enhanced overall patient satisfaction and healthcare experience.
- Appropriate allocation of healthcare resources at the individual beneficiary and population levels.

Medical Evidence

Jayaraj et al. (2024) evaluate the use of CT venography (CTV) to diagnose chronic iliac venous obstruction. Advantages of CTV include acquisition and postprocessing functionalities, including multiplanar reconstruction assessment and image processing techniques (e.g., volume rendering and maximum intensity projection). These serve to ascertain and categorize the features of the lesion. CTV also enables the detection of extravascular structures potentially implicated in compression and obstruction. The identification of congenital anatomical variances was present in 20% of patients with these conditions.[16]

Kakkos et al. (2021) discuss the efficacy of CTV as a reliable diagnostic tool for proximal DVT in patients suspected of DVT and pulmonary embolism (PE), exhibiting sensitivity and specificity akin to ultrasound. CTV presents clear advantages over ultrasound in assessing pelvic veins and the inferior vena cava (IVC) while also identifying concurrent medical conditions manifesting as pain and swelling. The superior spatial resolution of CTV facilitates precise vessel measurements and treatment planning when intervention is warranted. Limitations of CTV include the necessity of iodine contrast administration and exposure to radiation - a concern, especially in younger patients.[27]

Cook et al. (2016) review CTA of the lower extremities for conditions including peripheral artery disease (PAD), trauma, evaluation of variant anatomy and congenital malformations, vasculitis, and pre-surgical planning. CTA is a crucial and adaptable noninvasive technique with various diagnostic and procedural applications. While it is commonly employed for patients with PAD or lower extremity trauma, the utility of CTA extends to investigating non-ischemic conditions and congenital vascular abnormalities. Tailoring CT scanner protocols to specific clinical inquiries, including adjusting bolus timing and employing multiphasic imaging, is essential. Additionally, the utilization of three-dimensional postprocessing techniques is vital for enhancing visualization and interpretation of the detailed imaging data obtained from these examinations.[22]

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Policy Revision History/Information

Original Date: September 19, 2025		
Review History		
Version 2	09/11/2025	Annual review Updated repeat imaging language. Added repeat imaging non-indication. Rearranged bullets for improved usability and organization. Updated and reframed harms and benefits. Added citations #11-15, 17, 18