INTRODUCTION:

High resolution CT can visualize both normal and pathologic anatomy of the neck. It is used in the evaluation of neck soft tissue masses, abscesses, and lymphadenopathy. For neck tumors, it defines the extent of the primary tumor and identifies lymph node spread. CT provides details about the larynx and cervical trachea and its pathology. Additional information regarding airway pathology is provided by two and three-dimensional images generated by CT. It can also accurately depict and characterize tracheal stenoses.

INDICATIONS FOR NECK CT:

For evaluation of known tumor, cancer or mass:
- Evaluation of neck tumor, mass or history of cancer with suspected recurrence or metastasis [based on symptoms or examination findings (may include new or changing lymph nodes)].
- Evaluation of skull base tumor, mass or cancer.
- Evaluation of tumors of the tongue, larynx, nasopharynx, pharynx, or salivary glands.
- Evaluation of parathyroid tumor when:
  - CA> normal and PTH > normal WITH
    - Previous nondiagnostic ultrasound or nuclear medicine scan AND
    - Surgery planned.

Indication for combination studies for the initial pre-therapy staging of cancer, OR ongoing tumor/cancer surveillance OR evaluation of suspected metastases:
- ≤ 5 studies to include CT or MRI of any of the following areas as appropriate depending on the cancer: Neck, Abdomen, Pelvis, Chest, Brain, Cervical Spine, Thoracic Spine or Lumbar Spine

For evaluation of suspected tumor, cancer or mass:
- Evaluation of neck tumor, mass or cancer with suspected recurrence or metastasis [based on symptoms or examination findings (may include new or changing lymph nodes)].
- Evaluation of palpable lesions in mouth or throat.
- Evaluation of non-thyroid masses in the neck when present greater than one month, noted to be >/= to 1 cm or associated with generalized lymphadenopathy

For evaluation of known or suspected inflammatory disease or infections:
- For evaluation of abscesses of the pharynx and neck.
• Evaluation of lymphadenopathy in the neck when present greater than one month, noted to be \( \geq 1 \) cm or associated with generalized lymphadenopathy.

**Pre-operative evaluation:**
• When ordered by surgeon/specialist or a primary care provider on behalf of the surgeon/specialist.

**Post-operative/procedural evaluation (e.g. post neck dissection):**
• When ordered by surgeon/specialist or a primary care provider on behalf of the surgeon/specialist.
• A follow-up study may be needed to help evaluate a patient’s progress after treatment, procedure, intervention or surgery. Documentation requires a medical reason that clearly indicates why additional imaging is needed for the type and area(s) requested.

**Other indications for a Neck CT:**
• For evaluation of vocal cord lesions or vocal cord paralysis.
• For evaluation of stones of the parotid and submandibular glands and ducts.
• For evaluation of tracheal stenosis.

**ADDITIONAL INFORMATION RELATED TO NECK CT:**

**Intravascular administration of contrast material may** be contraindicated in patients who have a documented allergy from prior contrast administration or a history of atopy. Intravascular contrast agents may be contraindicated in patients who have impaired renal function.

**CT and Tumors of the Neck (non-thyroid)** – CT is a standard modality for imaging neck tumors. Pre-treatment imaging is important in the management of neck cancer. CT assists in pre-treatment planning by defining the extent of the primary tumor; the peripheral borders of the neoplasm must be determined as accurately as possible. In neck cancer, the identification of lymphatic tumor spread is crucial. Multislice-spiral-CT improves the assessment of tumor spread and lymph node metastases and defines the critical relationship of tumor and lymph node metastasis. CT is also used in the follow-up after surgical, radiation or combined treatment for a neck neoplasm.

**CT and Tumoral and Non-Tumoral Trachea Stenoses** – Bronchoscopy is the “gold standard” for detecting and diagnosing tracheobronchial pathology because it can directly visualize the airway lumen, but it may be contraindicated in patients with some conditions, e.g., hypoxemia, tachycardia. Spiral CT provides a non-invasive evaluation of the trachea and may be used in most patients to assess airway patency distal to stenoses.

**CT and Parotid and Submandibular Gland and Duct Stones** – The sensitivity of CT to minimal amounts of calcific salts makes it well suited for the imaging of small, semi calcified parotid or submandibular gland stones. Early diagnosis and intervention are important because patients with salivary gland stones may eventually develop sialadenitis. With early intervention, it may be possible to avoid further gland degeneration requiring parotid or submandibular gland excision. The CT scan identifies the exact location of a ductal stone expediting intraoral surgical removal.
REFERENCES


