# Cohere Medical Policy -
# Computed Tomography Angiography (CTA), Neck

***Clinical Policy for Medical Necessity Review***

**Version:** 4
**Cohere Health UMC Approval Date: August 28, 2025**
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Revision: Not Applicable
Next Annual Review: August 28, 2026

# 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.



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## Other Notices:



Fee schedules, relative value units, conversion factors and/or related components are not assigned by the AMA, are not part of CPT, and the AMA is not recommending their use. The AMA does not directly or indirectly practice medicine or dispense medical services. The AMA assumes no liability for data contained or not contained herein.



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## Policy Information:

**Specialty Area:** Diagnostic Imaging
**Policy Name:** Cohere Medical Policy - Computed Tomography Angiography (CTA), Neck
**Type:** [**X**] Adult (18+ yo) | [**X**] Pediatric (0-17 yo)

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# Medical Necessity Criteria

***Service: Computed Tomography Angiography (CTA), Neck***

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

    - 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

Cervicocerebral computed tomography angiography (CTA) is a clinically established and valuable procedure for identifying and characterizing vascular diseases, as well as for evaluating vascular anatomy relevant to the management of extravascular disorders. CTA can serve as the primary imaging modality for disease detection or as a supplementary tool for characterizing known conditions or monitoring changes over time.[1]

## Medical Necessity Criteria

### Indications

**Computed tomography angiography (CTA), neck** is considered appropriate for **ANY** of the following:

- Ultrasound is incomplete, inconclusive, or abnormal, and **ANY** of the following:
  - Detection, screening, surveillance, and follow-up of vascular neck mass (e.g., paraganglioma, pulsatile neck mass [not parotid region or thyroid])[2]; **OR**
  - Tumor of vascular origin, with rich vascular supply or involving vascular structures[3,4]; **OR**
- Trauma-related conditions as indicated by **ANY** of the following:
  - Trauma of the head with a suspected intracranial arterial injury based on clinical findings or prior imaging[5]; **OR**
  - Traumatic and nontraumatic orbital pathology with clinical or imaging findings that indicate vascular involvement[6]; **OR**
  - Suspected traumatic injury to cervicocerebral vessels[7]; **OR**
  - Trauma-related spine injuries (cervical and upper thoracic)[8]; **OR**
  - Blunt cerebrovascular injury (BCVI) is suspected based on the mechanism and location of trauma (CTA head is also indicated with CTA neck)[8]; **OR**
  - Suspected carotid or vertebral artery dissection secondary to trauma or spontaneous due to weakness of vessel wall (CTA head is also indicated with CTA neck); **OR**
  - Traumatic vascular injury[3,9-11]; **OR**
- Vascular conditions, known or suspected, including **ANY** of the following:
  - Arterial aneurysm; **OR**
  - Pseudoaneurysm[12,13]; **OR**
  - Atherosclerotic stenosis or occlusive disease (e.g., atherosclerotic plaque localization and characterization)[1]; **OR**
  - Cerebrovascular disease, including **ANY** of the following[3,9-11,13]:
    - Asymptomatic carotid stenosis; **OR**
    - Asymptomatic cervical bruit; **OR**
    - Cervical vascular dissection or injury, known or suspected; **OR**
  - Acute hemorrhage, including **ANY** of the following:
    - Cervical spine[14,15]; **OR**
    - Head and neck; **OR**

- Ischemic stroke or transient ischemic attack (TIA) when the patient is a candidate for revascularization[14,15]; **OR**
- Nonatherosclerotic, noninflammatory vasculopathy (e.g., radiation vasculopathy); **OR**
- Pulsatile tinnitus for the evaluation of vascular etiology[16,17]; **OR**
- Subclavian steal syndrome for treatment planning[16]; **OR**
- Thromboembolism[3,9-11]; **OR**
- Giant cell and Takayasu arteritis (large vessel vasculitis)[13]; **OR**
- Vasospasm[3,9-11]; **OR**
- Vascular anatomic variant[18]; **OR**
- Vascular fistula; **OR**
- Vascular malformation[19]; **OR**
- Venous varix; **OR**
- Loeys-Dietz syndrome with repeat imaging at least every two years[20]; **OR**
- Fibromuscular dysplasia[21]; **OR**
- Spontaneous coronary artery dissection (SCAD)[22]; **OR**
- Horner syndrome[23]; **OR**

- For evaluation of **ANY** of the following uncategorized/miscellaneous symptoms when applicable:
  - Cranial neuropathy as indicated by **ANY** of the following[24]:
    - Combined lower cranial nerve syndromes (cranial nerve [CN] IX-XII); **OR**
    - Multiple different lower cranial nerve palsies; **OR**
    - Unilateral isolated weakness or paralysis of the tongue (hypoglossal nerve, CN XII); **OR**
  - Penetrating neck injury[25]; **OR**
  - Chronic recurrent vertigo associated with other brainstem neurologic deficits[26]; **OR**
- Preoperative, postoperative, or pretreatment evaluation for **ANY** of the following[1]:
  - Surgical and radiation therapy localization, planning, and neuronavigation[27,28]; **OR**
  - Vascular compression or vertebrobasilar insufficiency[29]; **OR**
  - Vascular intervention and follow-up (percutaneous and surgical)[27,30,31]; **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.

### Non-Indications

**Computed tomography angiography (CTA), neck** is not considered appropriate if **ANY** of the following is **TRUE**:
- The patient has undergone advanced imaging of the same body part within 3 months without undergoing treatment or developing new or worsening symptoms[32].

*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 patients with claustrophobia should be requested at the discretion of the ordering provider.
***NOTE: CT in pregnant patients should be requested at the discretion of the ordering provider and obstetric care 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.[33,34]

**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.[33,34]

**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.[33,34]

**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.[33,34]

### 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 |
|---|---|
| 70498 | Computed tomographic angiography (CTA), of neck; with contrast material(s), including non-contrast images, if performed, and image post-processing |

# Medical Evidence

Tu et al. (2022) conducted a retrospective review on the utilization of head and neck computed tomography angiography (CTA) in the emergency department (ED). The study contrasted utilization and the frequency of communicating nonroutine results across different patient chief concerns. The study identified the top 50 primary concerns that led to the most CTA examinations. A total of 17,903 CTAs for 833 distinct chief concerns were included, which account for 2.5% of 708,145 ED visits. The rates of ordering and communication of nonstandard results exhibit significant variability across different chief concerns. Approximately half of the nonstandard communications made by radiologists pertain to acute indications. Understanding the trends in ordering head and neck CTA and the communication of nonstandard results can aid in refining patient selection and enhancing radiologist interactions in the ED setting.[35]

Paladino et al. (2021) performed a systematic review to determine the efficacy of CTA neck in determining vascular or aerodigestive injuries (ADI). CTA covering the entire neck region is now an integral component of the standard diagnostic approach for patients with penetrating neck trauma (PNT) who do not necessitate immediate surgical intervention for ADI. While many studies have highlighted the usefulness of CTA to rule out arterial injuries, consensus is lacking regarding the capability of CTA neck to detect ADI.[36]

Schenk et al. (2021) report on a retrospective review of stroke in young adults and the use of CTA head and neck diagnostic yield for anterior circulation ischemic stroke evaluation. The review included adults aged 18-50 who presented to the Mayo Clinic Rochester ED. Carotid dissection is a predominant cause of anterior circulation ischemic stroke, as evidenced by findings on CTA. Carotid webs were found to be infrequent in the patients studied, while carotid atherosclerosis was relatively rare. The presence of carotid webs, understanding their potential to trigger recurrent strokes. No significant disparity in the prevalence of carotid atherosclerosis between the symptomatic and asymptomatic sides was identified. Additionally, clinicians can recognize high-risk morphological attributes of carotid plaque observed on CTA, even in cases with no discernible stenosis.[37]

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# Policy Revision History/Information

| Original Date: April 15, 2022 | | |
|---|---|---|
| **Review History** | | |
| Version 2 | 08/15/2024 | Annual review and policy restructure. |
| Version 3 | 10/30/2024 | Edited repeat imaging criteria language. |
| Version 4 | 08/28/2025 | Annual review<br><br>Updated content layout to align with revised template, including repeat imaging criteria<br><br>Aligned indications as appropriate with MRA Neck policy |