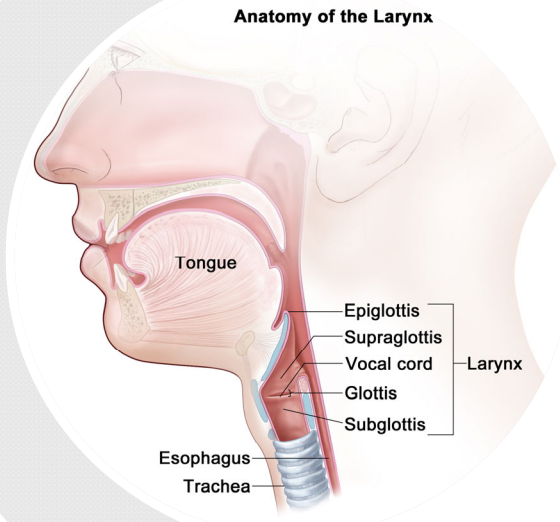



# LARYNX 2021

NAACCR 2020-2021 WEBINAR SERIES

## Q&A

- Please submit all questions concerning the webinar content through the Q&A panel.
- If you have participants watching this webinar at your site, please collect their names and emails.
- We will be distributing a Q&A document in about one week. This document will fully answer questions asked during the webinar and will contain any corrections that we may discover after the webinar.

## FABULOUS PRIZES

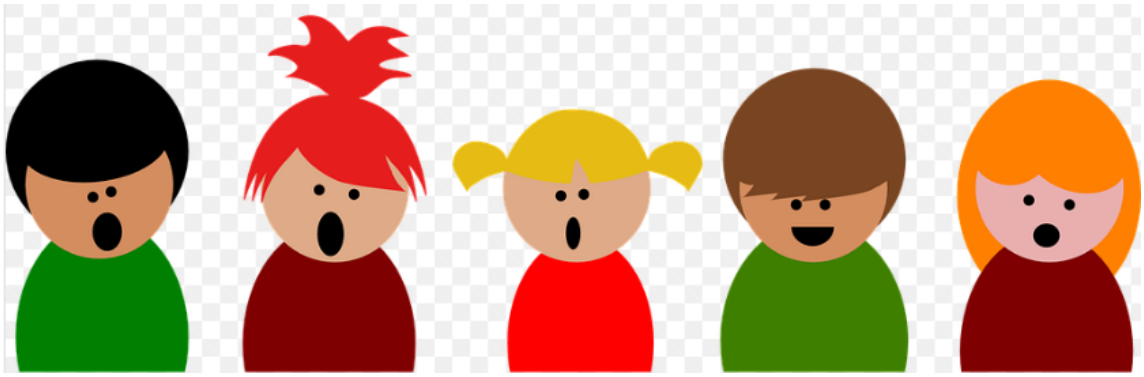



3

## GUEST PRESENTERS

- Denise Harrison, CTR
- Louanne Currence, RHIT, CTR

4

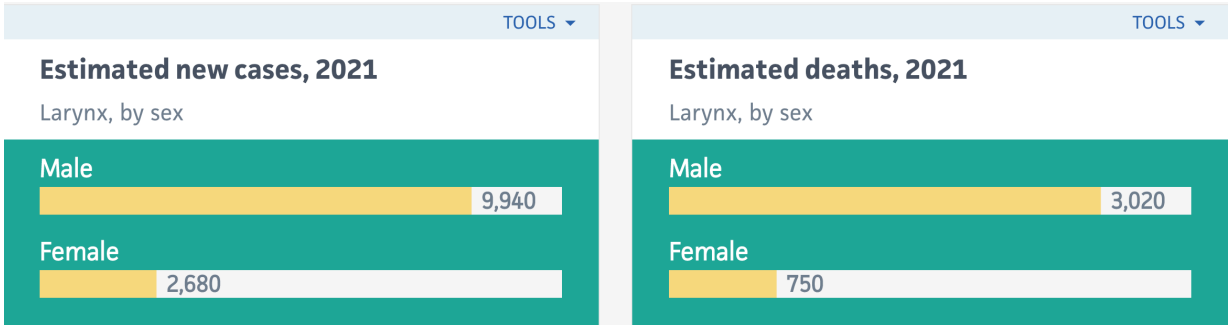


# La-La-La LARYNX



## General Information and Statistics

- Voice box: tube-shaped organ in neck within framework of 9 cartilages
- Top of windpipe or trachea
- Front “walls” form Adam’s apple






American Cancer Society, 2021
https://cancerstatisticscenter.cancer.org/#!/cancer-site/Larynx

## Functions

- Breathing – vocal cords open to allow air thru
- Swallowing – vocal cords meet epiglottis to protect airway, prevent stuff from entering lungs
- Speech – vocal cords/folds vibrate to make sound



## Larynx CA Risk Factors

General

**Tobacco** (cigarettes, cigars, pipes, chew, MJ, snuff)
**Alcohol**
→ **Synergistic**

Men > women

Blacks, whites > Asian, Hispanic

Age > 55

Occupational exposure to asbestos, fumes, chemicals

Diet low in vitamin A & E

GERD

Poor oral hygiene

## Screening

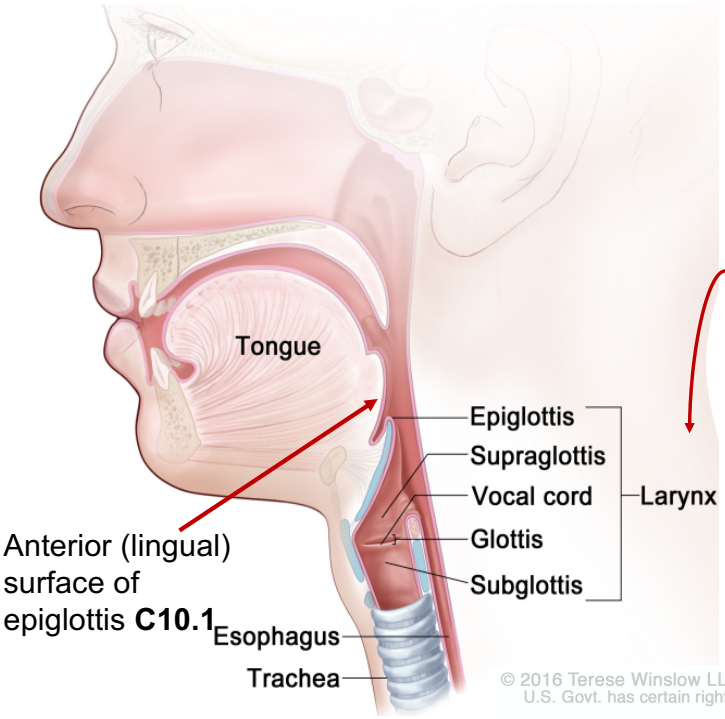
- General population – NOT recommended
- High risk population
  - Long exposure history
    - Tobacco
    - Alcohol
- Physical exams
  - Dental
  - GYN
  - PCP



## Symptoms

- Hoarseness for more than 2 weeks
- Lump in the neck (LN)
- Sore throat
- Earache
- Trouble swallowing or breathing
- Stridor
- Persistent cough
- Choking
- Unexplained weight loss
- Bad breath

# Anatomy of the Larynx




All this in an area that is only 5-7 cm (2-3 inches) in length!

**C32.1** Supraglottis; Epigottis, NOS
**C10.1** Anterior surface of epiglottis
~35% of new cases

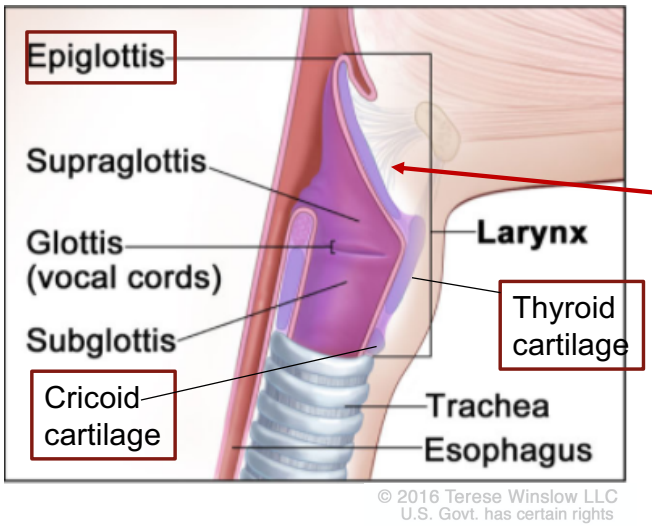
**C32.0** Glottis
~60% of new cases

**C32.2** Subglottis
**C32.8** Overlapping
**C32.9** Larynx NOS
~5% of new cases

**C32.3** – Laryngeal cartilages (not shown)



# Larynx Cartilages C32.3




**Unpaired** (Single)
- Thyroid cartilage
  - aka Adam's apple
- Cricoid cartilage
- Epiglottis
  - Anterior surface (C10.1)
  - NOS (C32.1)

**Paired**
- Arytenoid cartilage
- Corniculate cartilage
- Cuneiform cartilage

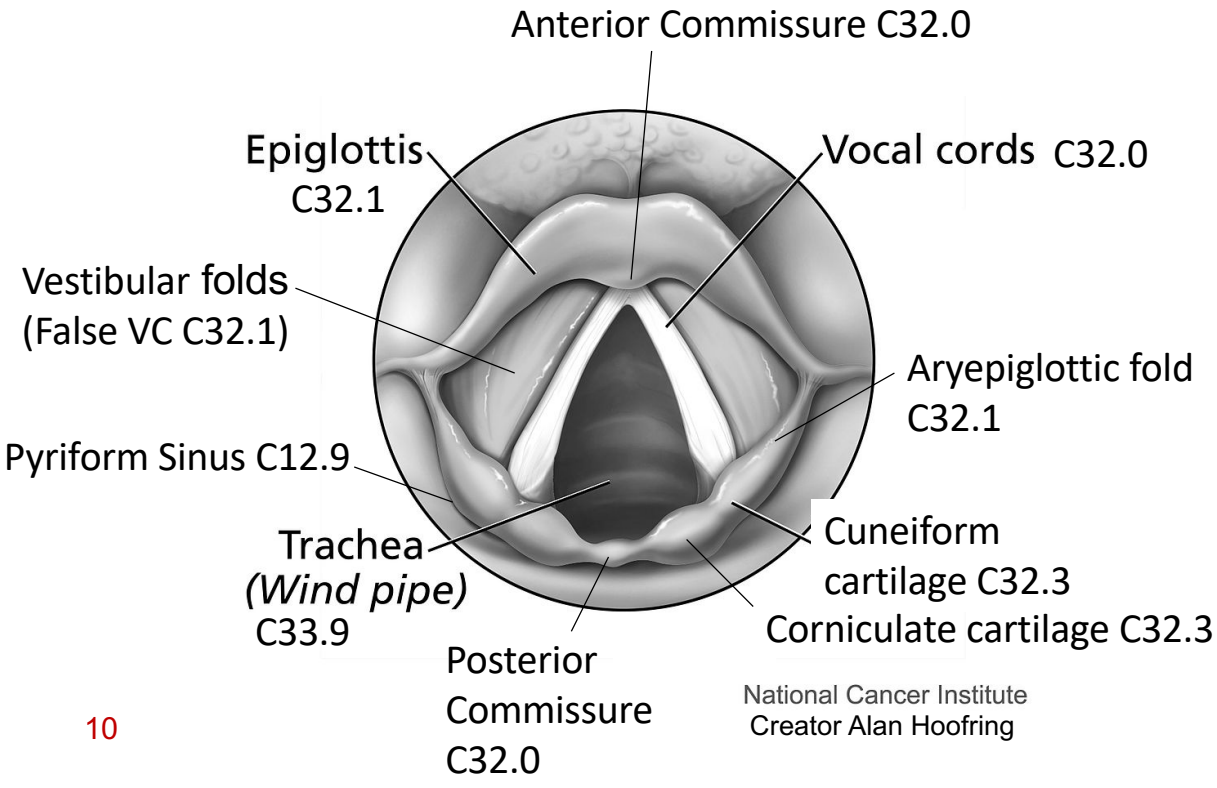
# Laryngoscope Invention

- Spanish singer (baritone)
- 1854
  - Observed larynx & VC by using small dental mirror and sunlight reflected by another mirror
  - Didn't know future medical importance

*Manuel Garcia*
*inventor of the laryngoscope*



# Laryngoscopy View of Larynx




National Cancer Institute
Creator Alan Hoofring

# Solid Tumor Rules 2018

Equivalent Terms and Definitions

Multiple Primary Rules

Histology Rules

## Equivalent or Equal Terms

AdenoCA; adenoCA NOS; carcinoma; carcinoma NOS
And; with (when describing >1 histology in a single tumor)
Contiguous; continuous
Hemangiosarcoma; angiosarcoma
Hypopharynx; laryngopharynx
In situ; noninvasive; intraepithelial
Malignant with: tumor, mass, lesion, or neoplasm
Simultaneous; existing @ same time; concurrent; prior to FCOT
Site; topography
Squamous cell CA; SqCA; Sq cell epithelioma; epidermoid CA
Squamous cell CA with verrucous growth pattern; Sq cell CA
Tumor; mass; tumor mass; lesion; neoplasm

## Terms That are NOT Equivalent

- Component ≠ subtype/variant
  - Component only coded when pathologist specifies the component is a second carcinoma
- P16 positive ≠ HPV positive
- P16 negative ≠ HPV negative
- Phenotype ≠ subtype/type/variant
- Squamous cell carcinoma with prominent keratinization 8070 ≠ keratinizing squamous cell carcinoma 8071
- Salivary gland adenocarcinoma 8140 ≠ salivary duct carcinoma 8500



## Coding Primary Site When There is Conflicting Information

1. Tumor board
   a. Specialty
   b. General
2. Tissue/path from tumor resection or biopsy
   a. Op report
   b. Addendum/comments on path
   c. Final dx on path
   d. CAP protocol/summary
3. Scans
   a. CT > MRI > PET

Use most **definitive information**; when there is **conflicting** information, use the following priority order.

# Coding Primary Site When There is Conflicting Information, cont.

4. Physician documentation of site
   a. Physician **reference** to primary site from **original** path/cytol/scans
   b. Physician **reference** to site in medical record
5. Tables 1 – 9 when SINGLE lesion overlaps 2 or more sites
   a. Compare histology in tables for each involved site
   b. When histology listed in **only one** of the tables, code that primary site



# Using Tables 1-9 for Overlapping Lesions

Mucoepidermoid CA in Anterior wall of nasopharynx C11.3 and soft palate C05.1

Table 2: Tumors of Nasopharynx

| Specific or NOS Term and Code | Synonyms | Subtypes/Variants |
|---|---|---|
| Adenoid cystic carcinoma 8200 | | |
| Chordoma 9370 | | |
| Nasopharyngeal papillary adenocarcinoma 8260 | Thyroid-like low-grade nasopharyngeal; papillary adenocarcinoma | |
| Squamous cell carcinoma NOS 8070 | Lymphoepithelial carcinoma<br>Undifferentiated carcinoma<br>Undifferentiated carcinoma with lymphoid stroma | Basaloid squamous cell carcinoma 8083<br>Keratinizing squamous cell carcinoma 8071<br>Non-keratinizing squamous cell carcinoma 8072 |

Primary site?

A. C11.3
B. C05.1

Table 4: Tumors of Oral Cavity and Mobile Tongue

| Specific or NOS Term and Code | Synonyms | Subtypes/Variants |
|---|---|---|
| Kaposi sarcoma 9140 | Kaposi disease | |
| Mucoepidermoid carcinoma 8430 | Mucoepidermoid tumor | |
| Myofibroblastic sarcoma 8825 | Myofibrosarcoma | |
| Oral mucosal melanoma 8720 | | |
| Squamous cell carcinoma 8070 | Squamous carcinoma<br>Squamous cell carcinoma | Acantholytic squamous cell carcinoma 8075 |

# Coding Primary Site When There is Conflicting Information, cont.

6.

| Code overlapping lesion of: | To: | Table |
|---|---|---|
| Tongue | C028 | 4 |
| Palate, junction of hard and soft palate | C058 | 4 |
| Major salivary glands | C088 | 6 |
| Lip, oral cavity and pharynx | C148 | - |

7.

| Code NOS region: | To: | Table |
|---|---|---|
| Mouth NOS | C069 | 4 |
| Major Salivary Gland NOS | C089 | 6 |
| Tonsil NOS | C099 | 5 |
| Oropharynx NOS | C109 | 5 |
| Nasopharynx NOS | C119 | 2 |
| Hypopharynx NOS | C139 | 3 |
| Pharynx NOS (oro-, naso-, & hypo-) | C140 | - |
| Head, face, or neck NOS | C760 | - |



# Table 3: Tumors of Pyriform Sinus, Hypopharynx, Larynx, Trachea, and Parapharyngeal Space

| Specific or NOS Term and Code | Synonyms | Subtypes/Variants |
|---|---|---|
| **Adenoid cystic carcinoma 8200** | ACC (rare) | |
| **Chondrosarcoma 9220** | Chondrosarcoma grade 2/3<br>Chondrosarcoma NOS | |
| **Liposarcoma 8850** | Atypical lipomatous tumor<br>Well-differentiated liposarcoma | |
| **Squamous cell carcinoma (SCC) 8070** | Epidermoid carcinoma<br>Squamous cell carcinoma NOS | Adenosquamous carcinoma (ASC) **8560**<br>Basaloid squamous cell carcinoma (BSCC) **8083**<br>Lymphoepithelial carcinoma (LEC)/lymphoepithelioma-like carcinoma **8082**<br>Keratinizing squamous cell carcinoma **8071**<br>Non-keratinizing squamous cell carcinoma **8072**<br>Papillary squamous cell carcinoma (PSCC) **8052**<br>Spindle cell squamous cell carcinoma (SC-SCC) **8074**<br>Verrucous squamous cell carcinoma (VC) **8051** |
| **Well-differentiated neuroendocrine carcinoma 8240** | Carcinoid<br>Neuroendocrine carcinoma grade 1 | Large cell neuroendocrine carcinoma/LCNEC **8013**<br>Neuroendocrine carcinoma grade 2/moderately-differentiated neuroendocrine carcinoma/atypical carcinoid **8249**<br>Small cell neuroendocrine carcinoma/small cell carcinoma/SmCC |

# Excerpt Table 9: Paraganglioma of Carotid Body, Larynx, Middle Ear, Vagal Nerve

| Specific Term and Code | Synonyms for Specific Histology |
|---|---|
| **Laryngeal paraganglioma 8690/3** | Chemodectoma, laryngeal<br>Non-chromaffin paraganglioma, laryngeal |
| **Cases diagnosed prior to 1/1/2021:**<br>***Note 1:*** This neoplasm is only reportable when documented as malignant/invasive /3 behavior.<br>***Note 2:*** Cases diagnosed as malignant prior to 1/1/2021 should be reported as 8690/3. | |
| **Cases diagnosed 1/1/2021 forward:**<br>Note 1: The term "malignant" is no longer required to assign /3.<br>Note 2: Cases diagnosed 1/1/2021 forward are coded 8693/3 per ICD-O-3.2. | |
| ***Note 3:*** Vagal paraganglioma has the same proposed histology code as laryngeal paraganglioma. Laryngeal and vagal are in separate rows to emphasize the primary site. | |



# Head/Neck MP Rules

SP = single primary
MP = multiple primaries

| | | | |
|---|---|---|---|
| **Unknown if Single or Multiple Tumors** | | | |
| M1 | SP | Not possible to determine whether single or multiple tumors | |
| **Single Tumor** | | | |
| M2 | SP | Single tumor (not preceded by a tumor in same primary site) | |
| **Multiple Tumors** | | | |
| M3 | MP | Separate non-contiguous tumors | In **different** subsites of the **same** primary site (next slide) |
| M4 | MP | | In sites that differ at 2nd (C**X**xx) or 3rd (Cx**X**x) character |
| M5 | MP | | On both sides of a paired site (Table 10) |
| M6 | MP | Subsequent tumor after being clinically disease free for > 5 years | |
| M7 | MP | Separate non-contiguous tumors | That are ≥ 2 subtypes/ variants in column 3 of Table 3 |
| M8 | MP | | On different rows of Table 3 |
| M9 | SP | (The invasive) when in situ follows an invasive | Tumors must be in **SAME** primary site |
| M10 | SP | (The invasive) when invasive ≤ 60 days after in situ | |
| M11 | MP | Invasive > 60 days after in situ | |
| M12 | SP | Separate non-contiguous tumors in **SAME** site on **SAME** row of Table 3 | |
| M13 | SP | None of the previous rules apply | |

# Rule M3

| | MP when DIFFERENT Subsites (4th character) of SAME Primary Site | | | | |
|---|---|---|---|---|---|
| Sub. | .0 | .1 | .2 | .3 | .4 |
| C32._ | Glottis | Supraglottis | Subglottis | Cartilages | |
| C05._ | Hard palate | Soft palate | Uvula | | |
| C41._ | Maxilla | Mandible | | | |
| C31._ | Sinuses | | | | |
| | Maxillary | Ethmoid | Frontal | Sphenoid | |
| C30._ | Nasal cavity | Middle Ear | | | |
| C13._ | Postcricoid region | Hypopharyngeal aspect aryepiglottic fold | Posterior wall hypopharynx | | |
| C08._ | Glands | | | | |
| | Submandibular | Sublingual | | | |
| C03._ | Upper gum | Lower gum | | | |
| C00._ | Upper lip | Lower lip | | Mucosa of | |
| | | | | Upper lip | Lower lip |

# Rule M7

**Table 3** Tumors of Pyriform Sinus, Hypopharynx, Larynx, Trachea, and Parapharyngeal Space

| Specific or NOS Term and Code | Synonyms | Subtypes/Variants |
|---|---|---|
| **Adenoid cystic carcinoma 8200** | ACC (rare) | |
| **Chondrosarcoma 9220** | Chondrosarcoma grade 2/3<br>Chondrosarcoma NOS | |
| **Liposarcoma 8850** | Atypical lipomatous tumor<br>Well-differentiated liposarcoma | M7: MP when separate, non-contiguous tumors are different subtypes in column 3 (same NOS or different NOS) |
| **Squamous cell carcinoma (SCC) 8070** | Epidermoid carcinoma<br>Squamous cell carcinoma NOS | Adenosquamous carcinoma (ASC) **8560**<br>Basaloid squamous cell carcinoma (BSCC) **8083**<br>Lymphoepithelial carcinoma (LEC)/lymphoepithelioma-like carcinoma **8082**<br>Papillary squamous cell carcinoma (PSCC) **8052**<br>Spindle cell squamous cell carcinoma (SC-SCC) **8074**<br>Verrucous squamous cell carcinoma (VC) **8051** |
| **Well-differentiated neuroendocrine carcinoma 8240** | Carcinoid<br>Neuroendocrine carcinoma grade 1 | Large cell neuroendocrine carcinoma/LCNEC **8013**<br>Neuroendocrine carcinoma grade 2/moderately-differentiated neuroendocrine carcinoma/atypical carcinoid **8249**<br>Small cell neuroendocrine carcinoma/small cell carcinoma/SmCC **8041** |

# Rule M8

**Table 3** Tumors of Pyriform Sinus, Hypopharynx, Larynx, Trachea, and Parapharyngeal Space

| Specific or NOS Term and Code | Synonyms | Subtypes/Variants |
|---|---|---|
| **Adenoid cystic carcinoma 8200** | ACC (rare) | |
| **Chondrosarcoma 9220** | Chondrosarcoma grade 2/3<br>Chondrosarcoma NOS | |
| **Liposarcoma 8850** | Atypical lipomatous tumor<br>Well-differentiated liposarcoma | |
| **Squamous cell carcinoma (SCC) 8070** | Epidermoid carcinoma<br>Squamous cell carcinoma NOS | Adenosquamous carcinoma (ASC) **8560**<br>Basaloid squamous cell carcinoma (BSCC) **8083**<br>Lymphoepithelial carcinoma (LEC)/lymphoepithelioma-like carcinoma **8082**<br>Papillary squamous cell carcinoma (PSCC) **8052**<br>Spindle cell squamous cell carcinoma (SC-SCC) **8074**<br>Verrucous squamous cell carcinoma (VC) **8051** |
| **Well-differentiated neuroendocrine carcinoma 8240** | Carcinoid<br>Neuroendocrine carcinoma grade 1 | Large cell neuroendocrine carcinoma/LCNEC **8013**<br>Neuroendocrine carcinoma grade 2/moderately-differentiated neuroendocrine carcinoma/atypical carcinoid **8249**<br>Small cell neuroendocrine carcinoma/small cell carcinoma/SmCC **8041** |

M8: MP when S/N-C tumors are on **different** rows of any column



# Rule M12

**Table 3** Tumors of Pyriform Sinus, Hypopharynx, Larynx, Trachea, and Parapharyngeal Space

| Specific or NOS Term and Code | Synonyms | Subtypes/Variants |
|---|---|---|
| **Adenoid cystic carcinoma 8200** | ACC (rare) | |
| **Chondrosarcoma 9220** | Chondrosarcoma grade 2/3<br>Chondrosarcoma NOS | |
| **Liposarcoma 8850** | Atypical lipomatous tumor<br>Well-differentiated liposarcoma | |
| **Squamous cell carcinoma (SCC) 8070** | Epidermoid carcinoma<br>Squamous cell carcinoma NOS | Adenosquamous carcinoma (ASC) **8560**<br>Basaloid squamous cell carcinoma (BSCC) **8083**<br>Lymphoepithelial carcinoma (LEC)/lymphoepithelioma-like carcinoma **8082**<br>Papillary squamous cell carcinoma (PSCC) **8052**<br>Spindle cell squamous cell carcinoma (SC-SCC) **8074**<br>Verrucous squamous cell carcinoma (VC) **8051** |
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M12: SP when S/N-C tumors in **same** primary site are on the same row:
Same row = same histo (synonyms or preferred term in col 1 and synonym in col 2 ) **or** histo in col 1 + histo in col 3 **or** histo in col 2 + 1 histo in col 3

# Priority Order for Using Documents to ID Histology: Important Notes

**Code the histology:**

- Prior to neoadjuvant therapy
- Using priority list and H rules
- Do not change histo to make the case applicable to staging

***Exception:*** If the initial diagnosis is based on histology from **FNA, smears, cytology** or from a regional or metastatic site, and neoadjuvant treatment is given and followed by resection of primary site which identifies a different or specific histology, code the histology from the primary site



# Coding Histology: Important Notes

**Code most specific histology from either resection or biopsy:**

- Code the invasive when in situ and invasive in single tumor
- Discrepancy between bx and resection (2 different histos/different rows), code from most representative specimen (>est amount of tumor)

# Hierarchical List of Source Documentation

1. Tissue/path report from primary (listed in priority order)
   - Addendum
   - Final dx/CAP synoptic report
   - CAP protocol
2. Cytology (FNA of primary site)
3. Metastatic tissue
4. Imaging (CT > MRI > PET)
5. Physician documentation (listed in priority order)
   - Treatment plan
   - Tumor Board
   - Medical record referencing original pathology, cytology, or scan(s)
   - MD reference to histology



# Coding Histology – Single Tumor

1. Code the most specific histology or subtype/ variant, regardless of whether it is described as:

A. Majority or predominant part of tumor
B. Minority part of tumor
C. A component

Terms A-C must describe a carcinoma or sarcoma

2. Code histo described as differentiation or features only when there is a specific ICD-O code for the NOS w/ features or differentiation

# Coding Histology – Ambiguous Terms

**3. Code histology described by ambiguous terms only when the conditions in A or B are met:**

A. Only diagnosis available is one histology term described by ambiguous terminology (case accessioned based on ambiguous term) and no other histology is available

B. There is an NOS histology and a more specific histology (subtype/variant) histology described by ambiguous terminology AND

- Specific histology confirmed by a physician OR
- Patient is being treated based on the specific histology described by the ambiguous term



# Coding Histology – Single Tumor, cont.

| List of Ambiguous Terms | | |
|---|---|---|
| Apparently | Favor(s) | Probable |
| Appears | Malignant | Suspect(ed) |
| Comparable with | appearing | Suspicious |
| Compatible with | Most likely | (for) |
| Consistent with | Presumed | Typical (of) |

**4. DO NOT CODE histology when described as:**

- Architecture
- Foci; focus; focal
- Pattern

# Histologic Type

- Code the histology using:
  1. Tables 1-9 (Table 3 for Larynx)
  2. ICD-O-3.2 **ONLY IF** histology is not listed in Table 3
  3. Ask a SEER Registrar ONLY IF steps 1 and 2 fail to ID a histology code



# Histology Rules

| Single Tumor | Multiple Tumors Abstracted as a Single Primary |
|---|---|
| **H1**: Code histo when only 1 histo present | **H4**: Code histo when only 1 histo present *in ALL tumors* |
| **H2**: Code **invasive** histo when in situ and invasive histo present in *same tumor* | **H5**: Code **invasive** histo when in situ and invasive histo present in *ALL tumors or ≥ 1 tumors invasive and ≥ 1 tumors are in situ* |
| **H3**: Code the subtype/variant when *there is* a NOS and a single subtype/variant of that NOS | **H6**: Code the subtype/variant when *ALL tumors are* NOS and a single subtype/variant of that NOS |

# Histology – Table 3 STR

**Table 3: Tumors of Pyriform Sinus, Hypopharynx, Larynx, Trachea, and Parapharyngeal Space**

| Specific or NOS Term and Code | Synonyms | Subtypes/Variants |
|---|---|---|
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# Primary Site and Histology Fields

**Primary Site** _____

Text field _____

**Histology/behavior**_____

Text field _____

# Grade

## Grade Fields

For 2021, we have four grade fields!

- Grade Clinical
- Grade Pathological
- Grade Post Therapy Clin (yc) 
- Grade Post Therapy Path (yp)

# Grade Timeframes

- Grade **Clinical**
  - Info during "clinical" time frame
    - Usually bx or FNA
    - Before any treatment
- Grade Post-Therapy Clin (**yc**)
  - Info after neoadjuvant or primary systemic/RT
  - Bx or FNA

- Grade **Pathological**
  - Info from a primary tumor that has been resected
  - Includes clinical info
- Grade Post-Therapy Path (**yp**)
  - Info from resected tumor POST neoadjuvant
  - Includes yc info

Resection must meet AJCC surgical criteria for cancer site to assign grade pathological and grade post therapy

- Exception for pM1



# Grade Clinical Guidelines

- Cannot be BLANK
- Histological exam is done (FNA, biopsy, needle core biopsy, etc.)
- Assign highest grade from primary tumor during clinical time frame
- *Multiple tumors w/ different grades abstracted as a single primary, code the highest grade*
- Code 9 when:
  - Grade from primary site not documented
  - Clinical staging N/A (incidental finding)
  - Grade checked N/A on CAP Protocol
- If only 1 grade available, and unknown grade time frame, assign it to grade clinical, 9 to grade pathological, and blank for grade post therapy clin and path

# Grade Pathological Guidelines - 1

Guidelines are listed in **priority** order. Use the **first** one that applies.

- Cannot be BLANK
- Surgical resection performed
  - *When site has preferred grading system, but*
    - *Grade clin uses preferred system and grade path does not*
      - *Use generic grade category, if available for that site*
        - *Code 9 when no generic grade categories available*
  - Assign highest grade from PRIMARY tumor
    - *Multiple tumors w/ different grades abstracted as a single primary, code the highest grade*



# Grade Pathological Guidelines - 2

- Use **Grade Clinical** when:
  - Surgical resection performed and
    - Clinical grade is higher
      - *And behavior for*
        - *Clin and path dx are the same*
        - *Clin is invasive and path is in situ*
    - No grade documented on surgical resection
    - No residual cancer
  - *No surgical resection of primary tumor, but (+) microscopic confirmation of distant mets during clin timeframe*

# Grade Pathological Guidelines - 3

- Code **9** when:
  - Grade from primary site not documented (and no grade clinical)
  - No resection of primary tumor; clinical case only *(except when (+) distant mets found during clin timeframe)*
  - Neoadjuvant therapy administered
  - Grade checked N/A on CAP Protocol and no other info available
  - Clinical case only
  - Only 1 grade available & unknown if c, p, yc, or yp



# Grade Post-Therapy Clin (yc) Guidelines

- Leave BLANK when:
  - No neoadjuvant therapy
  - Clinical or pathological case only
  - Only 1 grade available & unknown if c, p, yc, or yp
- Assign highest grade from microscopically sampled primary tumor following neoadjuvant or primary systemic/RT
  - Multiple tumors w/ different grades abstracted as a SP, code the highest grade
- Code 9 when microscopic exam done post neoadjuvant tx and:
  - Grade from primary tumor not documented
  - No residual tumor
  - Grade checked N/A on CAP Protocol and no other info available

# Grade Post-Therapy Path (yp) Guidelines

- Leave BLANK when:
  - No neoadjuvant therapy
  - Clinical or pathological case only
  - Only 1 grade available & unknown if c, p, yc, or yp
- Assign highest grade from primary tumor that is resected AFTER neoadjuvant therapy completed
  - *Multiple tumors w/ different grades abstracted as a single primary, code the highest grade*
- Code 9 when surgical resection done post neoadjuvant tx and:
  - Grade from primary tumor not documented (and no yc grade)
  - No residual cancer
  - Grade checked N/A on CAP Protocol and no other grade information is available



# Larynx: Grade ID Table 01

| CODE | Grade Description |
|---|---|
| 1 | G1: Well differentiated |
| 2 | G2: Moderately differentiated |
| 3 | G3: Poorly differentiated,<br>(also undifferentiated, anaplastic per notes) |
| 9 | Unknown, can't assess |
| <Blank> | Only allowed in Grade Post Therapy (yc and yp) fields |

Same codes for Clinical, Pathological, and Post-Therapy (yc and yp) grade fields

## Grade Fields - Larynx

- Grade Clinical ____
  - No grade provided on biopsy
- Grade Pathological ___
  - G3 Poorly Differentiated
- Grade Post-therapy Clin ___
  - No neoadjuvant therapy
- Grade Post-therapy Path ___
  - No neoadjuvant therapy



# Summary Stage Extent of Disease AJCC

# Larynx

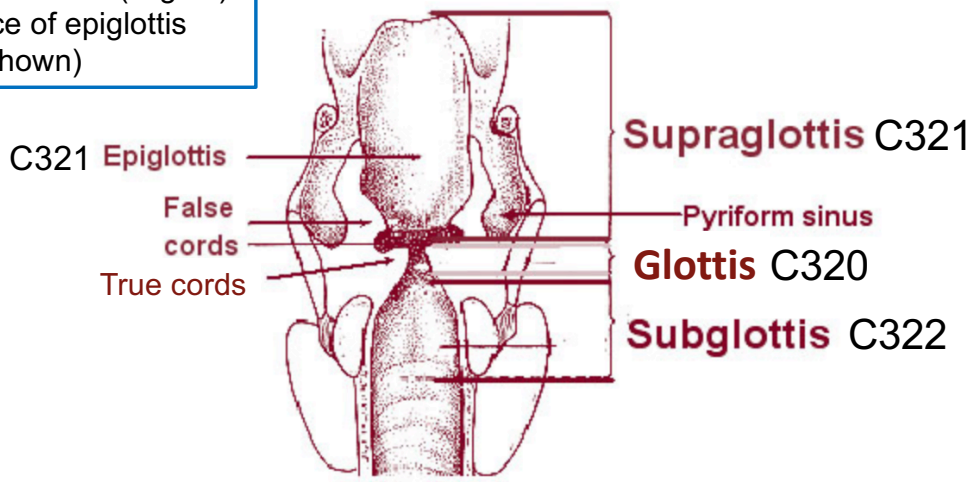
- Summary Stage 2018; EOD
  - Four separate chapters/Schemas
    - Glottis (C32.0)
    - Supraglottis (C10.1, C32.1)
    - Subglottis (C32.2)
    - Other (C32.3/cartilage, C32.8, C32.9)
- AJCC
  - One chapter



# ICD-O-3 Subsites of the Larynx

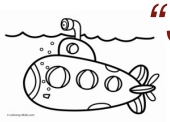
Posterior View

C101 Anterior (lingual) surface of epiglottis (not shown)




Avoid using **C32.8** and **C32.9**: Stage by location of tumor bulk or epicenter

SEER Training Modules, *Head & Neck Cancer*. U. S. National Institutes of Health, National Cancer Institute. 27 February 2021 <https://training.seer.cancer.gov/head-neck/anatomy/larynx.html>



# *"Subsites"* of the Glottis and Supraglottis (Not = different 4th character in ICD-O)

**C32.0 Glottis**

- Intrinsic Larynx
- Laryngeal Commissure
- Vocal [true] cord, NOS

**C32.2 Subglottis**

- No "subsites"

**C32.1 Supraglottis**

- Aryepiglottic fold
- Cartilage (C32.3)
  - Arytenoid
  - Corniculate
  - Cuneiform
  - Laryngeal, NOS
- Epiglottis NOS
  - Anterior surface (C10.1)
- Epilarynx
- Ventricular band of larynx
  - False [vocal] cord

**Epilarynx**
- Suprahyoid epiglottis,
- Aryepiglottic folds and
- Arytenoids



# SS2018 Notes

- **Impaired VC mobility** (VC paresis), may suggest invasion of intrinsic laryngeal muscle; **Fixation of the VC** may be described as immobility of the arytenoids noted on endoscopy, VC paralysis, or deviation of larynx to fixed side
- Code 1 for localized tumor only if no information is available to identify further extension
- Tumor limited to the larynx (code 1) includes tumor involving, but limited to, the supraglottis, glottis and subglottis.

# SS2018: 2021 Updates

- Larynx Subglottic (C322)
  - Descriptions moved from code 1 to code 2
    - Inner cortex of thyroid cartilage
    - Limited to larynx with vocal code fixation
    - Paraglottic space
  - Code 7: *Thyroid cartilage, outer cortex, NOS* (added)
- All 4 Larynx chapters
  - Carotid artery *(encased)*



# SS18 Code 1 – Larynx (All Chapters)

Localized only (localized, NOS)

| | Confined to | | | | | Limited to Larynx | | | | | | > 1 subsite of supraglottis and/or glottis | Adjacent region(s) larynx | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Supraglottis, NOS | One supraglottic subsite with normal vocal cord mobility | Epiglottis, NOS | Glottis, NOS | Subglottis, NOS | WITH vocal cord fixation | W/ or WITHOUT VC fixation | Intrinsic larynx | Laryngeal commissure(s) | VC(s) involved W/ or W/OUT normal VC mobility | VC(s), (true cord(s), true VC(s) NOS) | | Intrinsic muscle(s) of larynx | Subglottis | Supraglottis | Glottis | False cords: ventricular bands/ cavity/ vestibular fold |
| C10.1 | X | X | X | | | X | | | | | | X | | | | | X |
| C32.1 | X | X | X | | | X | | | | | | X | | | | | X |
| C32.0 | | | | X | | | X | X | X | X | X | | X | X | X | | X |
| C32.2 | | | | | X | | | | | | | | | | X | X | |
| C32.3, .8, .9 | | | | | | X | | | | | | | | | X | X | |

# SS18 Code 2 – Larynx (All Chapters)

| | BOT | *Buccal Mucosa* | Cricoid cartilage | *FOM* | *Gum/Gingiva* | Hypopharynx, NOS | Limited to larynx w/ VC fixation | *Nasopharynx* | Paraglottic space | Postcricoid area | Pre-epiglottic space | Pre-epiglottic tissues | *Pterygoid muscle* | Pyriform sinus (fossa) | *Soft palate* | Thyroid cart. (Inner cortex) | Vallecula | VC fixation w/ extension to structures in code 2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **C101** | X | X | X | X | X | X | | X | X | X | X | X | X | X | X | | X | X |
| **C321** | X | | X | | | X | | | X | X | X | X | | X | | | X | X |
| **C320** | X | | | | | X | | | X | X | X | X | | X | | X | X | |
| **C322** | X | | | | | X | X | | X | X | | X | | X | | X | X | |
| **C323** | X | | | | | X | | | X | X | | X | | X | | X | X | |
| **C328** | X | | | | | X | | | X | X | | X | | X | | X | X | |
| **C329** | X | | | | | X | | | X | X | | X | | X | | X | X | |

53

Italics represent Epiglottis (anterior surface, NOS) primaries only

# EOD Primary Tumor Codes - Larynx

| C320 | C321 C101 | C322 | C323 C328 C329 | Description |
|---|---|---|---|---|
| 250 | | 200 | 100 | Adjacent region(s) of larynx involved |
| | 700 | | | Anterior 2/3 of tongue (Epiglottis only) |
| 250 | 100 | | | Aryepiglottic fold |
| 250 | | | | Arytenoid cartilage |
| 500 | **250** | 500 | **200** | Base of tongue |
| | 700 | | | Bone (Epiglottis only) |
| 150 | | | | Both vocal cords w/ normal vocal cord mobility |
| 700 | 700 | 700 | 700 | Carotid artery (encased) |
| | 100 | | | Cartilage (arytenoid, corniculate, cuneiform, laryngeal, NOS) |
| | 100 | | | Confined to epiglottis, NOS |
| | 100 | | | Confined to supraglottis, NOS |
| 250 | | | | Corniculate tubercle |

54

Blue highlights: Code differences among larynx schemas
Yellow highlights: Code only applies to C10.1 (change for v2)

# EOD Primary Tumor Codes - Larynx

| C320 | C321 C101 | C322 | C323 C328 C329 | Description |
|---|---|---|---|---|
| | 100 | | | Epiglottis (infrahyoid, laryngeal [P] surface of epiglottis) |
| | 100 | | | Epiglottis (suprahyoid) (incl. tip, lingual [A] & laryng. surf.) |
| | 100 | | | Epilarynx, NOS |
| 600 | 600 | 600 | **700** | Esophagus |
| 600 | 600 | 600 | **700** | Extrinsic muscle(s) of tongue |
| **250** | **100** | | | False cords: ventricular bands/cavity/vestib. fold |
| 700 | 700 | 700 | 700 | Further contiguous extension |
| | | 200 | 100 | Glottis WITH normal or impaired mobility |
| 500 | **400** | 500 | **200** | Hypopharynx, NOS |
| 250 | | | | Impaired vocal cord mobility |
| 000 | 000 | 000 | 000 | In situ, intraepithelial, noninvasive |
| 200 | | | | Intrinsic larynx (i.e., ligaments beneath mucosa) |
| 300 | | | | Intrinsic muscle(s) of larynx |



Blue highlights show coding difference among schema.

# EOD Primary Tumor Codes - Larynx

| C320 | C321 C101 | C322 | C323 C328 C329 | Description |
|---|---|---|---|---|
| | 100 | | | Invasive tumor conf. to 1 subsite w/ normal VC mobility |
| 200 | | 100 | | Invasive tumor with normal vocal cord mobility |
| 200 | | | | Laryngeal commissure(s) (anterior, posterior) |
| 300 | | | | Limited to larynx WITH vocal cord fixation |
| | 200 | 200 | | Limited to larynx, NOS |
| **200** | 100 | 100 | 100 | Localized, NOS |
| | 700 | | | Mandible (Epiglottis only) |
| 700 | 700 | 700 | 700 | Mediastinal structure(s) |
| | 200 | | | >1 subsite of supraglottis listed in code 100 and/or glottis |
| | | | 800 | No evidence of primary tumor |
| 100 | | | | One vocal cord with normal vocal cord mobility |
| 600 | 600 | 600 | **700** | Oropharynx, NOS |



Blue highlights show coding difference among schema.

# EOD Primary Tumor Codes - Larynx

| C320 | C321 C101 | C322 | C323 C328 C329 | Description |
|---|---|---|---|---|
| 400 | 400 | 400 | **200** | Paraglottic space |
| | 700 | | | Parotid gland (Epiglottis only) |
| 500 | **400** | 500 | **200** | Postcricoid area |
| 500 | 400 | | | Pre-epiglottic space |
| 500 | **400** | 500 | **200** | Pre-epiglottic tissues |
| 700 | 700 | 700 | 700 | Prevertebral space |
| 500 | **250** | 500 | **200** | Pyriform sinus (pyriform fossa) |
| 600 | 600 | 600 | **700** | Skin |
| 600 | 600 | 600 | **700** | Soft tissues of neck |
| 600 | 600 | 600 | **700** | Strap muscle(s) |
| 250 | | | | Subglottis |
| 250 | 100 | 200 | 100 | Supraglottis WITH normal or impaired mobility |



Blue highlights: Code differences among larynx schemas
Yellow highlights: Code only applies to epiglottis (change for v2)

# EOD Primary Tumor Codes - Larynx

| C320 | C321 C101 | C322 | C323 C328 C329 | Description |
|---|---|---|---|---|
| | 700 | | | Parotid gland |
| 500 | **400** | 500 | **200** | Postcricoid area |
| 400 | **450** | 400 | **200** | Thyroid cart. (inner cortex) (minor erosion) |
| 600 | 600 | 600 | **700** | Thyroid cartilage (out. cortex, NOS) |
| 600 | 600 | 600 | **700** | Thyroid gland |
| 600 | 600 | 600 | **700** | Trachea |
| | 300 | 400 | 100 | Tumor limited to larynx with vocal cord fixation |
| | | 100 | | Tumor limited to the subglottis |
| 500 | **250** | 500 | **200** | Vallecula |
| | 400 | | | Vocal cord fixation of larynx with extension to structures listed in code 250 |
| 200 | | | | Vocal cord(s) (true cord(s), true vocal cord(s), NOS) |



Blue highlights show coding difference among schema.

# EOD Primary Tumor Codes – Larynx

For **epiglottis** (C10.1 anterior surface, NOS) primaries **only**

| C10.1 | Description |
|---|---|
| 500 | Buccal mucosa |
| 500 | Floor of mouth |
| 500 | Gum (gingiva) |
| 500 | Nasopharynx |
| 500 | Pterygoid muscle |
| 500 | Soft palate |



# AJCC Larynx 8th ed.

- 3 different "T" descriptions based on tumor location
  - Supraglottis (C321), glottis (C320), subglottis (C322)
  - C328 and C329: Stage by location of tumor bulk or epicenter
  - TX & Tis available for all subsites
  - Number of "subsites" involved
  - Mobility versus fixation of vocal cord
  - Invasion of adjacent tissues
  - Moderately versus very advanced
    - T4a moderately advanced
    - T4b very advanced

## SS18 Code 3 – Larynx (All Chapters)

- Level I, II, III, IV, V, VI, VII
- Other groups
  - Cervical NOS (nodes in the neck)
  - Facial
  - Internal jugular
  - Parapharyngeal
  - Parotid
  - Retroauricular
  - Retropharyngeal
  - Suboccipital
  - NOS



## EOD and AJCC: Regional Lymph Nodes

- AJCC: Separate clinical and pathological tables
- EOD: Different codes for clinical versus pathological assessment
- Same 4 criteria for classifying positive LNs
  - **Size:** ≤ 3cm, 3 – 6 cm, > 6 cm
  - **Number**: 1, > 1
  - **Laterality**: Ipsilateral, contralateral
  - **ENE**: Present, absent

# EOD Regional Nodes

## CLINICAL and PATHOLOGICAL Assessment RLNs

**New Note** 2: This schema has lymph node codes that are defined as "CLINICAL assessment only" or "PATHOLOGICAL assessment only."

**CLINICAL assessment only** (code 450) is used when there is a clinical work up only and there is no surgical resection of the primary tumor or site. This includes FNA, core biopsy, sentinel node biopsy, or lymph node excision

Remaining codes (no designation of CLINICAL or PATHOLOGICAL only assessment) can be used based on clinical and/or pathological information

**PATHOLOGICAL assessment only** codes (150, 500, 600, 700) are used when

- Primary tumor/site surgically resected w/
  - Any microscopic examination of regional lymph nodes. Includes
    - FNA, core biopsy, sentinel node biopsy or lymph node excision done during the clinical work up and/or
    - Lymph node dissection performed
- Primary tumor or site NOT surgically resected, but Lymph node dissection performed



# EOD Regional Nodes

CLINICAL or PATHOLOGICAL removed from code description in codes 100, 200, 250, 300, 400

| Code | Description: EOD Regional Nodes |
|---|---|
| 100 | ~~CLINICAL or PATHOLOGICAL~~<br>Metastasis in a SINGLE ipsilateral lymph node<br>3 cm or smaller in greatest dimension<br>Extranodal extension (ENE) negative or unknown |
| 200 | ~~CLINICAL or PATHOLOGICAL~~<br>Metastasis in SINGLE ipsilateral node<br>Larger than 3 cm but not larger than 6 cm in greatest dimension<br>Extranodal extension (ENE) negative OR unknown |
| 250 | ~~CLINICAL or PATHOLOGICAL~~<br>Metastasis in MULTIPLE ipsilateral nodes<br>No nodes larger than 6 cm in greatest dimension<br>Extranodal extension (ENE) negative or unknown |
| 300 | ~~CLINICAL or PATHOLOGICAL~~<br>Metastasis in bilateral or contralateral lymph node(s)<br>No nodes larger than 6 cm in greatest dimension<br>Extranodal extension (ENE) negative OR unknown |
| 400 | ~~CLINICAL or PATHOLOGICAL~~<br>Metastasis in a lymph node larger than 6 cm in greatest dimension<br>Extranodal extension (ENE) negative OR unknown |

# Larynx: EOD Regional Nodes

| Code | Size | # | Laterality | ENE | Timing |
|---|---|---|---|---|---|
| 100 | ≤ 3cm | 1 | Ipsilateral | -/? | c/p |
| 150 | ≤ 3cm | 1 | Ipsilateral | + | p |
| 200 | > 3 - 6cm | 1 | Ipsilateral | -/? | c/p |
| 250 | ≤ 6cm | > 1 | Ipsilateral | -/? | c/p |
| 300 | ≤ 6cm | ≥ 1 | Bi/Contra | -/? | c/p |
| 400 | > 6cm | 1 | Any | -/? | c/p |
| 450 | Any | Any | Any | + | c |
| 500 | > 3cm | 1 | Ipsilateral | + | p |
| 600 | Any | >1 | Any | + | p |
| 700 | Any | 1 | Contra | + | p |



# SS18 Code 7 - Larynx (All Chapters)

| | Anterior 2/3 tongue | Bone | Carotid artery (encased) | Cricoid cartilage | Esophagus | Extrinsic muscle tongue | Mandible | Mediastinal structure(s) | Oropharynx NOS | Parotid gland | Prevertebral space | Skin | Soft tissues of neck | Strap muscle(s) | Thyroid cartilage (inner, outer cortex, NOS | Thyroid cartilage (outer cortex, NOS) | Thyroid gland | Trachea | Distant LN | Mediastinal LN excluding Superior Level VII | Distant mets, NOS; Carcinomatosis |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **C101** | X | X | X | | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| **C321** | X | X | X | | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| **C320** | | | X | X | X | X | | X | X | | X | X | X | X | | X | X | X | X | X | X |
| **C322** | | | X | X | X | X | | X | X | | X | X | X | X | | X | X | X | X | X | X |
| **C323** | | | X | X | X | X | | X | X | | X | X | X | X | | X | X | X | X | X | X |
| **C328** | | | X | X | X | X | | X | X | | X | X | X | X | | X | X | X | X | X | X |
| **C329** | | | X | X | X | X | | X | X | | X | X | X | X | | X | X | X | X | X | X |



Gray shading: Applicable for epiglottis primaries only

# EOD Mets at Dx Codes – Larynx

Same in all 4 EOD Larynx schemas

| Code | Description |
|---|---|
| 00 | No distant metastasis |
| | Unknown if distant metastasis |
| 10 | Distant LN(s) |
| | Mediastinal (excluding superior mediastinal LN(s), Level VII, see EOD Regional Nodes) |
| | Distant lymph node(s), NOS |
| 70 | Carcinomatosis |
| | Distant metastasis WITH or WITHOUT LNs |
| | Distant metastasis, NOS |
| 99 | Death Certificate Only |



# AJCC Larynx 8th ed.

**Distant Mets**

- cM0
- c/pM1

## Larynx EOD and SS18 Fields

EOD Primary Tumor _____
(Thyroid cartilage, minor erosion)

EOD Regional Nodes _____
(2+ LNs, laterality ?, 3.1 cm, ENEmi)

EOD Mets _____
(no evidence of mets)

Summary Stage 2018 _____
(Thyroid cartilage, inner, outer, NOS)



## Larynx: AJCC Staging Fields

cT _____ (VC fixation)

cN _____ (Multiple LNs >3 cm, no ENE)

cM _____ (PET negative)

Prognostic Stage Group _____

pT _____ (VC fixation; Thyroid cartilage)

pN _____ (2+/11 LNs, ENE(+))

pM _____

Prognostic Stage Group _____

# Site Specific Data Items

## SSDI: Extranodal Extension

**Clinical**

- Clinical time frame
- PE, imaging*, bx LN, bx tissues surrounding LN
  - *Imaging alone not allowed
- MD statement can be used when no other info available

**Pathological**

- Pathological time frame
- Histopathological exam of surgically resected LNs
  - Do not base on FNA, core, incisional, excisional, or sn bx
- MD statement can be used when no other info available

# SSDI: Extranodal Extension Clinical

V2.0 Updated and New Notes for ENE Clinical

**Note 4**: Code 0 when lymph nodes are determined to be ***clinically positive*** and physical examination does not indicate any signs of extranodal extension (ENE)

**New Note 6**: ***Code 7 when***

- ***LNs are determined to be clinically negative***
- ***Behavior /2 (in situ)***

Code 7 does *not* apply to tumors that are:

Invasive clinically and in situ on resection

**OR**

In situ tumors that have positive nodes (/3)

In situ tumor (/2) cannot have positive LNs



# SSDI: ENE Clinical

Only use codes 0-4 when LNS are clinically (+)

| Code | Description |
|---|---|
| 0 | RLN involved, ENE **not** present/not identified during workup |
| 1 | RLN involved, ENE present/identified during workup (based on PE W/ or W/O imaging |
| 2 | RLN involved, ENE present/identified during workup, based on micro confirm |
| ***4*** | ***RLN involved, ENE present/identified, unknown how identified*** |
| 7 | No LN involvement during workup (cN0); ***In situ tumor(s) per Note 6*** |
| 8 | N/A Info not collected for this case |
| 9 | Not documented in med record;<br>ENE not assessed during workup or unk<br>Clinical assessment LN not done, unk if done |

# SSDI: ENE Pathological

## V2.0 Updated Note for ENE Path

**Note 2**: Code the status of ENE assessed on histopathological examination of surgically resected involved regional lymph node(s). Do not code ENE from a lymph node biopsy (FNA, core, incisional, excisional, sentinel). Do not code ENE for any distant lymph nodes.

- *If codes 0.0-9.9 or X.1-X.7 are used, this indicates that the LNs were surgically resected and Scope of Regional Lymph Node Surgery must be 3-7*
  - New edit implemented (2021+)



# SSDI: ENE Pathological

| Code | Description |
|---|---|
| 0.0 | LN positive CA but ENE not identified or neg |
| 0.1 – 9.9 | ENE 0.9 to 9.9 mm |
| X.1 | ENE 10mm or greater |
| X.2 | ENE microscopic, size unk. Stated as ENE (mi) |
| X.3 | ENE major, size unk. Stated as ENE (ma) |
| X.4 | ENE present, micro or major unk, size unk |
| X.7 | Surgically resected reg LN negative (pN0) |
| X.8 | N/A Info not collected for this case |
| X.9 | Not documented in med record<br>No surgical resection reg LN<br>ENE not assessed path or unk if done<br>Path assessment LN not done, unk if done |

## SSDI: LN Size

- MD statement can be used when no other info available
- If the SAME largest RLN (or same level) is examined both clinically and pathologically, record the size from the pathology report, even if it is smaller
- If largest RLN is not examined pathologically, use the clinical size



## SSDI: LN Size

| Code | Description |
|---|---|
| 0.0 | No involved reg LN |
| 0.1 – 99.9 | 0.1 – 99.9 mm (exact size LN to nearest tenth mm) |
| XX.1 | 100 mm or greater |
| XX.2 | Micro focus/foci only, no size |
| XX.3 | Described as “< 1 cm” |
| XX.4 | Described as “at least” 2 cm |
| XX.5 | Described as “at least” 3 cm |
| XX.6 | Described as “at least” 4 cm |
| XX.7 | Described as > 5 cm |
| XX.8 | N/A, info not collected |
| XX.9 | Not documented in med record: RLN involved, size unk; LN size not assessed or unk |

## SSDI Fields - Larynx

- Extranodal Extension
  - Clinical _____
    - No evidence of clinical ENE
  - Pathological _____
    - Single microscopic focus
- LN Size (mm) _____
  - 3.1 cm per pathology



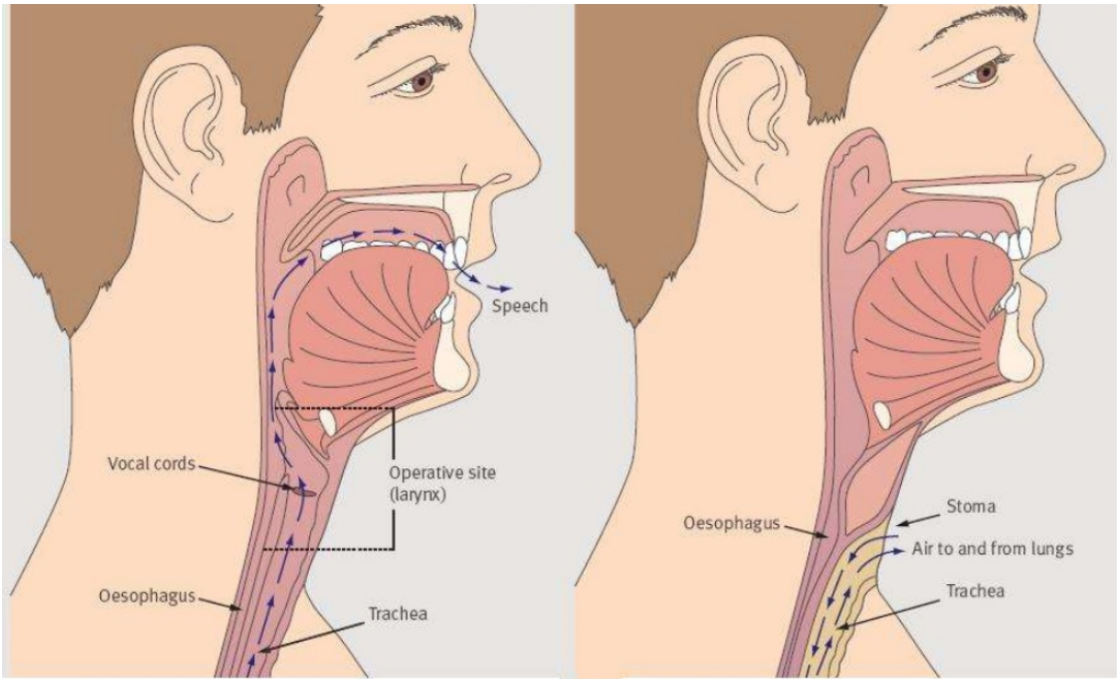
# Treatment

# Surgery

- Larynx-preserving surgery (conservation)
  - Transoral laser microsurgery
  - Vertical partial laryngectomy
  - Supracricoid partial laryngectomy
  - CIS, T1-2 N0, some T3 N0 cases
- Total laryngectomy, thyroidectomy, neck dissection
  - Some T3 N0
  - T3 N1-3
  - T4a N0-3



# Before & After Laryngectomy






https://www.slideshare.net/rinkivarindani/the-laryngectomy-patient

# Types of Laryngectomy

Partial laryngectomy

- Supraglottic – removes area above vocal folds
- Cordectomy – removal of vocal fold
- Vertical hemilaryn-gectomy – removal of 1 side of larynx
- Supracricoid – removal of vocal folds and area surrounding them

Total laryngectomy

- Removes entire larynx, creates stoma/tracheostomy

Laryngopharyngectomy

- Removes entire larynx, vocal folds, part/all pharynx, reconstruct pharynx w/skin flaps



# Transoral Laser Microsurgery (TLM)

- Used for early-stage cancers
- Microscope + $CO_2$ laser removes portion endolarynx but leaves cartilaginous support structure
- May not need tracheotomy
- Needs close follow-up

# Neck Dissection Classifications

Radical neck dissection

- Since 1906
- En bloc excision all fibrofatty tissue from one side of neck (incl. levels I – V, paraparotid gland LN, spinal accessory nerve, internal jugular vein, sternocleido-mastoid muscle

Modified radical neck dissection

- Level I – V LN, preservation of 1 or more of: spinal accessory nerve, internal jugular vein or sternocleidomastoid muscle



# Neck Dissection Classifications

Selective neck dissection

- Remove one or more LN groups
  - Supraomohyoid (levels I, II, III)
  - Lateral (levels II, III, IV)
  - Anterior compartment (level VI)
  - Posterolateral (levels II, III, IV, V)

Extended neck dissection

- Excision any LN mentioned already PLUS
- Retropharyngeal LN
- Hypoglossal nerve
- Portions of prevertebral muscle
- Carotid artery

## Surgery – New Ideas

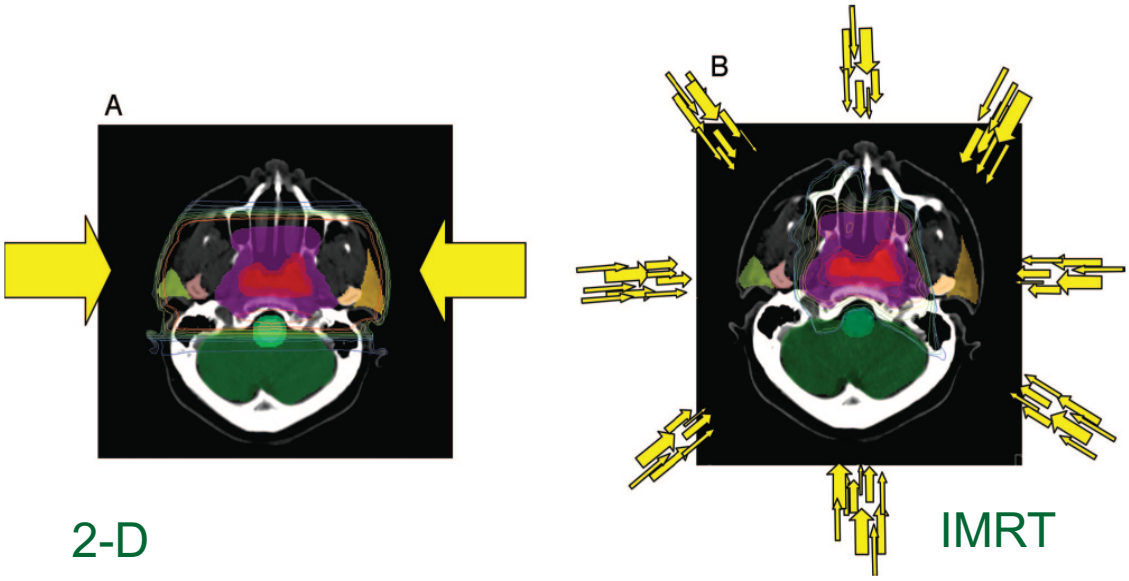
- Sentinel LN mapping
  - Could be done for cN0 neck patients
- TORS (transoral robotic surgery)
  - Mouth, throat, tongue, tonsil cancer
  - More common now



## Radiation

- Usual dose 1.8 – 2.0 Gy/day
- Hyperfractionation
  - 1.1 to 1.2 Gy/day b.i.d.
  - 1.6 Gy/day b.i.d. with 2 week break
  - 1.8 Gy/day with boost 1.5 Gy last 12 days
- Side effects of RT? Xerostomia, salivary gland dysfunction (DDS evaluation 1st)
- May need speech therapy

# Radiation for Head & Neck






# Radiation therapy – New Ideas

- Stereotactic radiosurgery
  - Especially recurrent tumors
- Proton beam therapy
- Beam therapy
  - Lower dose for HPV + tumors?
    - Phase II study results good for 60Gy + low dose Cisplatin (JCO Aug 2019)

# Types of Chemotherapy

Single drugs

- Bleomycin
- Camptosar (Ifosfamide)
- Carboplatin
- Cisplatin
- Docetaxel (Taxotere)
- 5FU
- Irinotecan
- Methotrexate
- Paclitaxel (Taxol)
- Vinorelbine (Navelbine)

Combinations

- 5FU/Cisplatin
- Docetaxel/Platinum
- Docetaxel/5FU
- Docetaxel/5FU/Platinum



# Drug therapy – New Ideas

- Chemo – injected right into the tumor
  - Needs special gel configuration
- Targeted
  - EGFR: cetuximab (Erbitux), erlotinib (Tarceva) panitumumab (Vectibix), lapatinib (Tykerb)
  - Anti-angiogenesis: bevacizumab (Avastin), sunitinib (Sutent)

## Immunotherapy

- Anti-PD-L1 agents
  - Clinical Trials 2016
  - pembrolizumab (Keytruda)
  - nivolumab (Opdivo)
  - durvalumab (Imfinzi)



## Adverse Features

- Extracapsular LN extension
- Positive surgical margin
- pT3 or pT4
- N2 or N3
- LN + level IV or V
- Perineural invasion
- Lymphovascular invasion

# When to Look for More Tx?

- Larynx
  - Adverse features
    - Extracapsular LN extension ⟶ ChemoRT
    - + surgical margin ⟶ re-surgery OR RT



# FABULOUS PRIZES




7

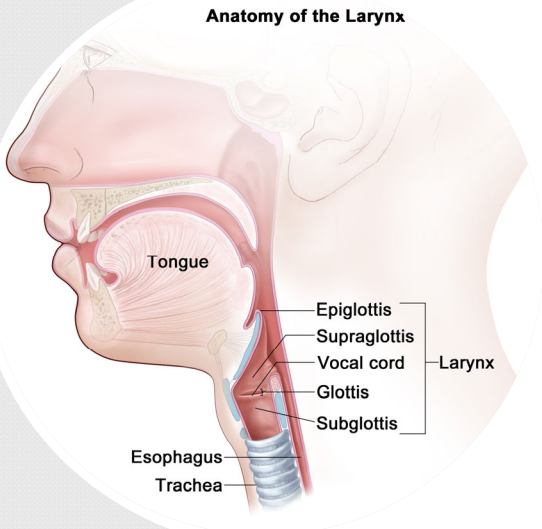
# COMING UP!

- 5/6/21 Pancreas 2021
  - Jim Hofferkamp, CTR
- 6/10/21 Kidney 2021
  - Denise Harrison, CTR
  - Louanne Currence, RHIT, CTR

8

## CE'S

- Phrase
- Link




# THANK YOU

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