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

Clinical Guidelines for Medical Necessity Review

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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.

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Other Notices:

Guideline Information:

Specialty Area: Diagnostic Imaging
Guideline Name: Cohere Medicare Advantage Policy - Computed Tomography (CT), Neck (Soft Tissue)

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Table of Contents

Medical Necessity Criteria

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

Benefit Category

Diagnostic Services in Outpatient Hospital
Diagnostic Tests (other)

Please Note: This may not be an exhaustive list of all applicable Medicare benefit categories for this item or service.[1-7]

Related CMS Documents

Please refer to the CMS Medicare Coverage Database for the most current applicable CMS National Coverage.[1-7]

- 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). MRI and CT Scans of the Head and Neck (L35175)
- Billing and Coding: MRI and CT Scans of the Head and Neck (A57215)

Recommended Clinical Approach

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 Neck for soft tissue evaluation is

routinely performed with contrast; compared to magnetic resonance imaging (MRI), CT is less sensitive to patient motion.[8]

Evaluation of Clinical Harms and Benefits

Cohere Health uses the criteria below to ensure consistency in reviewing the conditions to be met for coverage of computed tomography (CT), neck (soft tissue). This process helps prevent incorrect denials and inappropriate approvals of medically necessary services. Specifically, limiting incorrect approvals reduces the risks associated with unnecessary procedures, such as complications from surgery, infections, and prolonged recovery times.

The potential clinical harms of using these criteria may include:

- The inherent risk of the procedure: There are inherent risks of imaging, including cumulative radiation exposure, contrast, allergy, nephrotoxicity, and contrast extravasation into surrounding tissues.[9-12]
- Potential danger to pregnancy: 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.[13] Fetal risk includes fetal demise, intrauterine growth restriction, microcephaly, delayed intellectual development, risk of childhood cancer, and fetal thyroid injury.[13]
- Increased healthcare costs and complications from the inappropriate use of additional interventions.[14]

The clinical benefits of using these criteria include:

- 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).[15]
- 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.[16]

- 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 artifact 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.[17]
- Enhanced overall patient satisfaction and healthcare experience.

This policy includes provisions for expedited reviews and flexibility in urgent cases to mitigate risks of delayed access. Evidence-based criteria are employed to prevent inappropriate denials and ensure that patients receive medically necessary care. The criteria aim to balance the need for effective treatment with the minimization of potential harms, providing numerous clinical benefits in helping avoid unnecessary complications from inappropriate care.

In addition, using these criteria is likely to decrease inappropriate denials by creating a consistent set of review criteria, thereby supporting optimal patient outcomes and efficient healthcare utilization.

Medical Necessity Criteria

Indications

➔ **Computed tomography (CT), neck (soft tissue)** is considered appropriate if **ANY** of the following is **TRUE**:

- ◆ Initial staging, treatment assessment, and surveillance of known malignant conditions in the neck (e.g., nasopharynx, oropharynx, hypopharynx, larynx, salivary glands, jaw, oral cavity); **OR**
- ◆ Thyroid masses or goiter when ultrasound is non-diagnostic or requires further work-up; **OR**
- ◆ Mass or lymphadenopathy when **ANY** of the following is **TRUE**:
  - Unlikely to be due to infection or not resolving despite treatment; **OR**
  - Lymphadenopathy in a patient older than 50 years; **OR**
  - Mass or lesion detected on laryngoscopy; **OR**
- ◆ Assessment of signs and symptoms, including **ANY** of the following:

- Odynophagia; **OR**
- Globus sensation or dysphagia when clinical examination, including endoscopy and fluoroscopy, are negative or require further evaluation; **OR**
- Vocal cord paralysis; **OR**
- Cranial neuropathy of cranial nerves (CN) 9-11; **OR**
- Ear pain unexplained by evaluation, and failed trial of conservative therapy (e.g., topical and systemic antibiotics, ear drops); **OR**

◆ Infectious conditions (e.g., tonsillitis, epiglottitis, cellulitis, etc.) when **ANY** of the following is **TRUE**:
- Suspected compromise of the airway; **OR**
- Surgery is planned; **OR**
- Not improving with appropriate therapy; **OR**

◆ Suspected Ludwig's angina; **OR**

◆ Localization of parathyroid adenoma when lab tests indicate primary hyperparathyroidism and neck ultrasound and Sestamibi scan (nuclear medicine scan) are normal or nondiagnostic[18]; **OR**

◆ Presurgical evaluation, planning, or guidance, including radiation planning; **OR**

◆ Evaluation for **ANY** of the following[19]:
- Trauma that is not related to the cervical spine; **OR**
- Suspected Eagle's syndrome when a long styloid process is detected on prior imaging; **OR**
- Foreign body when initial radiographs are non-diagnostic; **OR**
- Suspected extracapsular spread of a tumor into the surrounding neck structures; **OR**
- Suspected recurrent thyroid cancer or rising thyroglobulin, with negative ultrasound and physical exams to detect occult neck nodes; **OR**

◆ Repeat imaging (defined as repeat request following recent imaging of the same anatomic region with the same modality), in the absence of established guidelines, will be considered reasonable and necessary if **ANY** of the following is **TRUE**:
- New or worsening symptoms, such that repeat imaging would influence treatment; **OR**
- 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), neck (soft tissue)** is not considered appropriate if **ANY** of the following is **TRUE**:

- ◆ The request is for CT with contrast, and the patient has a history of anaphylactic allergic reaction to iodinated contrast media.

*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 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 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.[21-22]

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.[21-22]

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.[21-22]

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.[21-22]

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: G, S, I, and N Codes are non-covered per CMS guidelines due to their experimental or investigational nature.

Medical Evidence

Bedernik et al. (2022) conducted a randomized control 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 demonstrate superior objective and subjective image quality compared to SECT performed with TVA in head and neck imaging.[15]

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 (n = 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.[16]

Baba et al. (2023) published a systematic review on advanced imaging of head and neck infections. The authors state that contrast-enhanced CT is the primary and standard imaging modality of choice for head and neck infections. They state that magnetic resonance imaging (MRI) does have advantages compared to CT, including 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.[17]

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