

EVOLENT CLINICAL GUIDELINE 061-2 FOR UPPER EXTREMITY CTA/CTV

Guideline or Policy Number: Evolent_CG_061-2	<u>Applicable Codes</u>	
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TABLE OF CONTENTS

STATEMENT	3
GENERAL INFORMATION	3
PURPOSE	3
CTA/CTV	3
SPECIAL NOTE	3
Imaging Request	3
INDICATIONS	3
HAND ISCHEMIA	3
DEEP VENOUS THROMBOSIS OR EMBOLISM	4
CLINICAL SUSPICION OF VASCULAR DISEASE	4
HEMODIALYSIS GRAFT DYSFUNCTION	4
VASCULAR MALFORMATION	4
TRAUMATIC INJURIES	5
EVALUATION OF TUMOR	5
PRE-OPERATIVE/PROCEDURAL EVALUATIONS	5
POST-OPERATIVE/PROCEDURAL EVALUATIONS	5
FURTHER EVALUATION OF INDETERMINATE FINDINGS ON PRIOR IMAGING	5
GENETIC SYNDROMES AND RARE DISEASES	6
CODING AND STANDARDS	6
CODING	6
CPT Codes	6
APPLICABLE LINES OF BUSINESS	6
BACKGROUND	6
Contraindications and Preferred Studies	6
POLICY HISTORY	7
Summary	7
LEGAL AND COMPLIANCE	7



GUIDELINE APPROVAL	7
<i>Committee</i>	7
DISCLAIMER	7
REFERENCES	9

STATEMENT

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.

Purpose

CTA/CTV

Computed tomography angiography (CTA)

generates images of the arteries that can be evaluated for evidence of stenosis, occlusion, or aneurysms. It is used to evaluate the arteries of the abdominal aorta and the renal arteries. CTA uses ionizing radiation and requires the administration of iodinated contrast agent, which is a potential hazard in patients with impaired renal function. Upper Extremity CTA is not used as a screening tool, e.g., evaluation of asymptomatic patients, without a previous diagnosis.

NOTE: Authorization for MR Angiography covers both arterial and venous imaging. The term *angiography* refers to both arteriography and venography.

Special Note

Imaging Request

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.

INDICATIONS

Hand Ischemia ^(1,2)

- Acute symptoms: (including):
 - 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

NOTE: Does not require prior arterial Doppler

- For clinical symptoms, following abnormal arterial Doppler, when CTA results will change management
 - Includes Raynaud's (can be associated with scleroderma), Buerger disease, and other vasculopathies ⁽³⁾
- Clinical concern for vascular cause of ulcers with abnormal or indeterminate ultrasound ⁽⁴⁾
- After stenting or surgery with signs of recurrence or indeterminate ultrasound ⁽⁵⁾

Deep Venous Thrombosis or Embolism

- After abnormal ultrasound of arm veins if it will change management
- After negative or indeterminate ultrasound to rule out other causes
- For evaluation of central veins
- Clinical suspicion of upper arterial emboli ^(6,7)

Clinical Suspicion of Vascular Disease

With abnormal or indeterminate ultrasound ^(6,7), for suspicion of:

- Tumor invasion ^(8,9)
- Trauma ⁽¹⁰⁾
- Vasculitis ^(1,11)
- Aneurysm ⁽¹¹⁾
- Stenosis/occlusions ⁽¹²⁾

Hemodialysis Graft Dysfunction

If Doppler ultrasound was not adequate for treatment decisions ⁽¹³⁾

Vascular Malformation

- ~~**NOTE:** (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)

- After initial evaluation with ultrasound
- Preoperative planning

A concurrent CT is also approvable for initial evaluation and/or preoperative planning if MRI is contraindicated or cannot be performed, or per surgeon preference.

Traumatic Injuries

Clinical findings suggestive of arterial injury ⁽¹⁰⁾

Evaluation of Tumor

When needed for clarification of vascular invasion from tumor after prior imaging (may be approved in combination with CT or MRI of tumor)

Pre-Operative/Procedural Evaluations

Pre-operative evaluation for a planned surgery or procedure ⁽¹⁴⁾

Post-Operative/Procedural Evaluations

A follow-up study may be needed to help evaluate a patient's progress after treatment, procedure, intervention, or surgery ^(15,16). Documentation requires a medical reason that clearly indicates why additional imaging is needed for the type and area(s) requested.

Further Evaluation of Indeterminate 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.)

Genetic Syndromes and Rare Diseases

- Known vascular EDS (vEDS) with acute extremity pain and concern for dissection/rupture ^(17,18)
- Vascular EDS (vEDS) surveillance imaging: with inconclusive ultrasound or ultrasound suggestive of vascular pathology ^(17,18)
- Known Williams Syndrome: when there is concern for vascular disease based on abnormal exam or imaging findings (such as diminished pulses, bruits or signs of diffuse thoracic aortic stenosis) ⁽¹⁹⁾
- For other syndromes and rare diseases not otherwise addressed in the guideline, coverage is based on a case-by-case basis using societal guidance

CODING AND STANDARDS

Coding

CPT Codes

73206

Applicable Lines of Business

<input checked="" type="checkbox"/>	<u>CHIP (Children's Health Insurance Program)</u>
<input checked="" type="checkbox"/>	<u>Commercial</u>
<input checked="" type="checkbox"/>	<u>Exchange/Marketplace</u>
<input checked="" type="checkbox"/>	<u>Medicaid</u>
<input checked="" type="checkbox"/>	<u>Medicare Advantage</u>

BACKGROUND

Contraindications and Preferred Studies

- Contraindications and reasons why a CT/CTA cannot be performed may include: impaired renal function, significant allergy to IV contrast, pregnancy (depending on trimester).
- Contraindications and reasons why an MRI/MRA cannot be performed may include: impaired renal function, claustrophobia, non-MRI compatible devices (such as non-compatible defibrillator or pacemaker), metallic fragments in a high-risk location, patient exceeds weight limit/dimensions of MRI machine.

POLICY HISTORY

Summary

Date	Summary
<u>April 2024</u>	<ul style="list-style-type: none"> • <u>Updated references</u> • <u>Added Evaluation of Tumor, Genetics Syndromes and Rare Diseases, and Contraindications and Preferred Studies sections.</u>
April 2023	<ul style="list-style-type: none"> • 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

LEGAL AND COMPLIANCE

Guideline Approval

Committee

Reviewed / Approved by **NIA**Evolent Specialty Clinical Guideline Review Committee

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necessary, shall be provided ~~in accordance with the terms and conditions of~~ as required by applicable provider agreements and ~~any applicable~~ laws or regulations. Members should contact their Plan customer service representative for specific coverage information.

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REFERENCES

1. Hotchkiss R, Marks T. Management of acute and chronic vascular conditions of the hand. *Curr Rev Musculoskelet Med*. Mar 2014; 7: 47-52. 10.1007/s12178-014-9202-6.
2. Wong V, Major M, Higgins J. Nonoperative Management of Acute Upper Limb Ischemia. *Hand (N Y)*. Jun 2016; 11: 131-43. 10.1177/1558944716628499.
3. McMahan Z H, Wigley F M. Raynauds phenomenon and digital ischemia: a practical approach to risk stratification, diagnosis and management. *Int J Clin Rheumatol*. 2010; 5: 355-370. 10.2217/ijr.10.17.
4. Rosyid F. Etiology, pathophysiology, diagnosis and management of diabetics' foot ulcer. *Int J Res Med Sci*. 2017; 5: 4206-13. <http://dx.doi.org/10.18203/2320-6012.ijrms20174548>.
5. Pollak A, Norton P, Kramer C. Multimodality imaging of lower extremity peripheral arterial disease: current role and future directions. *Circ Cardiovasc Imaging*. Nov 2012; 5: 797-807. 10.1161/circimaging.111.970814.
6. Bozlar U, Ogur T, Khaja M, All J, Norton P. CT angiography of the upper extremity arterial system: Part 2- Clinical applications beyond trauma patients. *AJR Am J Roentgenol*. Oct 2013; 201: 753-63. 10.2214/ajr.13.11208.
7. Bozlar U, Ogur T, Norton P, Khaja M, All J. CT angiography of the upper extremity arterial system: Part 1-Anatomy, technique, and use in trauma patients. *AJR Am J Roentgenol*. Oct 2013; 201: 745-52. 10.2214/ajr.13.11207.
8. Garner H W, Wessell D E, Lenchik L, Ahlawat S, Baker J C et al. ACR Appropriateness Criteria: Soft Tissue Masses: 2022 Update. *Journal of the American College of Radiology*. 2023; 20: S234 - S245. 10.1016/j.jacr.2023.02.009.
9. Jin T, Wu G, Li X, Feng X. Evaluation of vascular invasion in patients with musculoskeletal tumors of lower extremities: use of time-resolved 3D MR angiography at 3-T. *Acta Radiol*. May 2018; 59: 586-592. 10.1177/0284185117729185.
10. Wani M, Ahangar A, Ganie F, Wani S, Wani N. Vascular injuries: trends in management. *Trauma Mon*. Summer 2012; 17: 266-9. 10.5812/traumamon.6238.
11. Seitz L, Seitz P, Pop R, Lötscher F. Spectrum of Large and Medium Vessel Vasculitis in Adults: Primary Vasculitides, Arthritides, Connective Tissue, and Fibroinflammatory Diseases. *Current Rheumatology Reports*. 2022; 24: 352 - 370. 10.1007/s11926-022-01086-2.
12. Conte M S, Pomposelli F B, Clair D G, Geraghty P J, McKinsey J F et al. Society for Vascular Surgery practice guidelines for atherosclerotic occlusive disease of the lower extremities: Management of asymptomatic disease and claudication. *Journal of Vascular Surgery*. 2015; 61: 2S - 41S.e1. 10.1016/j.jvs.2014.12.009.
13. Murphy E, Ross R, Jones R, Gandy S, Aristokleous N et al. Imaging in Vascular Access. *Cardiovasc Eng Technol*. Sep 2017; 8: 255-272. 10.1007/s13239-017-0317-y.
14. Azene E M, Steigner M L, Aghayev A, Ahmad S, Clough R E et al. ACR Appropriateness Criteria: Lower Extremity Arterial Claudication-Imaging Assessment for Revascularization: 2022 Update. *Journal of the American College of Radiology*. 2022; 19: S364 - S373. 10.1016/j.jacr.2022.09.002.
15. Conte M S, Bradbury A W, Kolh P, White J V, Dick F et al. Global vascular guidelines on the management of chronic limb-threatening ischemia. *J Vasc Surg*. 2019; 69: 3S-125S.e40. 10.1016/j.jvs.2019.02.016.

16. Cooper K, Majdalany B S, Kalva S P, Chandra A, Collins J D et al. ACR Appropriateness Criteria® Lower Extremity Arterial Revascularization-Post-Therapy Imaging. J Am Coll Radiol. 2018; 15: S104-s115. 10.1016/j.jacr.2018.03.011.
17. Byers P. Vascular Ehlers-Danlos Syndrome. GeneReviews [Internet]. 2019;
18. Bowen J, Hernandez M, Johnson D, Green C, Kammin T et al. Diagnosis and management of vascular Ehlers-Danlos syndrome: Experience of the UK national diagnostic service, Sheffield. European Journal of Human Genetics. 2023; 31: 749 - 760. 10.1038/s41431-023-01343-7.
19. Morris C. Williams Syndrome. GeneReviews [Internet]. 2023;