

2024 Computed Tomography (CT) Neck Soft Tissue

Diagnostic Imaging

CT-Neck-HH Copyright © 2024 WNS (Holdings) Ltd.

Last Review Date: 10/28/2024 Previous Review Date: 10/06/2024 Guideline Initiated: 06/30/2019



Table of Contents

Computed Tomography (CT) Soft Tissue Neck	3
CT General Contraindications	3
CT Neck Soft Tissue Contraindications	3
Preamble: Pediatric Diagnostic Imaging	3
CT Neck Soft Tissue Guideline	4
Combination CT and MRI for Metastases Evaluation	6
Head and Neck Cancer Surveillance section	7
Bone Cancer Surveillance	7
Esophageal and Esophagogastric Junction Cancer Surveillance	8
Head and Neck Cancers Surveillance	9
Histiocytic Neoplasms Surveillance	0
Melanoma: Uveal Surveillance 1:	1
Occult Primary Cancer Surveillance	1
Soft Tissue Sarcoma Surveillance	1
Thymomas and Thymic Carcinomas Surveillance	2
Thyroid Carcinoma Surveillance	3
CT Neck Soft Tissue Procedure Codes 14	4
CT Neck Soft Tissue Summary of Changes 14	4
CT Neck Soft Tissue Definitions 1!	5
CT Neck Soft Tissue References 10	6
Disclaimer & Legal Notice	9
Histiocytic Neoplasms Surveillance	0111234456



Computed Tomography (CT) Soft Tissue Neck



NCD 220.1

See also, **NCD 220.1**: Computed Tomography at https://www.cms.gov/medicare-coverage-database/search.aspx if applicable to individual's healthplan membership.

CT General Contraindications

Computed tomography (CT) may be contraindicated for ANY of the following: [2]

- Allergy to contrast (if contrast is used)
- Pregnancy
- Renal impairment and dialysis unmanageable (if contrast is used)

CT Neck Soft Tissue Contraindications

Computed tomography (CT) of the soft tissue of the neck with contrast, may be contraindicated for **ANY** of the following: [29]

- Allergy to contrast material (if contrast is used)
- Asthma
- Dehydration
- Liver disease, acute
- Pheochromocytoma
- Renal disease, severe (eGFR less than 30 ml/min)
- Seizures
- Sickle Cell Anemia
- Thyroid disease

Preamble: Pediatric Diagnostic Imaging

HealthHelp's clinical guidelines for the Diagnostic Imaging program, are intended to apply to both adults and pediatrics (21 years of age or younger), unless otherwise specified within the criteria.



CT Neck Soft Tissue Guideline

Computed tomography (CT) of the soft tissue of the neck is considered medically appropriate when the documentation demonstrates **ANY** of the following:

- 1. Cancer is suspected or known, for **ANY** of the following: [20] [9]
 - a. Cancer in the head and neck is known and **ANY** of the following:
 - i. Recurrence or metastasis is suspected by exam or symptoms. [17]
 - ii. Staging evaluation [14] [15]
 - iii. Surveillance of known cancer following the NCCN Guidelines recommended schedule [19] [15] [28]
 - iv. Visualization of area is difficult on follow-up exam.
 - b. Exam findings include **ANY** of the following:
 - i. Adenopathy, infectious, is suspected **AND FAILED** 2 weeks of treatment.[4]
 - ii. Lesions in the mouth or throat are suspicious. [30]
 - iii. Mass/tumor is known **AND** <u>prior imaging is abnormal, non-diagnostic or indeterminate</u>, for further evaluation.
 - iv. Neck mass or lymphadenopathy that is **NOT** in the thyroid or parotid regions and **ANY** of the following: (***NOTE**: First imaging recommended should be an ultrasound for discrete cystic lesions of the neck [excluding high suspicion of malignancy]) [13] [3]
 - A. Malignancy risk is increased due to **ANY** of the following:
 - I. Cancer history
 - II. Consistency is firm.
 - III. Fixation to adjacent tissues
 - IV. Mass is stable, present for 2 weeks or more (or uncertain duration) AND etiology is NOT infection.
 - V. Size is more than 1.5 cm.
 - VI. Ulceration of overlying skin is known.
 - B. Pediatric individual **AND** ultrasound is non-diagnostic or indeterminate **OR** cancer history
 - c. Neck mass in the parotid region (***NOTE**: First evaluation should be an ultrasound to assess if the mass is located inside or outside the gland.) [3]



- d. Neck mass in the thyroid region and **ANY** of the following: (***NOTE:** Thyroid-region masses should first have ultrasound evaluation. CT is preferred over MRI due to less respiratory motion artifact. CT chest may be included for some pre-procedural evaluations.) [17]
 - i. Airway compression is suspected.
 - ii. Prior imaging suggests extension through the thoracic inlet into the mediastinum and imaging is to assess the extent of affected thyroid tissue.
 - iii. Thyroid cancer is known, for staging and recurrence monitoring.
- 2. Cranial nerve palsy (CN IX to XII), objective, for evaluation of the extracranial nerve course [21] [24] [27]
- 3. Dysphagia is suspected or known and <u>endoscopy and/or fluoroscopy studies are non-diagnostic or indeterminate</u>. [22] [27]
- 4. Foreign body assessment **AND** X-ray is non-diagnostic or indeterminate. [25] [6]
- 5. Globus sensation and requested by gastrointestinal specialist **OR** <u>barium esophogram is non-diagnostic or indeterminate</u>. [1]
- 6. Hyperparathyroidism (primary, secondary or tertiary) is known, for initial imaging. [32]
- 7. Infections, deep space or neck/pharynx abscess is suspected or known **AND** there are signs of infection (eg, fever, pain, swelling). [26] [16] [4]
- 8. Peri-procedural care for **ANY** of the following:
 - a. Hyperparathyroidism, primary, is known for pre-procedural planning when <u>prior</u> <u>ultrasound or nuclear medicine scan is non-diagnostic or indeterminate</u>.
 - b. Peri-procedural imaging to guide pre-procedure planning or post-operative complications.
- 9. <u>Prior CT neck imaging is non-diagnostic or indeterminate</u>. (***NOTE**: *One follow-up is appropriate to evaluate for changes since preceding imaging finding[s]. Further surveillance is appropriate when lesion is specified as "highly suspicious" or there is a change since last exam.*)
- 10. Salivary gland stones are suspected or known. [12]
- 11. Sialadenitis is suspected or known, abscess is <u>suspected</u>, **AND** symptoms are bilateral **OR** <u>ultrasound is non-diagnostic or indeterminate</u>. [12] [16]
- 12. Symptoms include **ANY** of the following:
 - a. Pain in the ear that is unexplained, **MRI** is contraindicated or unavailable, when ordered by a specialist and **ALL** of the following: [23]



- i. High risk for malignancy (eg, age over 50 years old, alcohol use, tobacco smoker, weight loss)
- ii. Otoscopic exam, nasolaryngoscopy and lab evaluation (eg, complete blood count [CBC], erythrocyte sedimentation rate [ESR]) are complete.
- b. Pain in the throat is unexplained and present for **AT LEAST** 2 weeks, when ordered by a specialist and **ALL** of the following:
 - i. High risk for malignancy (eg, age over 50 years old, alcohol use, tobacco smoker, weight loss)
 - ii. Infection signs/symptoms are **NOT** present.
 - iii. Laryngopharyngeal reflux treatment FAILED.
 - iv. Laryngoscopy and otolaryngologic exam is completed.
- 13. Tracheal stenosis is suspected or known. [5] [8]
- 14. Vocal cord lesions or vocal cord paralysis is suspected or known. [27] [18]

Combination CT and MRI for Metastases Evaluation

Combination CT/MRI studies (5 or less concurrent studies, with a CT or MRI appropriate for cancer location: abdomen, brain, cervical spine, chest, lumbar spine, neck, pelvis and/or thoracic spine) for **ANY** of the following situations:

- 1. Cancer recurrence or metastasis is suspected.
- 2. Staging evaluation, for baseline pre-therapy
- 3. Surveillance following the **NCCN Guidelines** recommended schedule (see <u>Surveillance</u> section)



LCD 37373

See also, **LCD 37373**: MRI and CT Scans of Head and Neck at https://www.cms.gov/medicare-coverage-database/search.aspx if applicable to individual's healthplan membership.



LCD 35175

See also, **LCD 35175**: MRI and CT Scans of the Head and Neck at https://www.cms.gov/medicare-coverage-database/search.aspx if applicable to individual's healthplan membership.



Head and Neck Cancer Surveillance section

Surveillance imaging (after cancer treatment) of the head and neck is considered medically appropriate when the documentation demonstrates **ANY** of the following:

Bone Cancer Surveillance

NCCN Bone Cancer Version 1.2025

Bone cancer surveillance includes **ANY** of the following:

- 1. Chondrosarcoma surveillance for **ANY** of the following:
 - a. Atypical cartilaginous tumor surveillance with **ALL** of the following:
 - i. Chest imaging every 6 to 12 months for 2 years, then annually as clinically indicated
 - ii. Primary site X-rays and/or cross-sectional imaging magnetic resonance imaging (MRI) (with and without contrast) or computed tomography (CT) (with contrast) every 6 to 12 months for 2 years, then annually as clinically indicated
 - b. Low-grade, extracompartmental appendicular tumor, grade I axial tumors or high-grade (grade II or III, clear cell or extracompartmental) tumors surveillance with ALL of the following:
 - Chest imaging every 3 to 6 months, may include CT at least every 6 months for 5 years, then annually for at least 10 years, as clinically indicated
 - ii. Primary site X-rays and/or cross-sectional imaging MRI (with and without contrast) or CT (with contrast) as clinically indicated.
- 2. Chordoma surveillance with **ALL** of the following:
 - a. Chest imaging every 6 months, with CT included, annually for 5 years, then annually thereafter as clinically indicated
 - Imaging of primary site, timing and modality (eg, MRI ± CT [both with contrast],
 X-ray) as clinically indicated up to 10 years
- 3. Ewing Sarcoma after primary treatment completed and stable/improved disease, surveillance with **ALL** of the following:
 - a. Chest imaging with X-ray or CT: every 3 months
 - Primary site imaging with MRI ± CT (both with contrast) and X-ray, increase intervals after 24 months and after 5 years, annually as clinically indicated (indefinitely) (*NOTE: Consider PET/CT [head-to-toe] and/or bone scan.)



- 4. Giant cell tumor of the bone surveillance with **ALL** of the following:
 - a. Chest imaging every 6 to 12 months for 4 years, then annually thereafter as clinically indicated
 - Surgical site imaging as clinically indicated (eg, CT and/or MRI, both with contrast, X-ray)
- 5. Osteosarcoma surveillance with primary site and chest imaging (using same imaging that was done for initial work-up) for **ANY** of the following: (***NOTE**: Consider PET/CT [head-to-toe] and/or bone scan.)
 - a. Image every 3 months for years 1 and 2
 - b. Image every 4 months for year 3
 - c. Image every 6 months for years 4 and 5
 - d. Image annually for year 6 and thereafter, as clinically indicated

Esophageal and Esophagogastric Junction Cancer Surveillance

NCCN Esophageal or Esophagogastric Junction Cancers Version 4.2024

Esophageal and esophagogastric junction cancer surveillance includes ANY of the following:1

- 1. Adenocarcinoma, squamous cell carcinoma; imaging studies as clinically indicated
- 2. Tumor classification is Tis (tumor in situ) or T1a (\pm Barret's esophagus [BE]), after endoscopic resection or ablation, imaging surveillance includes **ALL** of the following²:
 - a. Upper gastrointestinal endoscopy (EGD) every 3 months for the first year
 - b. EGD every 6 months for the second year
 - c. EGD annually thereafter (indefinitely)
- 3. Tumor classification is Tis, T1a, N0, after esophagectomy, imaging surveillance includes **ALL** of the following³:
 - a. Upper gastrointestinal endoscopy (EGD) every 3 months for the first year
 - b. EGD every 6 months for the second year
 - c. EGD annually thereafter (indefinitely)
- 4. Tumor classification T1b^a (N0 on ultrasound) after endoscopic resection or ablation, imaging surveillance includes **ALL** of the following:

¹Routine esophageal/esophagogastic junction cancers are not recommended for cancer-specific surveillance, for more than 5 years after the end of treatment.

²Imaging studies for surveillance are **NOT** recommended.

³Imaging studies for surveillance are **NOT** recommended.



- a. Computed tomography (CT) chest/abdomen (+ contrast, unless contraindicated)
 may be considered every 6 months for the first 2 years and annually for up to 5
 years
- b. EGD every 3 months for the first year, every 4 to 6 months for the second year, then annually thereafter (indefinitely)
- 5. Tumor classification T1b or greater, any N^a or T1a N+, imaging surveillance includes esophagectomy performed with or **WITHOUT** adjuvant therapy then surveillance includes **ALL** of the following:
 - a. Chest/abdomen CT (+ contrast, unless contraindicated) every 6 months for the first 2 years and annually for up to 5 years
 - EGD as clinically indicated **OR** if incompletely resected BE after ablation: EGD
 every 3 months for the first year, every 6 months for the second year, then
 annually indefinitely
- 6. Tumor classification any T and/or any N, with neoadjuvant chemotherapy OR chemoradiotherapy AND esophagectomy, with or WITHOUT adjuvant treatment, imaging surveillance includes chest/abdomen CT (+ contrast, unless contraindicated) every 6 months for up to 2 years, then annually for up to 5 years and EGD as clinically indicated.
- 7. Tumor classification (pretreatment) N0 to N+, T1b to T4, T4b, with definitive chemoradiation (without esophagectomy), surveillance imaging includes **ALL** of the following:
 - a. Chest/abdomen CT (+ contrast unless contraindicated) every 3 to 6 months for the first 2 years and annually for up to 5 years
 - b. EGD every 3 to 6 months for the first 2 years, then annually for 3 more years

Head and Neck Cancers Surveillance

NCCN Head and Neck Cancers Version 4.2024

Head and neck cancers surveillance for locoregionally advanced disease after treatment, includes **ANY** of the following:

- 1. Short-term surveillance (less then 6 months after treatment), if there is high-risk of early recurrence, symptoms of early recurrence or before starting adjuvant post-operative therapy:
 - a. Computed tomography (CT) and/or magnetic resonance imaging (MRI) within 3 to 4 months post-operatively to establish a new baseline for future comparisons
 - b. FDG positron emissions tomography/computed tomography (FDG PET/CT) should be performed within 3–6 months of definitive radiation or systemic therapy/RT.



- c. Incomplete response is suspected: CT or MRI scan earlier (eg, 4 to 8 weeks) based on the clinical situation. (*NOTE: Consider an ultrasound [US] of the neck for targeted sampling.)
- 2. Long-term surveillance (6 months or more from end-of-treatment, up to 5 years after treatment) with ultrasound, CT, MRI, PET/CT and/or FDG PET/CT (as appropriate) to obtain surveillance for lesions that are recurrent, second primary or at distant sites.⁴

Histiocytic Neoplasms Surveillance

NCCN Histiocytic Neoplasms Version 2.2024

Histiocytic neoplasms surveillance imaging includes **ANY** of the following:

- 1. Erdheim-Chester disease surveillance imaging includes **ANY** of the following:
 - a. FDG-positron emission tomography/computed tomography (PET/CT) every 3 to 6
 months after starting therapy until stabilization of the disease, and as clinically
 indicated after 2 years.
 - b. Organ specific imaging with CT (+ contrast) or MRI (± contrast) every 3 to 6 months until disease stabilization and then every 6 to 12 months
- 2. Langerhans cell histiocytosis surveillance imaging includes FDG-PET/CT (preferred), FDG-PET or CT/magnetic resonance imaging (MRI) every 3 to 6 months for the first 2 years after completion of therapy, then no more than annually (*NOTE: For individuals who are asymptomatic with a single-site bone lesion, imaging surveillance can end after 1 year, with continued tracking of symptoms)
- 3. Rosai-Dorfman disease (RDD), surveillance imaging includes **ANY** of the following: (***NOTE**: for individuals who are asymptomatic with a single-site bone lesion, imaging surveillance can end after 1 year, with continued tracking of symptoms)
 - a. FDG-PET/CT every 3 to 6 months after starting therapy until stabilization of disease
 - b. Organ specific imaging with CT (+ contrast) or MRI (± contrast) every 3 to 6 months until disease stabilization and then every 6 to 12 months

⁴Per the National comprehensive cancer network (NCCN) Guidelines for Head and Neck Cancers, there are no consensus guidelines for the surveillance imaging type, frequency or duration for locoregionally advanced disease. If an FDG PET/CT at 3 months post-treatment is negative, there are no data to support substantial benefit for further routine imaging when asymptomatic with negative exam. In the absence of multi-institutional prospective data, a tailored approach to surveillance with attention to tumor type, stage, prognostic factors, symptomatology, and physical exam changes or restrictions is recommended.



Melanoma: Uveal Surveillance

NCCN Melanoma: Uveal Version 1.2024

Uveal melanoma surveillance imaging includes **ANY** of the following:

- Low risk disease surveillance imaging every 12 months for 5 years or clinically as indicated, includes ANY of the following:
 - a. Chest/abdomen/pelvis computed tomography (CT) (+ contrast)
 - b. Chest X-ray (dual subtraction)
 - c. Magnetic resonance (MR) (+ contrast) or ultrasound of liver
- 2. Medium risk disease surveillance imaging every 6 to 12 months for 10 years, then as clinically indicated, includes **ANY** of the following:
 - a. Chest/abdomen/pelvis CT (+ contrast)
 - b. Chest X-ray (dual subtraction)
 - c. MR (+ contrast) or ultrasound of liver
- 3. High risk disease surveillance imaging every 3 to 6 months for 5 years, then every 6 to 12 months for 10 years, then clinically as indicated, includes **ANY** of the following:
 - a. Chest/abdomen/pelvis CT (+ contrast)
 - b. Chest X-ray (dual subtraction)
 - c. MR (+ contrast) or ultrasound of liver

Occult Primary Cancer Surveillance

NCCN Occult Primary Cancer Version 2.2025

Occult primary cancer surveillance imaging for long-term surveillance includes diagnostic tests based on symptomatology.

Soft Tissue Sarcoma Surveillance

NCCN Soft Tissue Sarcoma Version 3.2024

Soft tissue sarcoma surveillance includes **ANY** of the following: ***NOTE**: Contrasted imaging is preferred; for long term surveillance to minimize radiation exposure, X-rays or MRI may be substituted.

- 1. Desmoid tumor (aggressive fibromatosis) imaging surveillance includes **ANY** of the following:
 - a. CT or MRI every 3 to 6 months for 2 to 3 years, then every 6 to 12 months thereafter



- b. Ultrasound may be considered for select locations (eg, abdominal wall) for longterm follow-up
- 2. Retroperitoneal/intra-abdominal, after resection imaging surveillance includes CT or MRI (consider PET/CT) every 3 to 6 months for 2 to 3 years, then every 6 months for the next 2 years, then annually.
- 3. Stage IA/IB tumor surveillance includes **ALL** of the following:
 - a. Chest imaging with CT (+contrast) or MRI (± contrast) as clinically indicated
 - b. Magnetic resonance imaging (MRI) at baseline and periodically (frequency based on estimated recurrence)
- 4. Stage II/III resectable with acceptable functional outcomes surveillance includes **ANY** of the following:
 - a. Chest imaging with CT (+contrast) or MRI (± contrast) at end of treatment and periodic imaging of primary site (based on estimated risk of locoregional recurrence)
 - b. Chest imaging and imaging of primary site with CT (+contrast) or MRI (\pm contrast) as clinically indicated
- 5. Stage II, III or select stage IV (any T, N1, M0), resectable with adverse functional outcomes **OR** unresectable primary disease surveillance imaging includes **ANY** of the following:
 - a. Baseline and periodic imaging of primary site as clinically indicated
 - b. Chest imaging with CT (+contrast) or MRI (± contrast) as clinically indicated
- 6. Stage IV synchronous disease imaging surveillance includes **ANY** of the following:
 - a. Chest and other known metastatic sites imaging with CT (+contrast) or MRI (± contrast) as clinically indicated
 - MRI (± contrast) (preferred) and/or CT (+ contrast) at baseline and periodically (frequency based on estimated recurrence)

Thymomas and Thymic Carcinomas Surveillance

NCCN Thymomas and Thymic Carcinomas Version 1.2024

Thymomas and thymic carcinomas surveillance after primary treatment includes **ANY** of the following:

1. R0 resection surveillance imaging with chest CT (+ contrast) or MRI (in certain clinical situations) for **ANY** of the following:



- a. Thymic carcinoma every 6 to 12 months for 2 years, then annually for 5 years
- b. Thymoma every 6 months for 2 years, then annually for 10 years
- 2. R1 and R2 resection surveillance imaging with chest CT (+ contrast) or MRI (in certain clinical situations) for **ANY** of the following:
 - a. Thymic carcinoma every 3 to 6 months for 2 years, then annually for 5 years
 - b. Thymoma every 6 months for 2 years, then annually for 10 years
- 3. Locally advanced disease surveillance imaging with chest CT (+ contrast) or MRI (in certain clinical situations) for **ANY** of the following:
 - a. Thymic carcinoma every 3 to 6 months for 2 years, then annually for 5 years
 - b. Thymoma every 6 months for 2 years, then annually for 10 years

Thyroid Carcinoma Surveillance

NCCN Thyroid Carcinoma Version 4.2024

Thyroid carcinoma surveillance imaging includes **ANY** of the following:

- 1. Anaplastic carcinoma (stage IVC^d surveillance imaging includes CT or MRI (+ contrast) of brain, neck, chest, abdomen and pelvis at frequent intervals as clinically indicated (*NOTE: consider FDG-PET/CT 3 to 6 months after initial therapy)
- 2. Follicular, oncocytic and papillary carcinoma surveillance imaging includes **ANY** of the following:
 - a. Low-risk papillary thyroid cancer, follow-up includes a neck ultrasound every 6 months for 1 to 2 years, then annually
 - b. Papillary carcinoma after lobectomy, follow-up includes a neck ultrasound at 6 to 12 months
 - c. Papillary carcinoma after total thyroidectomy, with radioactive iodine (RAI) and **ANY** of the following:
 - i. RAI avid disease is <u>present</u> on post-therapy scan, follow-up includes neck ultrasound at 6 to 12 months (***NOTE**: consider TSH-stimulated RAI whole body scan)
 - ii. RAI avid disease is **ABSENT** on post-therapy scan, follow-up includes neck ultrasound at 6 to 12 months
 - d. Papillary carcinoma after total thyroidectomy **WITHOUT** RAI, follow-up includes a neck ultrasound at 6 to 12 months
 - e. Recurrent disease, follow-up includes a neck ultrasound, clinically as indicated



- 3. Medullary carcinoma surveillance imaging includes **ANY** of the following:
 - a. Bone scan and magnetic resonance imaging (MRI) of whole body, if appropriate (eg, very elevated calcitonin levels)
 - b. Calcitonin level is 150 pg/ml or more: surveillance with computed tomography (CT) or MRI (+ contrast) of the neck, chest, and liver, as clinically indicated
 - FDG-positron emission tomography/CT (PET) or Ga-68 DOTATE or MRI (+ contrast)
 of the neck, chest, abdomen with liver protocol, based on calcitonin/CEA doubling
 time
 - d. Neck ultrasound as clinically indicated

CT Neck Soft Tissue Procedure Codes

Table 1. CT Neck Soft Tissue Associated Procedure Codes

CODE	DESCRIPTION
70490	Computed tomography, soft tissue neck; without contrast material
70491	Computed tomography, soft tissue neck; with contrast material(s)
70492	Computed tomography, soft tissue neck; without contrast material followed by contrast material(s) and further sections

CT Neck Soft Tissue Summary of Changes

CT Neck Soft Tissue guideline had the following version changes from 2023 to 2024:

- Added the following to keep in line with current research:
 - Combination CT and/or MRI for Metastasis Evaluation
 - Indications under "Cancer in the larynx, nasopharynx"
 - Indications under "Neck mass or lymphadenopathy"
 - "Mass/tumor is known" under "Exam findings include"
 - "Prior CT neck imaging is non-diagnostic or indeterminate"
- Removed the following as research does not support the indication:
 - "Cancer screening"
 - "Mass/tumor is at least 1.5 cm" from under "Cancer is suspected or known"
- Mid-cycle update: added Pediatric Preamble and pediatric indications



CT Neck Soft Tissue Definitions

Abscess is a swollen area within body tissue, containing an accumulation of pus.

Adenopathy is any disease or enlargement involving glandular tissue, specifically lymph glands.

Bell's palsy is paralysis of the facial nerve producing distortion on one side of the face.

Compression is reducing in size, quantity or volume, as if by squeezing.

Computed tomography (CT) refers to a computerized X-ray imaging procedure in which a three-dimensional image of a body structure is revealed through a series of cross-sectional images or "slices."

Cranial nerve palsy is a condition that causes a decreased or complete loss of function in one or more cranial nerves.

Deep neck space infections (neck) most commonly arise from a septic focus of the mandibular teeth, tonsils, parotid gland, deep cervical lymph nodes, middle ear, or sinuses.

Dysphagia is difficulty with swallowing or the sensation of food getting stuck in the esophagus.

Endoscopy is a procedure that uses an endoscope to examine the inside of the body. An endoscope is a thin, tube-like instrument with a light and a lens for viewing. It may also have a tool to remove tissue to be checked under a microscope for signs of disease.

Erythrocyte sedimentation rate (ESR) is a commonly performed hematology test that may indicate and monitor an increase in inflammatory activity within the body caused by one or more conditions such as autoimmune disease, infections or tumors.

Fluoroscopy is a medical procedure that makes a real-time video of the movements inside a part of the body by passing x-rays through the body over a period of time.

Globus sensation is defined as a persistent or intermittent nonpainful sensation of a lump, retained food bolus, or foreign body in the throat. It usually occurs between meals and improves with eating.

Hyperparathyroidism is the presence of excess parathyroid hormone in the body resulting in disturbance of calcium metabolism with increase in serum calcium and decrease in inorganic phosphorus, loss of calcium from bone, and renal damage with frequent kidney-stone formation.

Indeterminate findings are inconclusive or insufficient for treatment planning.

Lymphadenopathy refers to the swelling of lymph nodes which can be secondary to bacterial, viral, or fungal infections, autoimmune disease, and malignancy.

Magnetic resonance imaging (MRI) is a non-invasive diagnostic technique that produces computerized images of internal body tissues and is based on nuclear magnetic resonance of atoms within the body induced by the application of radio waves.

Malaise is an indefinite feeling of debility or lack of health often indicative of or accompanying the onset of an illness.

Mediastinum is the area in the middle of the chest that separates the lungs.



Metastasis is the spread of a disease-producing agency (such as cancer cells) from the initial or primary site of disease to another part of the body.

Non-diagnostic is a result that does not lead to a confirmed diagnosis.

Pediatric approximate ages are defined by the US Department of Health (USDH), the Food and Drug Administration (FDA), and the American Academy of Pediatrics (AAP) as the following:

- Infancy, between birth and 2 years of age
- Childhood, from 2 to 12 years of age
- Adolescence, from 12 to 21 years of age, further defined by the AAP into:
 - 1. Early (ages 11–14 years)
 - 2. Middle (ages 15-17 years),
 - 3. Late (ages 18–21 years)
 - 4. Older ages may be appropriate for children with special healthcare needs.

Parotid glands are two salivary glands that sit just in front of the ears.

Recurrence is a new occurrence of something that happened or appeared before.

Salivary gland is a gland in the mouth that produces saliva.

Sialadenitis is a salivary gland infection that causes inflammation and enlargement of one or more major salivary glands. It can be caused by bacteria or viruses.

Staging in cancer is the process of determining how much cancer is within the body (tumor size) and if it has metastasized (spread).

Stenosis is a narrowing or constriction of the diameter of a bodily passage or orifice.

Surveillance in cancer is the ongoing, timely and systematic collection and analysis of information on new cancer cases, extent of disease, screening tests, treatment, survival and cancer deaths.

Ultrasound is the diagnostic or therapeutic use of ultrasound and especially a noninvasive technique involving the formation of a two-dimensional image used for the examination and measurement of internal body structures and the detection of bodily abnormalities.

CT Neck Soft Tissue References

- [1] Aihilali, S., Seo, B.F., . . . Fakhran, S. (2014). Yield of Neck CT and Barium Esophagram in Patients with Globus Sensation. *American Journal of Neuroradiology*, *35*(2), 386-389.
- [2] American College of Radiology. (2023). ACR Manual on Contrast Media. *American College of Radiology*. Retrieved: January 2024. https://www.acr.org/-/media/ACR/Files/Clinical-Resources/Contrast_Media.pdf
- [3] Aulino, J.M., Kirsch, C.F.E., . . . Bykowski, J. (2019). ACR Appropriateness Criteria Neck Mass-Adenopathy. *Journal of the American College of Radiology, 16*(5S), S150-S160.



- [4] Baba, A., Kurokawa, R., . . . Srinivasan, A. (2023). 2023 Advanced imaging of head and neck infections. *Neuroimaging, Online ahead of print*. Retrieved: May 2023. DOI: 10.1111/jon.13099
- [5] Baral, E., Friedman, E. & Patino, M.O. (2021). Narrowing the Pipe: Different Etiologies of Tracheal Stenosis. *Neurographics*, 11(4), 248-258.
- [6] Carneiro, B.C., Cruz, I.A.N., . . . Nico, M.A.C. (2020). Multimodality Imaging of Foreign Bodies: New Insights into Old Challenges. *RadioGraphics*, 40(7), 1965-1986.
- [7] Casazza, G.C., Wiggins, R.H., . . . Shelton, C. (2021). Neuroradiology of the Temporal Bone and Skull Base. P.W. Flint & H.W. Francis (Eds.). *Cummings Otolaryngology: Head and Neck Surgery* (7), (pp. 2042-2062). Philadelphia, PA: Elsevier Inc.
- [8] Catano, J., Uzunhan, Y., . . . Terrier, B. (2022). Presentation, diagnosis, and management of subglottic and tracheal stenosis during systemic inflammatory diseases. *Chest*, 161(1), 257-265.
- [9] de Juan Ferre, A., Alvarez, R.A. & Morales, C.V. (2021). SEOM Clinical Guideline of management of soft-tissue sarcoma (2020). *Clinical and Translational Oncology, 23*(5), 922-930.
- [10] Earwood, J.S., Rogers, T.S. & Rathjen, N.A. (2018). Ear pain: diagnosing common and uncommon causes. *American Family Physician*, *97*(1), 20-27.
- [11] Fieux, M., Franco-Vidal, V., . . . Tringali, S. (2020). French Society of ENT (SFORL) guidelines. Management of acute Bell's palsy. *European Annals of Otorhinolaryngology, Head and Neck Diseases, 137*(6), 483-488.
- [12] Friedman, E., Cai, Y. & Chen, B. (2023). Imaging of Major Salivary Gland Lesions and Disease. *Oral Maxillofacial Surgery Clinics of North America*, *35*, (3)435-449.
- [13] Gamer, H.W., Wessell, D.E., . . . Chang, E.Y. (2023). ACR Appropriateness Criteria Soft Tissue Masses: 2022 Update. *Journal of the American College of Radiology*, 20(5), S234-S245.
- [14] Glastonbury, C. M. (2020). Head and Neck Squamous Cell Cancer: Approach to Staging and Surveillance. Hodler, J., Kubik-Huch, R. A. & von Schulthess, G. K.(Eds.). *Diseases of the Brain, Head and Neck, Spine 2020-2023*. (pp. 215-224). Cham: Springer.
- [15] Gule-Monroe, M.K., Calle, S., . . . Burns, J. (2023). ACR Appropriateness Criteria Staging and Post-Therapy Assessment of Head and Neck Cancer. *Journal of the American College of Radiology*, 20(11), S521-S564.
- [16] Hansen, B.W., Ryndin, S., Mullen, K.M. (2020). Infections of Deep Neck Spaces. *Seminars in Ultrasound, CT and MRI, 41*(1), 74-84.
- [17] Hoang, J.K., Oldan, J.D., . . . Cory, A.S. (2019). ACR Appropriateness Criteria Thyroid Disease. *Journal of the American College of Radiology, 16*(5), S300-S314.
- [18] Jacks, A., Schatz, B., . . . Kraft, S. (2023). Computed Tomography Measurements in Assessment of Idiopathic Vocal Fold Paralysis. *Journal of Voice, 37*(2), 289.e15-289.e21.



- [19] Juliano, A.F. & Aiken, A.H. (2020). NI-RADS for head and neck cancer surveillance imaging: What, why, and how. *Cancer Cytopathology*, 128(3), 166-170.
- [20] Junn, J.C., Soderlund, K A., . . . Glastonbury, C. M. (2021). Imaging of Head and Neck Cancer With CT, MRI, and US. *Seminars in Nuclear Medicine*, *51*(1), 3-12.
- [21] Krainik, A. & Casselman, J.W. (2020). Imaging Evaluation of Patients with Cranial Nerve Disorders. Hodler, J., Kubik-Huch, R. A. & von Schulthess, G. K. (Eds.). *Diseases of the Brain, Head and Neck, Spine 2020-2023*, (pp. 143-164). Cham: Springer.
- [22] Levy, A.D., Carucci, L.R., . . . Kim, D.H. (2019). ACR Appropriateness Criteria Dysphagia. *Journal of the American College of Radiology*, *16*(5), S104-S115.
- [23] Nadol, J.B. and Quesnel, A.M. (2021). Otologic Manifestations of Systemic Disease. P.W. Flint & H.W. Francis (Eds.). *Cummings Otolaryngology: Head and Neck Surgery* (7), (pp. 2293-2310). Philadelphia, PA: Elsevier.
- [24] Ottaiano, A.C., Gomez, G.D., de Andrade Laurencao Freddi, T. (2022). The Facial Nerve: Anatomy and Pathology*Seminars in Ultrasound, CT, and MRI, 44*(2), 71-80.
- [25] Pfau, P. and Benson, M. (2021). Foreign Bodies, Bezoars, and Caustic Ingestions. M. Feldman, L.S. Friedman, . . . C.M. Wilcox (Eds.). *Sleisenger and Fordtran's Gastrointestinal and Liver Disease* (11). (pp. 399-410). Philadelphia: Elsevier.
- [26] Pierce, J.L., Perry, M.T., . . . Beaman, F.D. (2022). ACR Appropriateness Criteria Suspected Osteomyelitis, Septic Arthritis, or Soft Tissue Infection (Excluding Spine and Diabetic Foot): 2022 Update. *Journal of the American College of Radiology*, 19(11), S473-S487.
- [27] Rath, T.J., Policeni, B., . . . Corey, A.S. (2022). ACR Appropriateness Criteria Cranial Neuropathy: 2022 Update. *Journal of the American College of Radiology, 19*(11), S266-303.
- [28] Strauss, S.B., Aiken, A.H., . . . Phillips, C.D. (2021). Best practices: application of NI-RADS for posttreatment surveillance imaging of head and neck cancer. *American Journal of Roentgenology*, 216(6), 1438-1451.
- [29] Vishwanath, V., Jafarieh, S., & Rembielak, A. (2020). The role of imaging in head and neck cancer: An overview of different imaging modalities in primary diagnosis and staging of the disease. *Journal of Contemporary Brachytherapy*, 12(5), 512-518.
- [30] Wein, R.O. & Weber, R.S. (2021). Malignant Neoplasms of the Oral Cavity. P. W. Flint & H. W. Francis (Eds.). Cummings Otolaryngology: Head and Neck Surgery (7), (pp. 1289-1315). Philadelphia, PA: Elsevier.
- [31] Witte, D.H. (2021). Advanced Imaging in Orthopaedics. F.M. Azar & J.H. Beaty (Eds.). *Campbell's Operative Orthopaedics* (14), (pp. 141-176). Philadelphia, PA: Elsevier.
- [32] Zander, D., Bunch, P.M., . . . Corey, A.S.(2021). ACR Appropriateness Criteria Parathyroid Adenoma. *Journal of the American College of Radiology, 18*(11S), S406-S422.



Disclaimer & Legal Notice

Purpose

The purpose of the HealthHelp's clinical guidelines is to assist healthcare professionals in selecting the medical service that may be appropriate and supported by evidence to safely improve outcomes. Medical information is constantly evolving, and HealthHelp reserves the right to review and update these clinical guidelines periodically. HealthHelp reserves the right to include in these guidelines the clinical indications as appropriate for the organization's program objectives. Therefore the guidelines are not a list of all the clinical indications for a stated procedure, and associated Procedure Code Tables may not represent all codes available for that state procedure or that are managed by a specific client-organization.

Clinician Review

These clinical guidelines neither preempt clinical judgment of trained professionals nor advise anyone on how to practice medicine. Healthcare professionals using these clinical guidelines are responsible for all clinical decisions based on their assessment. All Clinical Reviewers are instructed to apply clinical indications based on individual patient assessment and documentation, within the scope of their clinical license.

Payment

The use of these clinical guidelines does not provide authorization, certification, explanation of benefits, or guarantee of payment; nor do the guidelines substitute for, or constitute, medical advice. Federal and State law, as well as member benefit contract language (including definitions and specific contract provisions/exclusions) take precedence over clinical guidelines and must be considered first when determining eligibility for coverage. All final determinations on coverage and payment are the responsibility of the health plan. Nothing contained within this document can be interpreted to mean otherwise.

Registered Trademarks (®/™) and Copyright (©)

All trademarks, product names, logos, and brand names are the property of their respective owners and are used for purposes of information and/or illustration only. Current Procedural Terminology (CPT) \mathbb{R}^{TM} is a registered trademark of the American Medical Association (AMA). No part of this publication may be reproduced, stored in a retrieval system or transmitted, in any form or by any means, electronic, mechanical, photocopying, or otherwise, without permission from HealthHelp.