

04-70450-08

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Next Review: 03/27/25

Subject: Computed Tomography Angiography (CTA) Upper Extremity

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DESCRIPTION:

Computed tomography angiography (CTA) is an imaging procedure performed for characterizing vascular anatomy, diagnosing vascular diseases, planning treatment for vascular disease and assessing the effectiveness of vascular treatment. CTA may be performed with or without contrast material.

Summary and Analysis of Evidence: Body computed tomography angiography (CTA) is a method for characterizing vascular anatomy, diagnosing vascular diseases, planning treatment for vascular diseases, and assessing the effectiveness of vascular treatment (ACR-NASCI-SIR-SPR, 2021).

Upper extremity computed tomography angiography is a powerful tool in the evaluation of acute and nonacute arterial pathology. Technical principles including patient positioning, choice of contrast injection site and rate of administration, and physiologic considerations must be optimized to achieve a high-quality angiographic study. The use of computed tomography angiography in the setting of trauma has been recognized. However, it's less well-known and varied clinical applications in the subacute setting are also important. Volume-rendered, maximum intensity projection, and multiplanar reformat images are indispensable for evaluating the data set. The authors note that several authors have described the role of CTA of the upper extremities in the setting of acute vascular and extravascular injury. Examples of subacute roles of CTA include presurgical anatomic mapping and delineating the vascular manifestations of connective tissue diseases; vasculitis; overuse syndromes; arteriovenous (AV) dialysis fistulas; AV malformations (AVM); compression syndromes; and perivascular pathology, such as

abscesses and neoplasms. CTA can readily identify thromboembolic phenomena, aneurysms, and stenoses associated with these disease entities (Dave, 2016).

POSITION STATEMENT:

Computed tomography angiography (CTA) of the upper extremity **meets the definition of medical necessity** for the following indications:

Hand ischemia

- Acute:
 - Ischemic ulceration without segmental temperature change
 - Ischemic ulceration with painful ischemia
 - Acute sustained loss of perfusion with or without acral ulceration
 - Imminent loss of digit.
- Clinical symptoms with abnormal arterial Doppler and results will change management
- Clinical concern for vascular cause of ulcers with abnormal or indeterminate ultrasound
- After stenting or surgery with signs of recurrence or indeterminate ultrasound.

Deep venous thrombosis (DVT) or embolism

- After abnormal ultrasound of arm veins if it will change management, or negative or indeterminate ultrasound to rule out other causes
- Evaluation of central veins
- Clinical suspicion of upper arterial emboli.

Clinical suspicion of vascular disease (with abnormal or indeterminate ultrasound)

- Tumor invasion
- Trauma
- Vasculitis
- Aneurysm
- Steno-occlusions.

Hemodialysis graft dysfunction (after Doppler ultrasound)

Vascular malformation

Traumatic injuries (with clinical findings suggestive of arterial injury)

Assessment/evaluation of known vascular disease/condition

Pre-operative/procedural evaluation

- Pre-operative evaluation for a planned surgery or procedure.

Post-operative/procedural evaluation

- A follow-up study may be needed to help evaluate a member’s progress after treatment, procedure, intervention or surgery. Documentation required.

BILLING/CODING INFORMATION:

CPT Coding:

73206	Computed tomographic angiography, upper extremity, with contrast material(s), including noncontrast images, if performed, and image postprocessing
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REIMBURSEMENT INFORMATION:

Refer to section entitled [POSITION STATEMENT](#).

Re-imaging or additional imaging due to poor contrast enhanced exam or technically limited exam is the responsibility of the imaging provider.

LOINC Codes:

The following information may be required documentation to support medical necessity: physician history and physical, physician progress notes, plan of treatment and reason for computed tomography angiography (CTA) of the upper extremity.

Documentation Table	LOINC Codes	LOINC Time Frame Modifier Code	LOINC Time Frame Modifier Codes Narrative
Physician history and physical	28626-0	18805-2	Include all data of the selected type that represents observations made six months or fewer before starting date of service for the claim
Attending physician progress note	18741-9	18805-2	Include all data of the selected type that represents observations made six months or fewer before starting date of service for the claim
Plan of treatment	18776-5	18805-2	Include all data of the selected type that represents observations made six months or fewer before starting date of service for the claim
Radiology reason for study	18785-6	18805-2	Include all data of the selected type that represents observations made six months or fewer before starting date of service for the claim
Radiology comparison study-date and time	18779-9	18805-2	Include all data of the selected type that represents observations made six

			months or fewer before starting date of service for the claim
Radiology comparison study observation	18834-2	18805-2	Include all data of the selected type that represents observations made six months or fewer before starting date of service for the claim
Radiology-study observation	18782-3	18805-2	Include all data of the selected type that represents observations made six months or fewer before starting date of service for the claim
Radiology-impression	19005-8	18805-2	Include all data of the selected type that represents observations made six months or fewer before starting date of service for the claim
Radiology study-recommendation (narrative)	18783-1	18805-2	Include all data of the selected type that represents observations made six months or fewer before starting date of service for the claim

PROGRAM EXCEPTIONS:

Federal Employee Plan (FEP): Follow FEP guidelines.

Medicare Advantage products:

No Local Coverage Determination (LCD) were found at the time of the last guideline reviewed date.

The following National Coverage Determination (NCD) was reviewed on the last guideline reviewed date: Computed Tomography (220.1), located at [cms.gov](https://www.cms.gov).

If this Medical Coverage Guideline contains a step therapy requirement, in compliance with Florida law 627.42393, members or providers may request a step therapy protocol exemption to this requirement if based on medical necessity. The process for requesting a protocol exemption can be found at [Coverage Protocol Exemption Request](#).

DEFINITIONS:

No guideline specific definitions apply.

RELATED GUIDELINES:

[Computed Tomography Angiography \(CTA\) Abdomen and Pelvis, 04-70450-04](#)

[Computed Tomography Angiography \(CTA\) Brain \(Head\), 04-70450-05](#)

[Computed Tomography Angiography \(CTA\) Chest \(non coronary\), 04-70450-07](#)

[Computed Tomography Angiography \(CTA\) Lower Extremity, 04-70450-09](#)

[Computed Tomography Angiography \(CTA\) Neck, 04-70450-06](#)

OTHER:

None applicable.

REFERENCES:

1. ACR-NASCI-SIR-SPR Practice Guideline for the Performance and Interpretation of Body Computed Tomography Angiography (CTA), Revised 2021.
2. American College of Radiology ACR Appropriateness Criteria® Soft-Tissue Masses, Revised 2017.
3. American College of Radiology ACR Appropriateness Criteria® Suspected Upper-Extremity Deep Vein Thrombosis, Revised 2019.
4. American College of Radiology ACR Appropriateness Criteria® Vascular Claudication—Assessment for Revascularization, Revised 2016.
5. Dave RB, Fleischmann D. Computed Tomography Angiography of the Upper Extremities. Radiol Clin North Am. 2016 Jan;54(1):101-14. [Abstract]
6. Expert Panel on Vascular Imaging, Obara P, McCool J, Kalva SP, et al. ACR Appropriateness Criteria® Clinically Suspected Vascular Malformation of the Extremities. J Am Coll Radiol. 2019 Nov;16(11S):S340-S347.
7. Hoang JK, Martinez Z, Hurwitz LM et al. MDCT angiography of thoracic aorta endovascular stent-grafts: pearls and pitfalls. American Journal of Roentgenology 2009; 1992(2): 515-524.
8. Hotchkiss R, Marks T. Management of acute and chronic vascular conditions of the hand. Curr Rev Musculoskelet Med. 2014; 7(1):47–52.
9. Hsu CS, Hellinger JC, Rubin GD et al. CT angiography in pediatric extremity trauma: preoperative evaluation prior to reconstructive surgery. Hand 2008; 3(2):139-145.
10. Madani H, Farrant J, Chhaya N, et al. Peripheral limb vascular malformations: An update of appropriate imaging and treatment options of a challenging condition. Br J Radiol. 2015; 88(1047):20140406.
11. Murphy EA, Ross RA, Jones RG, et al. Imaging in vascular access. Cardiovasc Eng Technol. 2017; 8(3):255–272.

COMMITTEE APPROVAL:

This Medical Coverage Guideline (MCG) was approved by the Florida Blue Medical Policy and Coverage Committee on 03/28/24.

GUIDELINE UPDATE INFORMATION:

06/15/15	New Medical Coverage Guideline.
04/15/18	Revision; revised position statement. Updated references.
08/15/20	Review/revision. Revised and expanded criteria for vascular disease/condition. Added indication and criteria for: hand ischemia, deep venous thrombosis (DVT) or embolism, vascular disease, traumatic injuries and hemodialysis graft dysfunction. Revised criteria for pre-operative/procedural evaluation. Updated references.

05/15/22	Review/revision. Expanded vascular disease criteria. Revised traumatic injuries criteria. Added vascular malformation and assessment/evaluation of known vascular disease/condition. Updated references.
07/01/22	Revision to Program Exceptions section.
08/21/23	Update to Program Exceptions section.
12/09/23	Review: position statements and references updated.
04/15/24	Review; no change in position statement. Updated program exception and references.