Cohere Medicare Advantage Policy - Computed Tomography (CT), Neck (Soft Tissue)

Clinical Policy for Medical Necessity Review

Version: 2.1
Cohere Health UMC Approval Date: October 16, 2025
Last Annual Review: October 16, 2025
Revision: November 18, 2025
Next Annual Review: October 16, 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. This policy may be superseded by existing and applicable Centers for Medicare & Medicaid Services (CMS) statutes.

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.

Policy Information:

Specialty Area: Diagnostic Imaging
Policy Name: Cohere Medicare Advantage Policy - Computed Tomography (CT), Neck (Soft Tissue)
Type: [**X**] Adult (18+ yo) | [**X**] Pediatric (0-17 yo)

Table of Contents

Medical Necessity Criteria

Service: Computed Tomography (CT), Neck (Soft Tissue)

Related CMS Documents

Please refer to the CMS Medicare Coverage Database for the most current applicable CMS National Coverage.[1-5]

- National Coverage Determination (NCD). Computed tomography (220.1)
- Local Coverage Determination (LCD). MRI and CT scans of the head and neck (L37373)
  - Billing and Coding: MRI and CT scans of the head and neck (A57204)
- Local Coverage Determination (LCD). Multiple imaging in oncology (L35391)
  - Billing and Coding: Multiple imaging in oncology (A56848)

Description

Computed tomography (CT) is a radiological method for assessing various conditions affecting the head and neck outside the skull. Its utilization should be limited to genuine medical necessities, minimizing radiation exposure while ensuring an effective examination. Supplementary or specialized tests might be warranted. While CT may not identify all abnormalities, adherence to specified criteria enhances the likelihood of their detection. CT is often the first-line advanced imaging modality for many neck disorders due to its speed, availability, and high resolution. CT of the neck for soft tissue evaluation is routinely performed with contrast; compared to magnetic resonance imaging (MRI), CT is less sensitive to patient motion.[6]

Medical Necessity Criteria

Indications

Computed tomography (CT) of the neck (soft tissue) is considered appropriate if **ANY** of the following is **TRUE**[1]:

- Neoplastic conditions for **ANY** of the following:
  - Initial staging; **OR**
  - Treatment planning; **OR**
  - Response assessment; **OR**
  - Surveillance, and **ANY** of the following is **TRUE**[5,7-9]:
    - The patient is assumed to have either no known disease or a disease that is stable or clinically insignificant (every 6-12 months for an overall duration [e.g., 5 years]); **OR**
    - Suspected recurrence/progression; **OR**
    - Evaluation of response to treatment when a change in therapy is contemplated (no more often than after 2 cycles of chemotherapy and/or 6-8 weeks since the prior imaging evaluation); **OR**
- Thyroid masses or goiter when ultrasound is non-diagnostic or requires further work-up[10]; **OR**
- Mass or lymphadenopathy with **ANY** of the following[11]:
  - Has been present for at least 2 weeks; **OR**
  - Infection not suspected to be due to infection; **OR**
  - Mass does not resolve after treatment with antibiotics for suspected infection[6]; **OR**
  - Lymphadenopathy or mass is larger than 1.5 cm; **OR**
  - Ulceration of skin over the mass; **OR**
  - Mass or lesion detected on laryngoscopy; **OR**
- Assessment of signs and symptoms, when endoscopy or fluoroscopic examination is inconclusive or requires additional evaluation for **ANY** of the following:
  - Odynophagia (throat pain)[12]; **OR**
  - Vocal cord paralysis[13]; **OR**
  - Cranial neuropathy of cranial nerves (CN) 9-11[6]; **OR**
  - Hemoptysis[14]; **OR**
  - Weight loss; **OR**

    - Ear pain unexplained by otolaryngologic evaluation and a trial of conservative therapy (e.g., topical and systemic antibiotics, ear drops)[15]; **OR**
- Infectious conditions (e.g., tonsillitis, epiglottitis, cellulitis) with **ANY** of the following[6]:
    - Suspected compromise of the airway; **OR**
    - Surgery is planned; **OR**
    - Not improving with appropriate therapy; **OR**
- Suspected Ludwig's angina (rapidly progressive bacterial infection of the floor of the mouth)[16]; **OR**
- Localization of parathyroid adenoma (including 4-D parathyroid CT) when lab tests indicate primary hyperparathyroidism and neck ultrasound and Sestamibi scan (nuclear medicine scan) are normal or nondiagnostic[6,17-19]; **OR**
- Presurgical evaluation, planning, or guidance, including radiation planning[6]; **OR**
- Evaluation for **ANY** of the following:
    - Trauma that is not related to the cervical spine[6]; **OR**
    - Suspected Eagle's syndrome when a long styloid process is detected on prior imaging[19]; **OR**
    - Foreign body when initial radiographs are nondiagnostic[20-22]; **OR**
    - Suspected extracapsular spread of a tumor into the surrounding neck structures[22]; **OR**
    - Suspected recurrent thyroid cancer or rising thyroglobulin, with negative ultrasound and physical exams to detect occult neck nodes[10,23]; **OR**
- Repeat imaging (defined as 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 (CT) of the neck (soft tissue) 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.

*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.[20]
*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 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 depends 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.[24-25]

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.[24-25]

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.[24-25]

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.[24-25]

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
70490	Computed tomography (CT), soft tissue neck; without contrast material
70491	Computed tomography (CT), soft tissue neck; with contrast material(s)
70492	Computed tomography (CT), soft tissue neck; without contrast material, followed by contrast material(s) and further sections
76380	Computed tomography, limited or localized follow-up study

Disclaimer: S Codes are non-covered per CMS guidelines due to their experimental or investigational nature.

Evaluation of Clinical Harms and Benefits

Clinical determinations for Medicare Advantage beneficiaries are made in accordance with 42 CFR 422.101 guidance outlining CMS's required approach to decision hierarchy in the setting of NCDs/LCDs identified as being "not fully established". When clinical coverage criteria are "not fully established" Medicare Advantage organizations are instructed to create publicly accessible clinical coverage criteria based on widely-accepted clinical guidelines and/or scientific studies backed by a robust clinical evidence base. Clinical coverage criteria provided by Cohere Health in this manner include coverage rationale and risk/benefit analysis.

The potential clinical harms of using these criteria for CT of the neck (soft tissue) may include:

- Adverse effects from delayed or denied treatment may include inherent risks of imaging, including cumulative radiation exposure, contrast, allergy, nephrotoxicity, and contrast extravasation into surrounding tissues.[24,26] CT imaging completed during pregnancy confers a dose of ionizing radiation to the fetus and is generally only utilized when the potential benefits of this specific imaging modality outweigh the risks to the pregnancy.[27] Fetal risk includes fetal demise, intrauterine growth restriction, microcephaly, delayed intellectual development, risk of childhood cancer, and fetal thyroid injury.[27]
- Increased healthcare costs and complications from the inappropriate use of additional interventions.[28]

The clinical benefits of using these criteria CT of the neck (soft tissue) include:

- Improved patient selection may result in better long-term outcomes. Weighted average head and neck images acquired using dual-energy CT (DECT) demonstrate superior objective and subjective image quality compared to single-energy computed tomography (SECT) performed with tube voltage adaptation (TVA).[29] CT radiation doses vary across imaging facilities and are often higher than needed. However, detailed feedback on CT radiation dose combined with actionable suggestions and quality

improvement education significantly reduces radiation doses, particularly organ doses.[30]

- Contrast-enhanced CT is the primary and standard imaging modality of choice for head and neck infections. Intracranial spread of head and neck infections is better detected by magnetic resonance imaging (MRI). Technological developments in mitigating dental-related artifacts on CT have been shown to be effective. Subtraction technique CT has been found to be helpful in evaluating skull base invasive nasopharyngeal carcinoma, skull base osteomyelitis, and evaluation of recurrence and spread of middle ear cholesteatoma.[31]
- Enhanced overall patient satisfaction and healthcare experience.
- Appropriate allocation of healthcare resources at the individual beneficiary and population levels.

Medical Evidence

Baba et al. (2023) published a systematic review on advanced imaging of head and neck infections. The authors stated that contrast-enhanced computed tomography (CT) is the primary and standard imaging modality of choice for head and neck infections. Noted advantages of magnetic resonance imaging (MRI) compared to CT included fewer artifacts related to dental treatment and higher contrast resolution. Intracranial spread of head and neck infections is better detected by MRI. Technological developments in mitigating dental-related artifacts on CT have been shown to be effective. Subtraction technique CT has been found to be helpful in evaluating skull base invasive nasopharyngeal carcinoma, skull base osteomyelitis, and evaluation of recurrence and spread of middle ear cholesteatoma.[31]

Bedernik et al. (2022) conducted a randomized controlled trial (RCT) to assess image quality by comparing single-energy computed tomography (SECT) with automated tube voltage adaptation (TVA) to dual-energy CT (DECT) weighted average images. A total of 80 patients underwent SECT or radiation dose-matched DECT. The effective radiation dose (ED) showed no significant difference between the SECT and DECT study groups. Compared to the SECT group, the DECT group exhibited significantly higher contrast-to-noise ratio differences (CNRD) for jugular veins relative to fatty tissue and muscle tissue relative to fatty tissue. However, the CNRD for jugular veins relative to muscle tissue was comparable between groups. Image artifacts were also less pronounced, and overall diagnostic acceptability was higher in the DECT group. Overall, DECT-weighted average images demonstrated superior objective and subjective image quality compared to SECT performed with TVA in head and neck imaging.[29]

Smith-Bindman et al. (2020) performed an RCT to study the efficacy of interventions to lower the amount of radiation patients are exposed to. The RCT included 864,080 adults at 100 facilities who underwent a CT scan, including head CT (1,156,657 scans). The study included two primary measures: the percentage of high-dose CT scans and the average effective dose administered at the facility level. The study's secondary measure included the doses received by specific organs. Outcomes were assessed with respect to the impact of the interventions and outcomes

post-intervention. Data were contrasted with pre-intervention data, utilizing hierarchical generalized linear models that accounted for temporal patterns and patient attributes. In conclusion, data regarding CT radiation dosage and practical recommendations may improve quality, including significant dose reductions, especially for organ-specific doses.[30]

References

1. Centers for Medicare & Medicaid Services (CMS). National Coverage Determination (NCD). Computed Tomography (220.1). Effective Date March 12, 2008. https://www.cms.gov/medicare-coverage-database/view/ncd.aspx?NCDId=176
2. Centers for Medicare & Medicaid Services (CMS). Local Coverage Determination (LCD). MRI and CT scans of the head and neck (L37373). Revision Effective Date October 23, 2025. https://www.cms.gov/medicare-coverage-database/view/lcd.aspx?LCDId=37373
3. Centers for Medicare & Medicaid Services (CMS). Billing and Coding: MRI and CT scans of the head and neck (A57204). Revision Effective Date October 24, 2025. https://www.cms.gov/medicare-coverage-database/view/article.aspx?articleid=57204&ver=40&bc=0
4. Centers for Medicare & Medicaid Services (CMS). Local Coverage Determination (LCD). Multiple imaging in oncology (L35391). Revision Effective Date November 14, 2019. https://www.cms.gov/medicare-coverage-database/view/lcd.aspx?LCDId=35391
5. Centers for Medicare & Medicaid Services (CMS). Billing and Coding. Multiple imaging in oncology (A56848). Revision Effective Date January 1, 2025. https://www.cms.gov/medicare-coverage-database/view/article.aspx?articleid=56848&ver=16&bc=0
6. American College of Radiology (ACR), American Society of Neuroradiology (ASNR), Society for Pediatric Radiology (SPR). ACR–ASNR–SPR practice parameter for the performance of computed tomography (CT) of the extracranial head and neck (resolution 5). Updated 2021. http://www.acr.org

7. Ackman JB, Chung JH, Walker CM, et al. Imaging of mediastinal masses. ACR appropriateness criteria [Internet] American College of Radiology (ACR). New 2020. http://www.acr.org
8. de Groot PM, Chung JH, Ackman JB, et al. Noninvasive clinical staging of primary lung cancer. ACR appropriateness criteria [Internet] American College of Radiology (ACR). Updated 2018. http://www.acr.org
9. Raptis CA, Goldstein A, Henry TS, et al. Staging and follow-up of esophageal cancer. ACR appropriateness criteria [Internet] American College of Radiology (ACR). Updated 2022. http://www.acr.org
10. Hoang JK, Branstetter BF 4th, Gafton AR, et al. Imaging of thyroid carcinoma with CT and MRI: Approaches to common scenarios. *Cancer Imaging*. 2013 Mar 26;13(1):128-39. doi:10.1102/1470-7330.2013.0013
11. Pynnonen MA, Gillespie MB, Roman B, et al. Clinical practice guideline: Evaluation of the neck mass in adults. *Otolaryngol Head Neck* Surg. 2017;157(2_suppl):S1-S30. doi:10.1177/0194599817722550
12. Wang D, Nguyen K, Rubin A, et al. CT-based diagnosis in patients presenting with throat pain: A single institutional review. *Am J Emerg Med*. 2024 Jan;75:33-36. doi:10.1016/j.ajem.2023.10.023
13. Chin SC, Edelstein S, Chen CY, et al. Using CT to localize side and level of vocal cord paralysis. *AJR Am J Roentgenol*. 2003 Apr;180(4):1165-70. doi:10.2214/ajr.180.4.1801165
14. Bidwell JL, Pachner RW. Hemoptysis: Diagnosis and management. *Am Fam Physician*. 2005 Oct 1;72(7):1253-60. PMID: 16225028
15. Norris CD, Koontz NA. Secondary otalgia: Referred pain pathways and pathologies. *AJNR Am J Neuroradiol.* 2020 Dec;41(12):2188-2198. doi:10.3174/ajnr.A6808. Erratum in: *AJNR Am J Neuroradiol*. 2021 Jan;42(2):E6. doi:10.3174/ajnr.A7035
16. Bridwell R, Gottlieb M, Koyfman A, et al. Diagnosis and management of Ludwig's angina: An evidence-based review. *Am J Emerg Med*. 2021 Mar;41:1-5. doi:10.1016/j.ajem.2020.12.030
17. Naik M, Khan SR, Owusu D, et al. Contemporary multimodality imaging of primary hyperparathyroidism. *RadioGraphics.* 2022; 42:841-860. doi:10.1148/rg.210170

18. Zander D, Bunch PM, Policeni B, et al. Parathyroid adenoma. ACR appropriateness criteria [Internet] American College of Radiology (ACR). Updated 2021. http://www.acr.org
19. Badhey A, Jategaonkar A, Anglin Kovacs AJ, et al. Eagle syndrome: A comprehensive review. *Clin Neurol Neurosurg*. 2017 Aug;159:34-38. doi:10.1016/j.clineuro.2017.04.021hey
20. Guelfguat M, Kaplinskiy V, Reddy SH, et al. Clinical guidelines for imaging and reporting ingested foreign bodies. *AJR Am J Roentgenol*. 2014 Jul;203(1):37-53. doi:10.2214/AJR.13.12185. Erratum in: *AJR Am J Roentgenol*. 2014 Sep;203(3):694
21. Voss JO, Maier C, Wüster J, et al. Imaging foreign bodies in head and neck trauma: A pictorial review. *Insights Imaging*. 2021 Feb 15;12(1):20. doi:10.1186/s13244-021-00969-9
22. Carlton JA, Maxwell AW, Bauer LB, et al. Computed tomography detection of extracapsular spread of squamous cell carcinoma of the head and neck in metastatic cervical lymph nodes. *Neuroradiol J*. 2017 Jun;30(3):222-229. doi:10.1177/1971400917694048. Erratum in: *Neuroradiol J*. 2018 Apr;31(2):NP1. doi:10.1177/1971400917725482
23. Hoang JK, Oldan JD, Mandel SJ, et al. Thyroid disease. ACR appropriateness criteria [Internet] American College of Radiology (ACR). Updated 2018. http://www.acr.org
24. The Image Gently Alliance. Procedures - Image gently and CT scans. Updated 2025. https://www.imagegently.org/Procedures/Computed-Tomography
25. 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
26. Rudnick MR, Leonberg-Yoo AK, Litt HI, et al. The controversy of contrast-induced nephropathy with intravenous contrast: What is the risk?. *Am J Kidney Dis*. 2020;75(1):105-113. doi:10.1053/j.ajkd.2019.05.022
27. Nguyen T, Bhosale PR, Cassia L, et al. Malignancy in pregnancy: Multimodality imaging and treatment. *Cancer*. 2023;129(10):1479-1491. doi:10.1002/cncr.34688
28. Kjelle E, Brandsæter IØ, Andersen ER, Hofmann BM. Cost of low-value

imaging worldwide: A systematic review. *Appl Health Econ Health Policy*. 2024;22(4):485-501. doi:10.1007/s40258-024-00876-2

29. Bedernik A, Wuest W, May MS, et al. Image quality comparison of single-energy and dual-energy computed tomography for head and neck patients: A prospective randomized study. *Eur Radiol*. 2022 Nov;32(11):7700-7709. doi:10.1007/s00330-022-08689-4
30. Smith-Bindman R, Chu P, Wang Y, et al. Comparison of the effectiveness of single-component and multicomponent interventions for reducing radiation doses in patients undergoing computed tomography: A randomized clinical trial. *JAMA Intern Med*. 2020 May 1;180(5):666-675. doi:10.1001/jamainternmed.2020.0064
31. Baba A, Kurokawa R, Kurokawa M, et al. Advanced imaging of head and neck infections. *J Neuroimaging*. 2023;33(4):477-492. doi:10.1111/jon.13099

Policy Revision History/Information

Original Date: October 17, 2024		
Review History		
Version 2	10/16/2025	Annual review. Expanded references throughout the criteria. Updated the description section. Added indications for patients who are not candidates for MRI; conditions requiring the visualization of fine bone detail or calcification; headaches; contrast CT; and for conditions when more than 1 contrast CT scan per episode of illness adds no information. Added three sub-indications for mass/ lymphadenopathy. Added two sub-indications for assessment of signs and symptoms, when endoscopy or fluoroscopic examination is inconclusive or requires additional evaluation. Clarified the indication for repeat imaging to improve usability and organization. Added non-indications for the evaluation of headache or dizziness; for cancers of the esophagus, oropharynx, prostate, and non-melanoma skin cancer in the absence of symptoms of brain cancer; and repeat imaging within 3 months. Removed non-indication for anaphylaxis allergy.

Version 2.1	11/18/2025	Per CMS updates: Removed L35175 and A57215- Retired by CMS 10/23/2025 Updated links and reference for L37373 and A57204- CMS updated without criteria change