National Imaging Associates, Inc.	
Clinical guidelines **LOWER EXTREMITY CTA/CTV**	**Original Date: July 2008**
CPT Codes: 73706	**Last Revised Date: April 2023~~March 2022~~**
Guideline Number: NIA_CG_061-1	**Implementation Date: January 2024~~23~~**

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.*

INDICATIONS FOR LOWER EXTREMITY CTA/CTV (COMPUTED TOMOGRAPHY ANGIOGRAM / COMPUTED TOMOGRAPHY VENOGRAM)

Abdominal Arteries CTA (CT Angiography) (CPT Code 75635) includes ~~run-off~~run-off, so this is ~~never~~ not approvable~~d~~ when ~~that~~ done in conjunction with that exam~~procedure has been~~.

When a separate CTA and CT exam is requested, documentation requires a medical reason that clearly indicates why additional CT imaging of the upper extremity is needed.

Peripheral Vascular Disease ~~and~~ when Abdominal Arteries CTA (CT Angiography) (CPT Code 75635) has not been recently approved or when aortoiliac disease is not a concern or the state of the aorta and iliac arteries is already known.

- Critical Limb ischemia **ANY** of the below with clinical signs of peripheral artery disease. Ultrasound imaging is not needed. If done and negative, it should still be approved due to high false negative rate[1, 2]
  - Ischemic rest pain
  - Tissue loss
  - Gangrene

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- Claudication with abnormal or indeterminate ~~(~~ankle/brachial index, pulse volume recording or arterial Doppler~~)~~[3-5]
- Clinical concern for vascular cause of ulcers with abnormal or indeterminate ultrasound (ankle/brachial index, arterial Doppler)[6]
- After stenting or surgery with signs of recurrent symptoms OR abnormal ankle/brachial index; abnormal or indeterminate arterial Doppler, OR pulse volume recording)[5]

Popliteal Artery Entrapment Syndrome with abnormal arterial ultrasound[7]

Deep Venous Thrombosis with clinical suspicion of lower extremity DVT after abnormal or non-diagnostic ultrasound where a positive study would change management[8-10]

Clinical suspicion of vascular disease with abnormal or indeterminate ultrasound or other imaging

- Tumor invasion[11]
- Trauma[12]
- Vasculitis[13]
- Aneurysm[14]
- Stenosis/occlusions[15]

Hemodialysis Graft Dysfunction after Doppler ultrasound not adequate for treatment decisions[16]

Vascular Malformation[17, 18] ~~If MRA is contraindicated~~

- ~~Non diagnostic doppler ultrasound~~ After initial evaluation with ultrasound and results will change management **OR**
- Inconclusive ultrasound **OR**
- If a known or suspected high flow lesion
- For preoperative planning (CT is also approvable for initial evaluation if MRI contraindicated)

(MRA preferred however CTA useful in delineating some high flow lesions such as an arteriovenous malformation.)

~~**Note**: CTA useful in delineating high flow lesions such as an arteriovenous malformation.~~

Traumatic injuries with clinical findings suggestive of arterial injury[12]

Assessment/evaluation of known vascular disease/condition

Further evaluation of indeterminate ~~or questionable~~ findings on prior imaging (unless follow up is otherwise specified within the guideline): :

- For initial evaluation of an inconclusive finding on a prior imaging report (i.e., x-ray, ultrasound or CT) 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 unless specified as highly suspicious or change was found on last follow-up exam.)

Pre-operative/procedural evaluation

- Pre-operative evaluation for a planned surgery or procedure[3]

Post- operative/procedural evaluation

- A follow-up study may be needed to help evaluate a patient's progress after treatment, procedure, intervention, or surgery. Documentation requires a medical reason that clearly indicates why additional imaging is needed for the type and area(s) requested[19, 20]

Special Circumstances[2]

- High suspicion of an acute arterial obstruction - Arteriography preferred (the gold standard).
- Renal impairment
    - Not on dialysis
        - Mild to moderate, GFR 30-89 ml/min MRA can be done
        - Severe, GFR < 30 ml/min MRA without contrast
    - On dialysis
        - CTA with contrast can be done
- Doppler ultrasound can be useful in evaluating bypass grafts

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BACKGROUND

Lower extremity computed tomography angiography (CTA) is an effective, noninvasive and robust imaging modality that is used in the assessment of symptomatic lower extremity vascular disease. It has excellent spatial resolution and shows accurate details of peripheral vasculature. CTA is an effective alternative to catheter-based angiography and allows accurate planning of open surgical and endovascular interventions.

OVERVIEW

The ankle- brachial index (ABI) is the ratio of systolic blood pressure at the ankle divided by the systolic pressure of the upper arm. The normal range lies between 0.9-1.4. An ABI[21, 22] of less than 0.9 is a reliable indicator of the presence of lower extremity PAD, indicating athero-occlusive arterial disease. The upper limit of normal ABI should not exceed 1.40. An ABI >1.40 is suggestive of arterial stiffening (i.e., medial arterial calcification) and is also associated with a higher risk of cardiovascular events and is seen in elderly patients, typically in those with diabetes or chronic kidney disease (CKD).

~~**Abdominal Arteries CTA –** For imaging of the abdomen, pelvis **AND** both legs (CTA aorto-iliofemoral runoff; abdominal aorta and bilateral iliofemoral lower extremity runoff) use CPT code 75635.~~

~~**Peripheral Arterial Disease –** CTA is used in the evaluation of patients with peripheral arterial disease. It can be used to evaluate the patency after revascularization procedures. It is the modality of choice in patients with intermittent claudication. A drawback is its hampered vessel assessment caused by the depiction of arterial wall calcifications, resulting in a decreased accuracy in severely calcified arteries.~~

~~**Chronic Limb Threatening Ischemia –** Assessment and promotion of blood flow through the calf arteries is very important in patients with chronic limb threatening ischemia. CT Angiography allows for visualization of pedal vessels.~~

~~**Surgical or Percutaneous Revascularization –** CTA is accurate in the detection of graft-related complications, including stenosis and aneurysmal changes. It can reveal both vascular and extravascular complications.~~

CTA and screening for peripheral vascular disease: The USPSTF (U.S. Preventive Services Task Force) does not recommend routine screening for peripheral vascular disease in asymptomatic patients.[23] High risk patients (e.g., diabetics) may be screened with ABI (ankle brachial index) and duplex ultrasound.

~~**POLICY HISTORY**~~

~~**Date**~~	~~**Summary**~~
~~2023~~	~~Updated references~~ ~~Modified background section~~ ~~Added vascular malformations~~ ~~Added indeterminate prior imaging findings~~
~~March 2022~~	~~No changes~~
~~May 2021~~	~~No changes~~

~~May 2020~~	• ~~Clarified that CTA does not include a baseline CT exam~~ • ~~Expanded section about vascular malformation to include initial testing.~~ • ~~Added information about renal function and contrast agents~~ • ~~Added acute arterial obstruction and renal impairment~~ • ~~Simplified language~~ • ~~Updated references~~
~~May 2019~~	• ~~Added indication for deep venous thrombosis~~ • ~~Reformatting and new references.~~

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~~ADDITIONAL RESOURCES~~

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Reviewed / Approved by NIA Clinical Guideline Committee

POLICY HISTORY

Date	Summary
April 2023	• Updated references • Modified background section • Added vascular malformations • Added indeterminate prior imaging findings • General Information moved to beginning of guideline with added statement on clinical indications not addressed in this guideline
March 2022	No changes

Reviewed / Approved by NIA Clinical Guideline Committee

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