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

Clinical Policy for Medical Necessity Review

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Policy Information:

Specialty Area: Diagnostic Imaging
Policy Name: Cohere Medical 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 (CTA), Lower Extremity

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

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    - 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

Lower extremity computed tomography angiography (CTA) is indicated for peripheral artery disease (PAD), trauma, assessment of vascular anatomy and congenital malformations, vasculitis, and surgical planning.[1] After the intravenous injection of an iodinated contrast medium, CTA employs a thin-section CT scan timed 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 3D renderings.[1]

Medical Necessity Criteria

Indications

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

- Ultrasound is incomplete, inconclusive, or abnormal with **ANY** of the following:
    - 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**

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- 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 nonsurgical, spontaneous)[3]; **OR**
  - Localization and characterization of vascular malformation or fistula (e.g., assessing treatment response, treatment planning) with **ANY** of the following:

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        - Duplex ultrasound indeterminate or nondiagnostic; **OR**
        - High flow lesion suspected clinically or by imaging; **OR**
        - Preoperative planning; **OR**
    - Vasculitis, initial evaluation, when **ANY** of the following is **TRUE**[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 postintervention evaluation when **ANY** of the following is **TRUE**:
    - Postoperative evaluation of the effectiveness of arterial or venous reconstruction or bypass; **OR**
    - Characterization of normal and 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** 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.

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Computed tomography venography (CTV), lower extremity is considered appropriate for **ANY** of the following is **TRUE**:

- Ultrasound is incomplete, inconclusive, or abnormal with **ANY** of the following:
  - Neoplastic conditions (including masses or mass-like conditions) when the 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[11]; **OR**
  - Known severe postthrombotic changes incompletely evaluated by ultrasound[11]; **OR**
  - Evidence of severe venous reflux disease and **ALL** of the following[11]:
    - Duplex ultrasound evaluation indeterminate, incomplete, or nondiagnostic; **AND**
    - Surgical or endovascular intervention planned; **OR**
- Pre- and postintervention evaluation when **ANY** of the following is **TRUE**:
  - Postoperative evaluation of the effectiveness of arterial or venous reconstruction or bypass; **OR**
  - Characterization of normal and 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**
- 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.

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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**[12]:

- The patient has undergone advanced imaging of the same body part within 3 months without undergoing treatment or developing new or worsening symptoms[13]; **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 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.[14,15]

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,

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fluoroscopy, or radiography.[14,15]

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.[14,15]

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.[14,15]

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

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Medical Evidence

Jayaraj et al. (2024) evaluate using 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, which can be an item of concern, especially in younger patients.[17]

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 presurgical 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 nonischemic 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.[18]

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References

1. American College of Radiology (ACR). ACR–NASCI–SIR–SPR practice parameter for the performance and interpretation of body computed tomography (CTA) - resolution 47. Updated 2021. https://www.acr.org/-/media/ACR/Files/Practice-Parameters/body-cta.pdf
2. Brian R, Bennett DJ, Kim WC, et al. Computed tomography angiography is associated with low added utility for detecting clinically relevant vascular injuries among patients with extremity trauma. *Trauma Surg Acute Care Open*. 2021 Dec 20;6(1):e000828. doi:10.1136/tsaco-2021-000828
3. Fox N, Rajani RR, Bokhari F, et al. Evaluation and management of penetrating lower extremity arterial trauma: An Eastern Association for the Surgery of Trauma practice management guideline. *J Trauma Acute Care Surg*. 2012 Nov;73(5 Suppl 4):S315-20. doi:10.1097/TA.0b013e31827018e4
4. Shyu JY, Khurana B, Soto JA, et al. Major blunt trauma. ACR appropriateness criteria [Internet] American College of Radiology (ACR). Updated 2019. http://www.acr.org
5. Dreizin D, Smith EB, Champ K, et al. Roles of trauma CT and CTA in salvaging the threatened or mangled extremity. *Radiographics*. 2022 Mar-Apr;42(2):E50-E67. doi:10.1148/rg.210092
6. Taljanovic MS, Chang EY, Ha AS, et al. Acute trauma to the knee. ACR appropriateness criteria [Internet] American College of Radiology (ACR). Updated 2019. http://www.acr.org
7. Francois CJ, Skulborstad EP, Kalva SP, et al. Nonatherosclerotic peripheral arterial disease. ACR appropriateness criteria [Internet] American College of Radiology (ACR). Updated 2018. http://www.acr.org
8. Browne WF, Sung J, Majdalany BS, et al. Sudden onset of cold, painful leg. ACR appropriateness criteria [Internet] American College of Radiology (ACR). Updated 2023. http://www.acr.org
9. Azene EM, Steigner ML, Aghayev A, et al. Lower extremity arterial claudication-imaging assessment for revascularization. ACR

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appropriateness criteria [Internet] American College of Radiology (ACR). http://www.acr.org

10. Gerhard-Herman MD, Gornik HL, Barrett C, et al. 2016 AHA/ACC guideline on the management of patients with lower extremity peripheral artery disease: A report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines. *Circulation*. 2017 Mar 21;135(12):e726-e779. doi:10.1161/CIR.0000000000000471
11. Rochon PJ, Reghunathan A, Kapoor BS, et al. Lower extremity chronic venous disease. ACR appropriateness criteria [Internet] American College of Radiology (ACR). Updated 2023. http://www.acr.org
12. Davenport MS, Perazella MA, Yee J, et al. Use of intravenous iodinated contrast media in patients with kidney disease: Consensus statements from the American College of Radiology and the National Kidney Foundation. *Radiology*. 2020;294(3):660-668. doi:10.1148/radiol.2019192094
13. Wasser EJ, Prevedello LM, Sodickson A, Mar W, Khorasani R. Impact of a real-time computerized duplicate alert system on the utilization of computed tomography. *JAMA Intern Med*. 2013;173(11):1024-1026. doi:10.1001/jamainternmed.2013.543
14. The Image Gently Alliance. Procedures - image gently and CT scans. Updated 2014. https://www.imagegently.org /Procedures/Computed-Tomography
15. National Cancer Institute. Radiation risks and pediatric computed tomography (CT): A guide for health care. Updated September 4, 2018. https://www.cancer.gov/about-cancer/ causes-prevention/risk/radiation/pediatric-ct-scans
16. Jayaraj A, Rossi FH, Lurie F, et al. Diagnosis of chronic iliac venous obstruction. *J Vasc Surg Venous Lymphat Disord*. 2024 Jan 18:101744. doi:10.1016/j.jvsv.2023.101744
17. Kakkos SK, Gohel M, Baekgaard N, et al. Editor's choice - European Society for Vascular Surgery (ESVS) 2021 clinical practice guidelines on the management of venous thrombosis. *Eur J Vasc Endovasc Surg*. 2021 Jan;61(1):9-82. doi:10.1016/j.ejvs.2020.09.023
18. Cook TS. Computed tomography angiography of the lower extremities. *Radiol Clin North Am*. 2016 Jan;54(1):115-30. doi:10.1016/j.rcl.2015.08.001

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Policy Revision History/Information

Original Date: April 22, 2022		
Review History		
Version 2	08/13/2024	Annual review and policy restructure.
Version 3	10/30/2024	Edited repeat imaging criteria language.
Version 4	08/21/2025	Annual review. Updated content layout to align with revised template, including repeat imaging criteria.

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