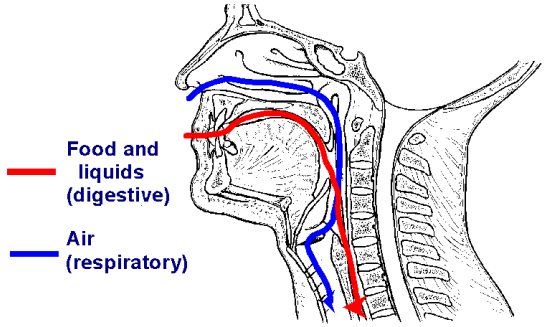
Head & Neck Cancer

Changes in 2018

1

Two Routes to Cover



2

Head and Neck Risk Factors

- Tobacco (smoking, chewing, dipping snuff)
- Alcohol
- Chewing betel nut products (Asia & So Pacific)
- Men > women
- Blacks > whites
- Age > 45
- Environmental exposure to carcinogens
- Poor oral hygiene

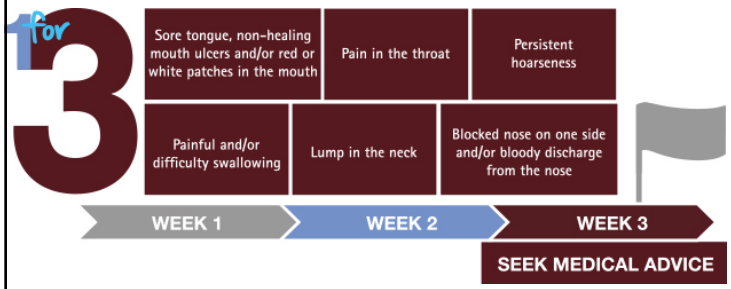
3

Head and Neck Risk Factors cont.

- Lip
  - Sun exposure
  - Chronic irritation
  - Direct contact with tobacco
- Nasopharynx
  - Chinese/Asian ancestry
  - Epstein-Barr virus exposure
  - Familial clusters
- Salivary glands
  - Prior radiation to the head and neck

4

Symptoms

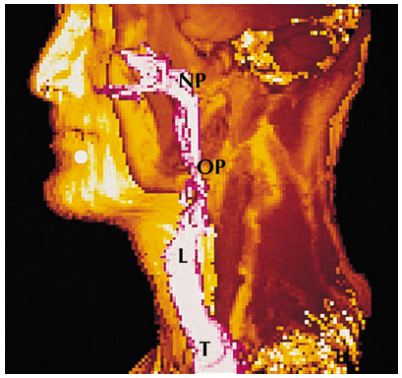


Makes sense campaign EHNS

5

WORKUP

- PE
  - Palpation
  - Indirect mirror
- Radiology
  - CT, MRI, PET
- Biopsy
- Endoscopy



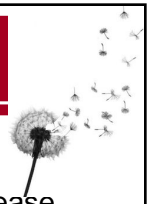
oto.wustl.edu

6

Which Test is Best?

	CT scan	MRI	PET
PROS	Rapid acquisition time Patient tolerance Superior bone detail	Multiple planes assess tumor volume Superior soft tissue resolution No IV contrast	Entire body May delineate questionable findings from other scans
CONS	IV contrast with allergy concerns Poor soft tissue contrast Metallic dental appliances interfere	Patient movement distorts Bone detail inferior Longer time for patient Any metal may preclude	Cost Availability Equivocal results may not be helpful

Field Cancerization



- "Histologically altered epithelium"
  - Multiple patches of pre-malignant disease
  - Prevalence of multiple local second primary tumors
  - Presence of synchronous distant tumors
- Genetically related or Clonal

8

Solid Tumor Rules 2018

Equivalent Terms and Definitions

9

Head and Neck Cancer Factoids

- 15% H/N patients have second primary at diagnosis
- 10-40% develop subsequent primary
- Most common pathology in H&N area?

10

Changes from the 2007 MPH Rules

- New sites added
  - 2 bone sites, mandible C410 and maxilla C411
  - External ear C442
  - Autonomic nervous system C479 for paragangliomas which are reported as malignant
- Basal cell carcinoma and all non-malignant neoplasms are excluded

11

Equivalent or Equal Terms

- Adenocarcinoma; adenocarcinoma NOS; carcinoma; carcinoma NOS
- And; with (only when describing >1 histology in a single tumor)
- Contiguous; continuous
- Malignant hemangioendothelioma
- In situ; noninvasive; intraepithelial
- Malignant tumor; malignant mass; malignant lesion; malignant neoplasm
- Simultaneous; existing at the same time; concurrent; prior to first course treatment
- Site; topography
- Squamous cell carcinoma; squamous carcinoma; squamous cell epithelioma; epidermoid carcinoma
- Squamous cell carcinoma with sarcomatoid features; sarcomatoid squamous cell carcinoma
- Squamous cell carcinoma with verrucous growth pattern; squamous cell carcinoma
- Tumor; mass; tumor mass; lesion; neoplasm

12

Terms That are NOT Equivalent

- Component ≠ subtype/variant
  - Component only coded when pathologist specifies the component is a second carcinoma
- Squamous cell carcinoma with prominent keratinization 8070 ≠ keratinizing squamous cell carcinoma 8071
- Fibromyxosarcoma 8811 ≠ myxofibrosarcoma 8830
- Salivary gland adenocarcinoma 8140 ≠ salivary duct carcinoma 8500

13

Instructions for Coding Primary Site

1. Tumor board (specialty **>** general)
2. Tissue/path from resection or bx
   - Op report **>** addendum/comments on path **>** final dx **>** CAP protocol/summary
3. Scans (CT **>** MRI **>** PET)
4. Physician documentation
   - MR reference from original path, cytology, or scans **>** physician reference to primary site
5. Tables 2-10 when a single lesion overlaps 2 or more sites (compare histologies for each involved site)

14

Instructions for Coding Primary Site cont.

6. When primary site cannot be determined using previous instructions, code overlapping lesion as follows:
   - C028 Overlapping lesion of tongue (See Table 5 for subsites of the tongue)
   - C088 Overlapping lesion of major salivary glands (See Table 7 for specific salivary glands)
   - C148 Overlapping lesion of lip, oral cavity and pharynx
     - Note: Codes and terms for overlapping lesions C__.8 are **not** included in the tables

15

Instructions for Coding Primary Site cont.

7. Code the NOS region
   - C069 Mouth NOS (See Table 5)
   - C089 Major Salivary Gland NOS (See Table 7)
   - C099 Tonsil NOS (See Table 6)
   - C109 Oropharynx NOS (See Table 6)
   - C119 Nasopharynx NOS (See Table 3)
   - C139 Hypopharynx NOS (See Table 4)
   - C140 Pharynx NOS (includes oro-, naso-, & hypopharynx)
   - C760 Head, face, or neck NOS (organs involved unknown/not documented)

16

Table 1. Contiguous Sites

Table removed from final rules with the following statement:

This is a reference table currently under development. It is not used to determine multiple primaries or to assign histology.

17

Tables 2 – 10 Site Groups

2. Nasal cavity, Paranasal sinuses
3. Nasopharynx
4. Pyriform sinus, Hypopharynx, Larynx, Trachea, Parapharyngeal space
5. Oral cavity, Mobile tongue
6. Oropharynx, BOT, Tonsils
7. Salivary glands
8. Odontogenic, Maxillofacial bone
9. Ear, External auditory canal
10. Paraganglioma C75.5

18

Structure of Tables 2-10 (Excerpt from Table 2)

Specific or NOS Term and Code	Synonyms	Subtypes/Variants
Adenocarcinoma 8140 *Note:* Adenocarcinoma intestinal-type of the sinonasal tract is morphologically similar to adenocarcinomas of the intestines	Adenocarcinoma non-intestinal type Low-grade adenocarcinoma Renal cell-like carcinoma Seromucinous adenocarcinoma TAC Terminal tubulous adenocarcinoma Tubulopapillary low-grade adenocarcinoma	Adenocarcinoma intestinal type (ITAC) **8144** Colloid-type adenocarcinoma **8144** Colonic-type adenocarcinoma **8144** Enteric-type adenocarcinoma **8144**
Lymphoepithelial carcinoma 8082	LEC Lymphoepithelioma-like carcinoma	
Malignant peripheral nerve sheath tumor 9540/3	Malignant neurilemmoma Malignant schwannoma MPNST Neurofibrosarcoma	

19

Table 11: Paired Sites

Laterality required for **all** sites listed on Table 11.
SEER **does** allow laterality code if NOT on the table
Rule **M5** – multiple primaries when tumors are on both sides

Paired Sites	Site Code
Frontal sinus	C312
Maxillary sinus	C310
Middle ear	C301
Nasal cavity (excluding nasal cartilage, nasal septum)	C300
Overlapping lesion of tonsil	C098
Parotid gland	C079
Sublingual gland	C081
Submandibular gland	C080
Tonsillar fossa	C090
Tonsillar pillar	C091
Tonsil NOS	C099

20

Solid Tumor Rules 2018

Multiple Primary Rules

21

Head and Neck MP Rules

Unknown if Single or Multiple Tumors

M1 Not possible to determine if single or mult tumors **=** single

Single Tumor

M2 Single tumor **=** single

Multiple Tumors

M3 Multiple if separate/non-contiguous tumor on both:

- Upper lip C000 or C003 AND lower lip C001 or C004 **OR**
- Upper gum C030 AND lower gum C031 **OR**
- Nasal cavity C300 AND middle ear C301

22

Head and Neck MP Rules cont.

M4 Multiple when separate/non-contiguous tumors in sites that differ at 2nd C**X**xx or 3rd Cx**X**x characters

M5 Multiple when separate/non-contiguous tumors on both sides of a paired site

M6 Multiple when subsequent tumor after being clinically dz free for > 5 yrs

- When recurrence < 5 yrs, clock starts over

M7 Multiple when separate/non-contiguous tumors are 2 or more subtypes/variants in column 3 of appropriate table (2-10)

23

Head and Neck MP Rules cont.

M8 Multiple when separate/non-contiguous tumors are on different rows in column 3 of appropriate table (2-10)

M9 Single (the invasive) when in situ follows an invasive

M10 Single (the invasive) when invasive ≤ 60 days after in situ

M11 Multiple when invasive > 60 days after in situ

M12 Single when separate/non-contiguous tumors are on same row in column 3 of appropriate table (2-10)

M13 Single when none of rules 1-13 apply

24

Solid Tumor Rules 2018

Histology Rules

25

Priority Order for Using Documentation to Identify Histology

Code the most specific histology from either resection or biopsy (usually subtype/variant).

1. Biomarkers
2. Tissue or Path report
   - Addendum/comments
   - Final dx
   - CAP Protocol
3. Metastatic tissue
4. Scans
   - CT > MRI > PET
5. Physician documentation
   - Tumor board
   - MR documentation referencing original path, cytology, or scan(s)
   - Physician reference to a type of cancer

26

Coding Multiple Histologies

DO code when

- Exact term is documented
- Described as
  - Subtype
  - Type
  - Variant

- **DO NOT** code when:
  - Architecture
  - Differentiation**
  - Features (of)**
  - Foci; focus; focal
  - Major/majority of
  - Pattern(s)
  - Predominantly
- *MAY use ** if specific code includes that term*

27

Coding Multiple Histologies

Do **NOT** Code if modified by Ambiguous Terms

Apparent(ly)	Malignant appearing
Appears	Most likely
Comparable with	Presumed
Compatible with	Probable
Consistent with	Suspect(ed)
Favor(s)	Suspicious (for)
	Typical (of)

SEER & CoC Manuals allow these terms for determining reportability ONLY

28

Histology Rules – Single Tumor

H1 Code histo when only 1 histo present

H2 Code invasive histo when in situ and invasive in the same tumor

H3 Code subtype/variant when NOS and a single subtype/variant of that NOS

29

Histology Rules - Multiple Tumors Abstracted as a Single Primary

H4 Code histo when 1 histo type in ALL tumors

H5 Code invasive histo when:

- ALL tumors have both invasive & in situ OR
- ≥ 1 tumor is invasive and ≥ 1 tumor is in situ

H6 Code subtype/variant when NOS and a single subtype/variant of that NOS in ALL tumors

30

SEER Summary Stage 2018

31

Regional Lymph Nodes for Head and Neck Primaries - Good News!

- Effective with AJCC 7th edition (2010), Level I-Level VII and "other" RLNs in the head and neck region were made regional for **all** head and neck subsites.
- For Summary Stage 2018, the head and neck nodes listed on the following 3 slides, which are RLNs for AJCC 8th edition, are also RLNs for **all** head and neck sites (C00-C14, C30-C33) and include *Single*, *Multiple*, *Bilateral* and *Contralateral* LNs.
- All SS2018 chapters use the **SAME** RLN list!

32

SEER Summary 2018 Regional LN for Head & Neck

Level I
- IA Submental
- IB Submandibular (submaxillary), sublingual

Level II Upper jugular
- Jugulodigastric
- Upper deep cervical
- IIA – anterior
- IIB – posterior

Level III Middle jugular
- Middle deep cervical

Level IV Lower jugular
- Jugulo-omohyoid
- Lower deep cervical
- Virchow node

Level V Posterior triangle group
- Posterior cervical
- Level VA Spinal accessory
- Level VB Transverse cervical, supraclavicular

33

SEER Summary 2018 Regional LN for Head & Neck cont.

Level VI Anterior compartment group
- Laterotracheal
- Paralaryngeal
- Paratracheal (above suprasternal notch)
- Perithyroidal
- Precricoid (Delphian)
- Prelaryngeal
- Pretracheal (above suprasternal notch)
- Recurrent laryngeal

Level VII Superior mediastinal group (*other mediastinal nodes are distant*)
- Esophageal groove
- Paratracheal (below suprasternal notch)
- Pretracheal (below suprasternal notch)

34

SEER Summary 2018 Regional LN for Head & Neck cont.

Other Groups
- Cervical NOS
- Deep cervical NOS
- Facial
  - Buccinator (buccal)
  - Mandibular
  - Nasolabial
- Internal jugular NOS
- Parapharyngeal
- Parotid
  - Infra-auricular
  - Intraparotid
  - Periparotid
  - Pre-auricular
- Retroauricular (mastoid)
- Retropharyngeal
- Suboccipital

35

Distinguishing In Situ vs Local for Lip, Oral Cavity, and Pharynx

PRIMARY SITE	ICD-O-3	MUCOSA (includes basement membrane)		SUBMUCOSA	MUSCULARIS PROPRIA	SEROSA
LIP	C00_	YES	YES	YES	YES	NO
TONGUE ANTERIOR	C01_, C02-	YES	YES	YES	YES	NO
GUM	C03_, C062	YES	YES (muco-periosteum)	NO	NO	NO
FLOOR of MOUTH	C04_	YES	YES	YES	YES	NO
BUCCAL MUCOSA	C060, C061	YES	YES	YES	YES	NO
HARD PALATE	C050	YES	YES	NO	NO	NO
OTHER MOUTH	C058, C059, C068, C069	YES	YES	YES	YES	NO

Table adapted from *Summary Stage 2018 Coding Manual v1.1*, page 6

Historically, CA "confined to mucosa" = 1; with SS2018, if tumor:
- Is confined to epithelium = 0, in situ
- has penetrated basement membrane = 1, local

36

New! Cervical LNs and Unknown Primary Tumors of Head and Neck

- Histologies: 8000-8700, 8720-8790, 8941, 9700-9701
- Schema Discriminator 1 Occult Head and Neck Lymph Nodes
- Primary Site: C760 Head, face & neck, NOS
- Codes 0, 1, 2, and 4 are not applicable

37

AJCC 8th Edition

38

New and Split Chapters

- Cervical LN and Unknown Primary (Ch 6)
- Oral Cavity (Ch 7)
  - Removed Lip (C00.0-C00.2, C00.6) - see Ch 15
- Pharynx chapter now divided into 3
  - Nasopharynx (Ch 9)
  - HPV-mediated (p16+) Oropharyngeal Cancers (Ch 10)
  - Oropharynx & Hypopharynx (Ch 11)

39

New and Split Chapters cont.

Cutaneous Squamous Cell Carcinoma of the Head and Neck (Ch 15)

Staged w/ Ch 15: cutaneous CSCC and all other non-melanoma skin carcinomas of the head and neck (except Merkel cell CA)

- External lip (C00.0 – C00.2)
- Commissure (C00.6)
- Skin of Lip (C44.0)
- External ear (C44.2)
- Other skin of face (C44.3)
- Skin scalp & neck (C44.4)
- Overlapping lesion of the skin (C44.8)

40

"T0" Categories in Head and Neck

- T0 = no primary tumor identified
  - **T0** only in **3** Head and Neck chapters
    - Nasopharynx (Ch 9) for EBV-related
    - Oropharynx (Ch 10) for HPV-mediated
    - Salivary Glands (Ch 12) - unique histology

41

Cervical LN & Unknown Primary Tumors Head & Neck cont.

AJCC Chapter Selection

- If LN p16+, stage w/Oropharynx p16+ chapter; T = T0; site = C10.9
- If LN EBV+ (may also be p16+), stage w/Nasopharynx chapter; T = T0; site = C11.9
- If LN P16- and EBV- **OR** not tested, use Cervical LNs chapter (Ch 6)

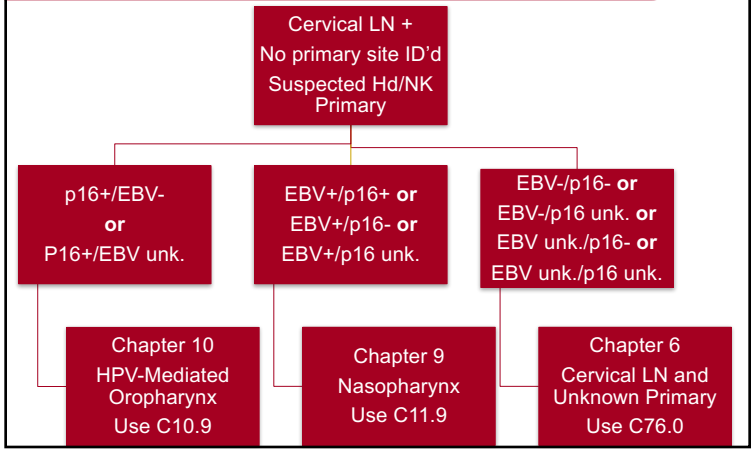
Clinical Staging LN

- FNA, needle biopsy, excisional bx of a LN, SLN

Pathological Staging LN usually LN dissections

42

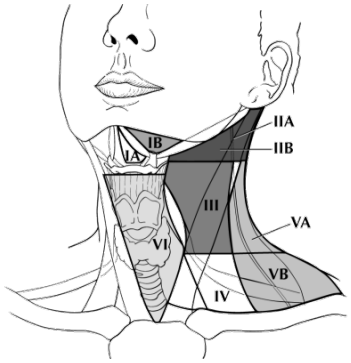
Unknown Head and Neck Primaries Chapter & Topography Code Selection



Head and Neck Lymph Nodes

44

Regional Lymph Nodes Head & Neck



Compton, C.C., Byrd, D.R., et al., Editors. AJCC Cancer Staging Atlas, 2nd Edition. New York: Springer, 2012. ©American Joint Committee on Cancer

- Need size of LN or LN masses (NOT mets)
- Midline = Ipsilateral
- Tables 5.1 and 5.2 in Ch 5, AJCC 8th edition define LN levels & boundaries

45

Regional Lymph Nodes Head & Neck cont.

- LN Groups Defined by Their Specific Anatomic Location
- Number of LNs are counted toward the N category; however, they are listed separately using the following descriptors.
  - Suboccipital
  - Retropharyngeal
  - Parapharyngeal
  - Buccinator (facial)
  - Supraclavicular
  - Preauricular
  - Periparotid and Intraparotid

46

LN Mets at Diagnosis

- Pyriform sinus – 70%
- Postcricoid area – 40%
- Posterior hypopharynx – 50%
- Nasopharynx – 75%
- Tonsil – 70%
- Base of tongue – 70%
- Soft palate – 30-65%
- Pharyngeal wall – 30-65%

47

Relationship Primary to Nodes

Submental (level I)	Anterior alveolar ridge, FOM, lower lip, anterior tongue,
Submandibular (level I)	Maxillary sinus, nasal cavity, oral cavity, submandibular gland
Level II	Nasal cavity, oral cavity, parotid gland, pharynx
Level III	Larynx, oral cavity, pharynx
Level IV	Cervical esophagus, hypopharynx, larynx
Level V	Nasopharynx, oropharynx
Level VI	Cervical esophagus, larynx (glottis, subglottis), pyriform sinus (apex), thyroid
Level VII	Thyroid

48

Assessment of Head and Neck RLNs

- Status of RLNs in head & neck cancers is of such prognostic importance, cervical LNs must be assessed for each patient and tumor
- Size of the nodal masses should be measured
- Histopathologic exam to exclude presence of tumor in LNs for pN0
- Pathological exam to document:
  - location or level of involved LNs
  - number of positive LNs
  - Presence/absence of ENE

49

Head and Neck LN Categories

- Standard LN definitions for all Head and Neck chapters **except** Chs 9, 10, and 14)
- **Separate** clinical and pathological N tables
- Chapter 9 – Nasopharynx
  - Uses **same** table for clinical and pathological N tables
- Chapter 10 – HPV-Mediated (p16+) OPC Cancers
  - **Separate** clinical and pathological N tables
- Chapter 14 – Mucosal Melanoma of the Head & Neck (same table NX, N0, & N1)

50

Definition of Head & Neck RLNs (Except Chs 9 and 10)

	ENE Neg			ENE Pos		
LN Size	≤ 3 cm	>3 – 6 cm	> 6 cm	≤ 3 cm	>3 – 6 cm	> 6 cm
IPSI						
Single	c/p N1	c/p N2a	c/p N3a	cN3b pN2a	c/p N3b	c/p N3b
Multi	c/p N2b	c/p N2b	c/p N3b	c/p N3b	c/p N3b	c/p N3b
Contra						
Single	cN2c pN2a	c/p N2c	c/p N3a	cN3b pN2a	c/p N3b	c/p N3b
Multi	c/p N2c	c/p N2c	c/p N3b	c/p N3b	c/p N3b	c/p N3b

Clinical and Pathological RLN Categories – Nasopharynx (Ch 9)

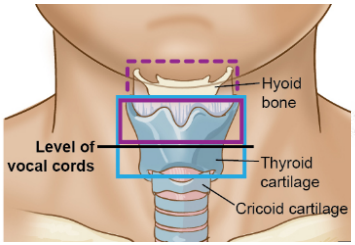
N	Criteria
NX	Regional LN cannot be assessed
N0	No regional LN mets
N1	Unilateral mets cervical LN, **and/or** unilateral/bilateral retropharyngeal LN, ≤ 6 cm, **above** caudal border of cricoid cartilage
N2	Bilateral mets in cervical LN, ≤ 6 cm, **above** caudal border of cricoid cartilage
N3	Unilateral or bilateral mets in cervical LN > 6 cm and/or extension **below** caudal border of cricoid cartilage

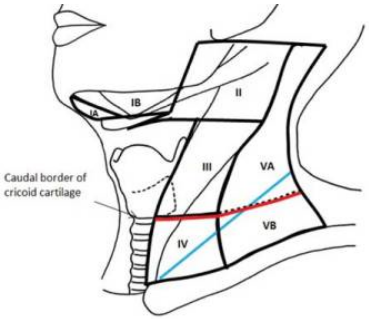
- N categories based on laterality (for N1 cervical LNs), location, and size.
- ENE does not matter.

52

Cricoid Cartilage

N3 - below the caudal border of the cricoid cartilage





headandneckcancerguide.org/

53

Clinical & Pathological RLN Categories – HPV-Mediated OPC (Ch 10)

N	Clinical N Criteria	Pathological N Criteria
NX	RLN cannot be assessed	Regional LN cannot be assessed
N0	No RLN mets	No RLN mets
N1	≥ 1 ipsilateral RLN, ≤ 6 cm	Mets in ≤ 4 RLNs
N2	Contralateral or bilateral RLNs, ≤ 6 cm	Mets in > 4 RLNs
N3	LN(s) > 6 cm	

- **cN** based on LN **laterality and size**
- **pN** based on LN **number**
- ENE, laterality, or LN size don't matter
- Resected N3 behave same as N1, so no pN3 category

54

Definition of Clinical ENE (From Chapter 5)

- Unambiguous evidence of gross ENE on clinical examination
  - Invasion of skin,
  - Infiltration of musculature,
  - Dense tethering or fixation to adjacent structures, or
  - Cranial nerve, brachial plexus, sympathetic trunk, or phrenic nerve invasion with dysfunction
  - Matted nodes (per quiz on Donna Gress webinar 7/25/18)
- Supported by strong radiographic evidence
- Radiology **ALONE** cannot describe clinical ENE

55

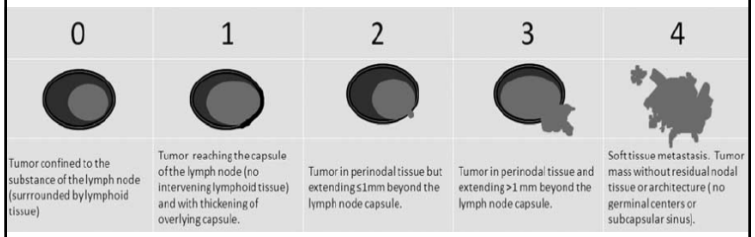
Definition of Pathological ENE

- Extension of metastatic tumor (beyond the confines of the lymph node, through the lymph node capsule into the surrounding connective tissue, with or without associated stromal reaction).
- Data collection will take place for
  - ≤ 2 mm ENEmi - micro
  - > 2 mm ENEma - major

  } Not required fields in CAP protocol 2018

56

Extranodal Extension Grading



https://www.researchgate.net/publication/51246292_Extracapsular_extension_is_a_poor_predictor_of_disease_recurrence_in_surgically_treated_oropharyngeal_squamous_cell_carcinoma

57

pN - No Resection of Primary Tumor

If no resection of primary T, but NECK LN dissection done, then pTX pN __ used in pathological staging fields

- ONLY Ch 7 (Oral cavity), Ch 8 (Major salivary glands), Ch 11 (Oropharynx p16 neg & Hypopharynx)
  - Phrase under "Pathological Classification" of "allows the designation for pT **and/or** pN respectively"
  - Provides docs info about neck dissections
- Other Hd/Nk chapters require complete resections of primary AND LN for pathological staging.

58

Other Special Things About the Head and Neck Chapters

59

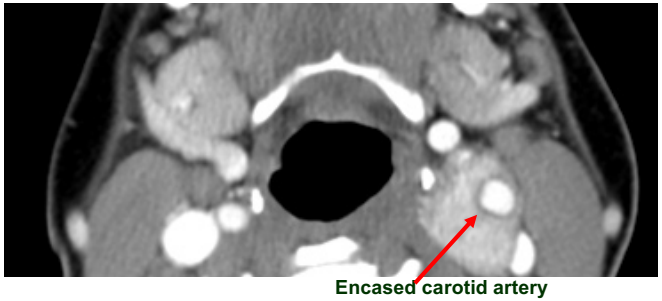
Encasing Carotid Artery

- For larynx, pharynx, thyroid, and salivary gland tumor staging, tumor encasing carotid artery is T4b. What does "encases artery" mean?
  - Example: CT report says "the mass appears separate from the true cords laterally on the right, the mass partially encasing the common carotid artery involving approximately 40% on the circumference. Vascular invasion cannot be excluded. The artery remains patent."

60

Encasing Carotid Artery

- Encasing means “wrapped around” – not necessarily direct invasion
  - If carotid artery encased, tumor not resectable.



61

Encasing Carotid Artery

- In general, registry rules do not recognize encasement or abutment as involvement
- Terms indicating ‘probably not resectable’

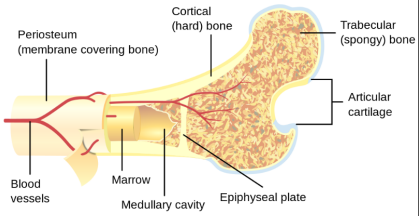
  Encasing
  Encircling
  Encompassing
  Extending around
  Inseparable from
  Surrounding
  Totally encasing
- Terms indicating ‘borderline resectable’

  Abuts

62

Cortex bone

- Deep invasion of bone (through cortex) is T4a
- Into cortical bone of mandible but not through: T classification based on tumor size
- Through cortex into trabecular bone of mandible
  - **T4a**
  - **Trabecular = spongy = cancellous**



http://www.wikiwand.com/en/Bone

63

Head and Neck Chapter Tour

64

Cervical LN & Unknown Primary Tumors of Head & Neck – Ch 6

Use Chapter 6 when:

- Cervical LNs are involved
  - Distant mets may also be present
- Tumor is **NOT** EBV- or HPV-related
- Primary tumor is not identified but suspected to be in the head and neck

Do NOT use Ch 6 when distant mets but no involvement of cervical LNs.

65

Cervical LN & Unknown Primary Tumors Head & Neck cont.

- Clinical Staging LN
  - Imaging, FNA, needle biopsy, SLN, excisional bx LN
- Pathological Staging LN
  - Adequate LN dissection usually 15 LN
    - If neck dissection, all LN negative, but < 15 LN it still equals **pN0**
- Micromets - ≤ 2 mm deposits in LN
  - Positive LNs for the definition of pN
  - Designated pN1(mi), pN2b(mi), pN2c(mi)

66

Cervical LN & Unknown Primary Tumors Head & Neck cont.

Clinical staging

- No cervical LN dissection

Pathological staging

- Cervical LN dissection performed

Prognostic Stage Groups

T	N	M	STAGE
T0	N1	M0	III
T0	N2	M0	IVA
T0	N3	M0	IVB
T0	Any N	M1	IVC

67

Oral Cavity – Chapter 7 (C00.3-5, .8, .9, C02-C06)

- C00.0, C00.1, C00.2, & C00.6, (external lip & commissure) removed from chapter
- Depth of Invasion (DOI) used in conjunction with size for cT and pT
- Uses “standard” Head and Neck LN tables for cN and pN categories
- No T0

68

Case Scenario 1

CC: Swelling in neck and feeling of fullness in throat.

PE: 3 cm mass in Rt neck; smaller mass in Lt neck; both at level III. Remainder of external exam WNL.

X-rays and Scans: CXR: Negative. CT: Negative

Panendoscopy: No lesions identified.

Op Note: Bx Rt neck mass.

Path: Rt neck mass core bx: PD keratinizing squamous carcinoma involving LN; p16 (-), EBV (-).

Plan: XRT and chemotherapy for unknown primary of the head and neck involving bilateral LNs.

69

Pop Quiz

1. What AJCC Chapter?
   a) Cervical LNs and Unknown Primary
   b) Nasopharynx
   c) HPV-Mediated Oropharynx
   d) Oropharynx and Hypopharynx
2. What primary site code do we assign?
   a) C10.9
   b) C11.9
   c) C14.8
   d) C76.0

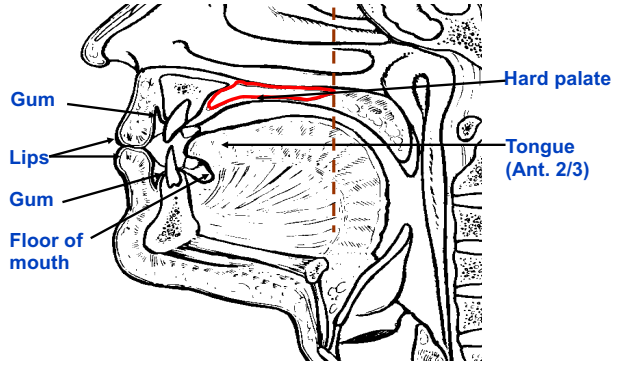
70

Oral Cavity – Errata (1st, 2nd, and 3rd printing)

T1: Tumor ≤ 2 cm, ≤ 5 mm depth of invasion (DOI) DOI is depth of invasion and not tumor thickness.	**T1**: Tumor ≤ 2 cm with depth of invasion (DOI)* ≤ 5 mm
T2: Tumor ≤ 2 cm, DOI > 5 mm and ≤ 10 mm or tumor > 2 cm but ≤ 4 cm, DOI ≤ 10 mm	**T2**: Tumor ≤ 2 cm with DOI* > 5 mm *or* tumor > 2 cm and ≤ 4 cm with DOI* ≤ 10 mm
T3: Tumor > 4 cm or any tumor with DOI > 10 mm but ≤ 20 mm	**T3**: Tumor > 2 cm and ≤ 4 cm with DOI* > 10 mm or tumor > 4 cm with DOI* ≤ 10 mm
T4a: Moderately advanced local disease Tumor invades adjacent structures only. (more text here…)	**T4a**: Moderately advanced local disease Tumor > 4 cm with DOI* > 10 mm or tumor invades adjacent structures only (more text here…)

71

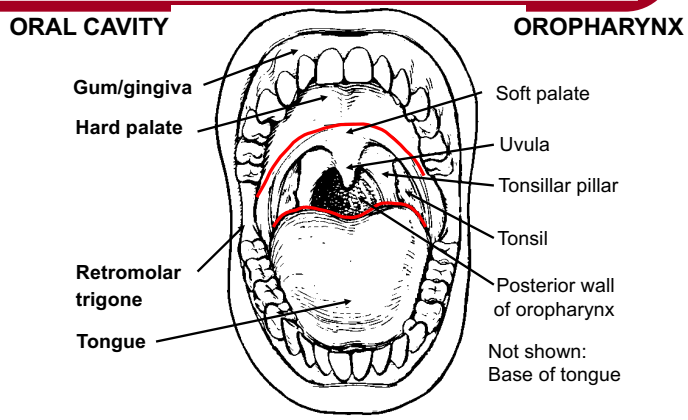
Lip & Oral Cavity Structures



Not shown: Cheek Mucosa, Retromolar Trigone

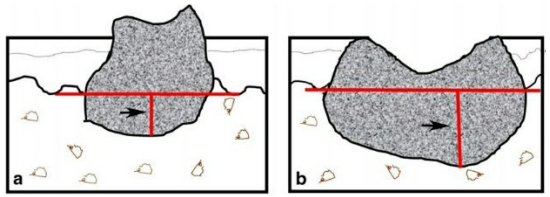
72

Structures of the Mouth



DOI? Depth of Invasion

- NOT same as tumor thickness!
- Imaginary line along basement membrane, then plumb line down to depth
- cT – docs will have to estimate DOI vs Tx

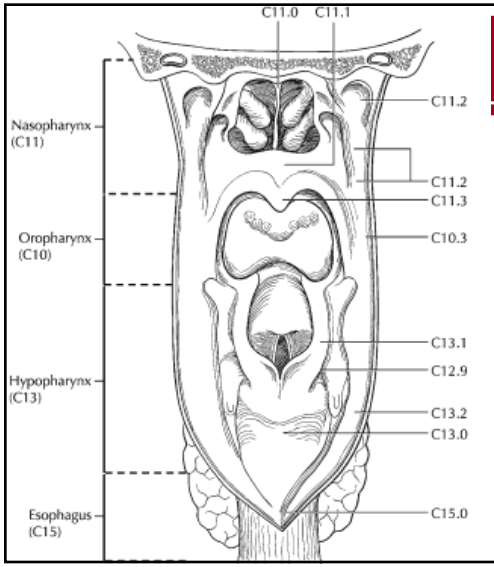


Head & Neck Pathol (2017) 11:33-40

Can We Do cT Based on Bx?

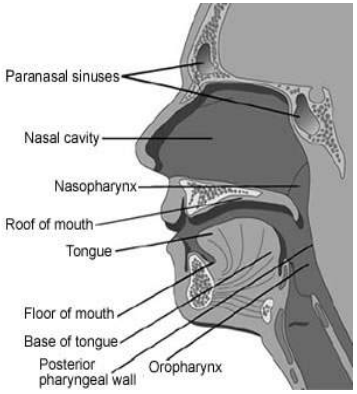
- "While a biopsy may not have complete DOI the clinician still needs to estimate the DOI using visual and palpable clues. To the extent possible, the clinician should disregard that aspect of the tumor that is exophytic and focus on DOI. Dentists may or may not stage but clinical stage should still include an assessment of DOI."
  Dr. William Lydiatt, Vice Chair of the AJCC Head and Neck Expert Panel

Pharynx



AJCC Cancer Staging Atlas, 2nd ed., Springer-Verlag, 2012

Nasopharynx



Behind nose, above soft palate

Connects nose to back of mouth
- Breathe
- Swallow mucus

77

Nasopharynx – Chapter 9

- Epithelial tumors only
- Unique table for LNs (same for cN and pN)
- Definition for T0 = No tumor ID'd, but EBV+ cervical LN(s) involved
  - If T0, assign appropriate N w/ site code C11.9
- EBV status irrelevant when tumor is identified
- 80% Asian countries
- Most tumors treated with radiation, pathological staging irrelevant

78

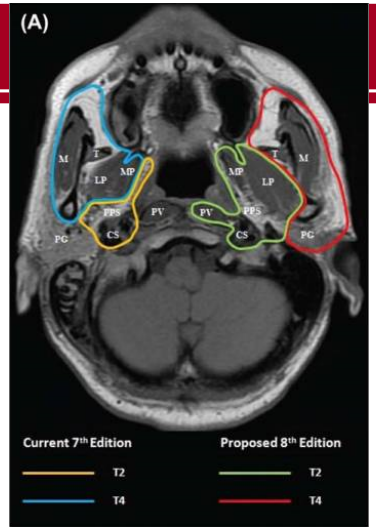
Clinical and Pathological RLN Categories – Nasopharynx (Ch 9)

N	Criteria
NX	Regional LN cannot be assessed
N0	No regional LN mets
N1	Unilateral mets cervical LN, **and/or** unilateral/bilateral retropharyngeal LN, ≤ 6 cm, **above** caudal border of cricoid cartilage
N2	Bilateral mets in cervical LN, ≤ 6 cm, **above** caudal border of cricoid cartilage
N3	Unilateral or bilateral mets in cervical LN > 6 cm and/or extension **below** caudal border of cricoid cartilage

- N categories based on laterality (for N1 cervical LNs), location, and size.
- ENE does not matter.

79

Nasopharynx Differences 7th – 8th



Cancer. 2016 Feb 15; 122(4): 546–558.Published online 2015 Nov 20.doi:

10.1002/cncr.29795 Cancer.

80

Case Scenario 2

CC: Swelling in neck and feeling of fullness in throat.

PE: 3 cm mass in Rt neck; smaller mass in Lt neck; both at level III. Remainder of external exam WNL.

X-rays and Scans: CXR: Negative. CT: Negative

Panendoscopy: No lesions identified.

Op Note: Bx Rt neck mass.

Path: Rt neck mass core bx: PD keratinizing squamous carcinoma involving LN; p16 (+), EBV (+).

Plan: XRT and chemotherapy for unknown primary of the head and neck involving bilateral LNs.

81

Pop Quiz

1. What AJCC Chapter?
   a) Cervical LNs and Unknown Primary
   b) Nasopharynx
   c) HPV-Mediated Oropharynx
   d) Oropharynx and Hypopharynx
2. What primary site code do we assign?
   a) C10.9
   b) C11.9
   c) C14.8
   d) C76.0

82

HPV-Mediated (p16+) Oropharynx – Chapter 10

- Squamous cell CA & subtypes only
- Younger, healthier, little or no tobacco exposure
- Better prognosis compared to tobacco-associated cancers
- No grading system for this chapter
- Unique tables for LN categories (separate tables for cN and pN)
- Must be **p16+** to use this chapter
- T0 category for p16+ cervical LNs with unknown head and neck primary
- No TX or Tis

83

Clinical & Pathological RLN Categories – HPV-Mediated OPC (Ch 10)

N	Clinical N Criteria	Pathological N Criteria
NX	RLN cannot be assessed	Regional LN cannot be assessed
N0	No RLN mets	No RLN mets
N1	≥ 1 ipsilateral RLN, ≤ 6 cm	Mets in ≤ 4 RLNs
N2	Contralateral or bilateral RLNs, ≤ 6 cm	Mets in > 4 RLNs
N3	LN(s) > 6 cm	

- **cN** based on LN **laterality and size**
- **pN** based on LN **number**
- ENE, laterality, or LN size don't matter
- Resected N3 behave same as N1, so no pN3 category

84

A Little About the p16 Biomarker

- Tumor suppressor protein (Cyclin-dependent kinase inhibitor 2A)
- Biomarker whose overexpression correlates with HR-HPV
- Tested using IHC
- Surrogate for HR-HPV DNA test because it is cheaper, more available, and interpretation is easily standardized

85

Oropharynx (p16-) and Hypopharynx – Chapter 11

- Oropharynx: squamous cancers and oropharyngeal cancers w/o p16 test or negative p16
- Hypopharynx: all histologies
- Minor salivary cancers and neuroendocrine carcinomas of either site
- No T0; both sites have TX and Tis
- Uses “standard” LN tables

86

Case Scenario 3

CC: Swelling in neck and feeling of fullness in throat.

PE: 3 cm mass in Rt neck; smaller mass in Lt neck; both at level III. Remainder of external exam WNL.

X-rays and Scans: CXR: Negative. CT: Negative

Panendoscopy: No lesions identified.

Op Note: Bx Rt neck mass.

Path: Rt neck mass core bx: PD keratinizing squamous carcinoma involving LN; p16 (+), HPV (-) by ISH, EBV (-).

Plan: XRT and chemotherapy for unknown primary of the head and neck involving bilateral LNs.

87

Pop Quiz

1. What AJCC Chapter?
   a) Cervical LNs and Unknown Primary
   b) Nasopharynx
   c) HPV-Mediated Oropharynx
   d) Oropharynx and Hypopharynx
2. What primary site code do we assign?
   a) C10.9
   b) C11.9
   c) C14.8
   d) C76.0

88

Oropharynx (p16-), Hypopharynx

Clinical staging

- PE, especially palpation RLN
- Cranial nerve evaluation
- Endoscopy
- Imaging (CT, MRI, PET)

Pathological staging

- Complete resection primary
- Neck dissection
  - Selective ≥ 10 LN
  - Radical/modified radical ≥ 15 LN
- ENE important

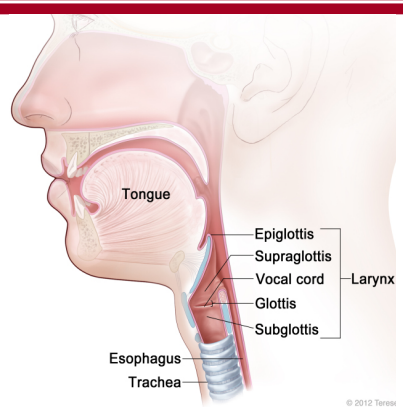
89

Larynx – Chapter 13

- Carcinomas only
- Summary of Changes
  - Non EBV/HPV related occult primaries of head and neck removed from chapter
  - Uses ”standard” LN tables

90

Larynx Subsites

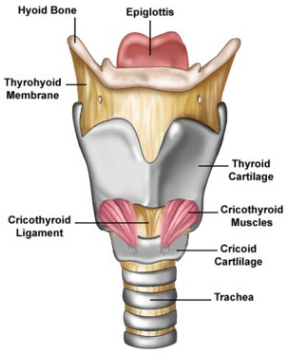


C10.1 Anterior (lingual) surface of epiglottis
C32.1 Supraglottis
C32.0 Glottis
C32.2 Subglottis

91

Larynx Cartilages – coded C32.3 (NOT included in AJCC C32 staging)

- **Single**
  - Thyroid cartilage
    - aka Adam’s apple
  - Cricoid cartilage
  - Epiglottis (C32.1)
- **Paired**
  - Arytenoid cartilage
  - Corinculate cartilage
  - Cuneiform cartilage



http://www.gbmc.org/anatomyandphysiology

92

Site Specific Data Items

93

Case Scenario 1 (for SSDIs)

CC: Swelling in neck and feeling of fullness in throat.

PE: 3 cm mass in Rt neck; smaller mass in Lt neck; both at level III. Remainder of external exam WNL.

X-rays and Scans: CXR: Negative. CT: Negative

Panendoscopy: No lesions identified.

Op Note: Bx Rt neck mass.

Path: Rt neck mass core bx: PD keratinizing squamous carcinoma involving LN; p16 (-), EBV (-).

Plan: XRT and chemotherapy for unknown primary of the head and neck involving bilateral LNs.

94

SSDI Schema Discriminator 1 Occult Head & Neck LN

Chapter 6: Cervical LN & Unk Primary

- C76.0 = code (head & neck NOS, primary site unk)
- Use Ch 6 and C76.0 **IF**
  - Cervical LN + (Level II or III)
  - P16 stain negative OR not done OR unknown
  - EBV stain negative OR not done OR unknown

- Some situations require more specific primary site code
- EBV+, code C11.9 nasopharynx, do NOT use discriminator
- P16+ Code C10.9, do NOT use discriminator

95

SSDI Schema Discriminator 1 Occult Head & Neck LN

Code	Description	AJCC Chapter
0	Not occult	EOD/SS (III defined)
1	Occult, Neg cervical LN	EOD/SS (III defined)
2	Not tested for EBV or p16 (both unk)	Chap 6 Cerv LN, Unk Prim
3	Unk EBV, p16 negative	Chap 6 Cerv LN, Unk Prim
4	Unk p16, EBV negative	Chap 6 Cerv LN, Unk Prim
5	Negative for both EBV & p16	Chap 6 Cerv LN, Unk Prim
Blank	Not C760, discriminator does not apply P16 +, EBV unk or negative – code C10.9 EBV+, p16 unk or negative – code C11.9	Various Chapter 10 HPV Mediated (p16+) Oropharynx Chapter 9 Nasopharynx

96

Schema Discriminator 1

Path: Rt neck mass core bx: PD keratinizing squamous carcinoma involving LN; p16 (-), EBV (-).

Schema Discriminator 1 ____

97

SSDI: ENE Clinical

- Chapters 6-14
- **Clinical** staging time frame

Code	Description
0	Reg LN involved, ENE not present/not identified during workup
1	Reg LN involved, ENE present/identified during workup (based on PE WITH or W/O imaging
2	Reg LN involved, ENE present/identified during workup, based on micro confirm
7	No LN involvement during workup (cN0)
8	N/A Info not collected for this case
9	Not documented in med record; ENE not assessed during workup or unk Clinical assessment LN not done, unk if done

98

ENE Clinical

CC: Swelling in neck and feeling of fullness in throat.

PE: 3 cm mass in Rt neck; smaller mass in Lt neck; both at level III. Remainder of external exam WNL.

ENE Clinical ____

99

SSDI: ENE Pathological

- Chapters 6-14
- **Pathological** time frame – from path report of **resected** LN (NOT FNA, incisional, SLN)

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 No surgical resection reg LN ENE not assessed path or unk if done Path assessment LN not done, unk if done

100

ENE Pathological

Path: Rt neck mass core bx: PD keratinizing squamous carcinoma involving LN

ENE Pathological ____

101

SSDI: LN Levels I - III

- Chapters 6, 14
- Drs statement can be used **if** no other info
- Path takes precedence over clinical
- If only some LN are described, code those

Code	Description
0	No involvement level I, II, or III
1	Level I LN involved
2	Level II LN involved
3	Level III LN involved
4	Levels I and II LN involved
5	Levels I and III LN involved
6	Levels II and III LN involved
7	Levels I, II, and III LN involved
8	N/A Info not collected
9	Not documented in med record LN + but level + LN unk LN I – III not assessed, unk if

102

SSDI: LN Levels I - III

PE: 3 cm mass in Rt neck; smaller mass in Lt neck; both at level III.

LN Levels I – III ____

103

SSDI: LN Levels IV - V

- Chapters 6, 14
- Drs statement can be used if no other info
- Path takes precedence over clinical
- If only some LN are described, code those

Code	Description
0	No involvement level IV or V
1	Level IV LN involved
2	Level V LN involved
3	Level IV and V LN involved
8	N/A Info not collected
9	Not documented in med record LN + but level + LN unk LN IV – V not assessed, unk if

104

SSDI: LN Levels IV - V

PE: 3 cm mass in Rt neck; smaller mass in Lt neck; both at level III.

LN Levels IV – V ____

105

SSDI: LN Levels VI - VII

- Chapters 6, 14
- Drs statement can be used if no other info
- Path takes precedence over clinical
- If only some LN are described, code those

Code	Description
0	No involvement level VI or VII
1	Level VI LN involved
2	Level VII LN involved
3	Level VI and VII LN involved
8	N/A Info not collected
9	Not documented in med record LN + but level + LN unk LN VI – VII not assessed, unk if

106

SSDI: LN Levels VI - VII

PE: 3 cm mass in Rt neck; smaller mass in Lt neck; both at level III.

LN Levels VI – VII ____

107

SSDI: LN Levels Other (NOT I – VII)

- Chapters 6, 14
- Drs statement can be used if no other info
- Path takes precedence over clinical
- If only some LN are described, code those

Code	Description
0	No involvement other Hd/Nk LN
1	Buccinator (facial) LN involved
2	Parapharyngeal LN involved
3	Periparotid & intraparotid LN
4	Pre-auricular LN involved
5	Retropharyngeal LN involved
6	Suboccipital/retroauricular LN
7	Any combo codes 1 – 6
8	N/A Info not collected
9	Not documented in med record LN + but level + LN unk Other Hd/Nk LN not assessed, unk if

108

SSDI: LN Levels Other

PE: 3 cm mass in Rt neck; smaller mass in Lt neck; both at level III.

LN Levels Other ____

109

SSDI: LN Size

- Chapters 6 – 15
- LN size = largest diameter of any involved RLN Path takes precedence over clinical

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 Reg LN involved, size unk LN size not assessed or unk

110

SSDI: LN Size

PE: 3 cm mass in Rt neck; smaller mass in Lt neck; both at level III.

LN Size ____

111

Schema Discriminator 1: Nasopharynx/Pharyngeal Tonsil

- Chapter 10 (p16+) & 11 (p16 neg)
- Needed because of different chapters

Code	Description	AJCC Disease ID
1	Posterior wall nasopharynx, NOS	Chap 9 Nasopharynx
2	Adenoid Pharyngeal tonsil	Schema discriminator 2: Oropharyngeal p16
Blank	Primary site is NOT C11.1, discriminator not necessary	

112

Schema Discriminator 2: Oropharyngeal p16

- Chapter 10 (p16+) & 11 (p16 neg)
- Only p16 test used here. If another HPV test is done, code 9

Code	Description	AJCC Disease ID
1	p16 Negative, nonreactive	11.1 Oropharynx (p16-)
2	p16 Positive; HPV positive; diffuse, strong reactivity	10: HPV-mediated (p16+) Oropharynx
9	Not tested for p16; unknown	11.1 Oropharynx (p16-)

113

And, we're done!

114