


Physician to Physician  
AJCC 8<sup>th</sup> Edition

Head and Neck

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Summary of Changes

- Restructured pharynx into
  - *New* HPV-Mediated (p16+) Oropharyngeal
  - Nasopharynx
  - Oropharynx (p16-) and Oropharynx
- *New* criteria for extranodal extension (ENE)
  - Both for clinical and pathological staging
- *New* staging for unknown primaries with nodal involvement
- *New* cutaneous squamous cell carcinoma of head and neck
- *Addition* of Depth of Invasion in Oral Cavity T category



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AJCC Cancer Staging Manual, 7<sup>th</sup> Ed.  
Head and Neck Chapters

- Lip and Oral Cavity
- Pharynx (oro, naso and hypo)
- Larynx (supraglottic, glottic and subglottic)
- Nasal Cavity and Paranasal Sinuses
- Salivary Gland
- Mucosal Melanoma (new to the 7<sup>th</sup> Ed)



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Head and Neck Chapters in 8<sup>th</sup> Edition

- Staging Head and Neck Cancers
- Cervical Lymph Nodes and Unknown Primary Tumors
- Lip and Oral Cavity
- Major Salivary Glands
- Nasopharynx
- HPV-Mediated (p16+) Oropharyngeal
- Oropharynx (p16-) and Hypopharynx
- Nasal Cavity and Paranasal Sinuses
- Larynx
- Mucosal Melanoma of Head and Neck
- Cutaneous Squamous Cell Ca of Head and Neck



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HPV-Mediated (p16+)  
Oropharyngeal Cancer



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High-Risk HPV

- HR-HPV associated cancer
  - Younger, healthier individuals
  - Little or no tobacco exposure
  - Increasing at 5% per year
  - Much better survival than traditional tobacco-associated CA
  - Definition of disease



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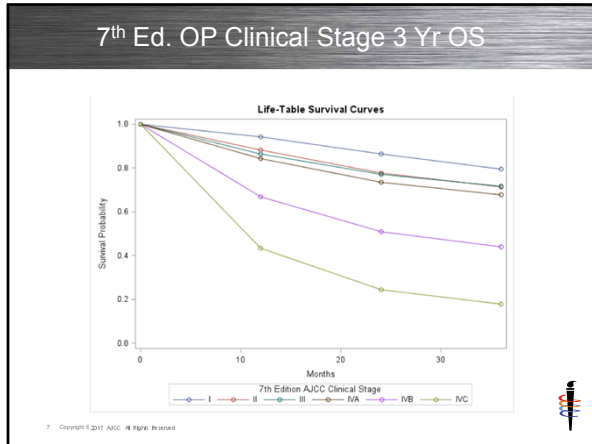
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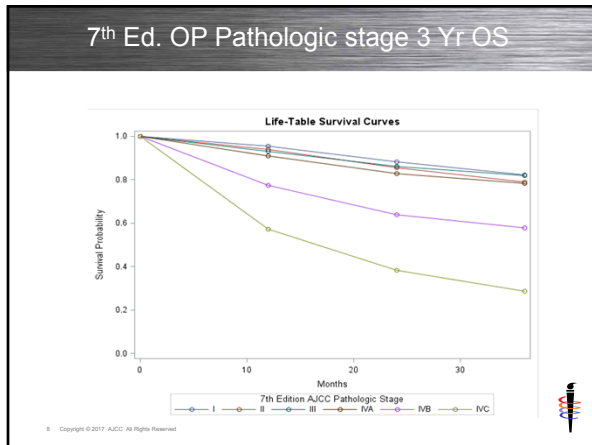
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### Definition

- High Risk-HPV
  - Defines what we think of as the disease entity
  - More expensive to run
  - Less universally available
  - Technically more variability with interpretation
- p16
  - Easily standardized interpretation
  - Inexpensive to use
  - Near universal availability
  - Surrogate for disease

- p16 expression of weak intensity, or limited (<75% of cells)  
Staged with p16- oropharynx and hypopharynx chapter

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Clinical TNM Stage Grouping 8<sup>th</sup> Ed.  
p16+ Oropharyngeal Cancer

	N0	N1	N2	N3
T0	I	I	II	III
T1	I	I	II	III
T2	I	I	II	III
T3	II	II	II	III
T4	III	III	III	III

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Pathological TNM Stage Grouping 8<sup>th</sup> Ed.  
p16+ Oropharyngeal Cancer

	N0	N1	N2
T0	I	I	II
T1	I	I	II
T2	I	I	II
T3	II	II	III
T4	II	II	III

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Cervical Lymph Nodes –  
Extranodal Extension (ENE)




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### Extranodal Extension (ENE)

- ENE has profound effect on prognosis in head & neck
  - Evidence supports ENE as adverse prognostic factor
  - Most evidence from pathologic analysis of nodes
  - Pathology includes distinction between microscopic & macroscopic
- Inclusion of ENE in N category
  - p16- Oropharynx and Unknown Primary and Hypopharynx
  - Oral Cavity
  - Larynx
  - Skin
  - Salivary Gland
  - Nasal Cavity and Paranasal Sinus
- Terminology for extension outside lymph nodes
  - ENE is the preferred wording
  - Not extracapsular spread/extension or extranodal involvement



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### Clinical Staging

- Stringent criteria *required* to permit ENE(+) diagnosis
- Unambiguous evidence of gross ENE on clinical exam
  - Invasion of skin
  - Infiltration of musculature or dense tethering to adjacent structures
  - Nerve invasion with dysfunction
    - Cranial nerve
    - Brachial plexus
    - Sympathetic trunk
    - Phrenic nerve
  - Supported by strong radiographic evidence
- Radiographic evidence *alone* is insufficient
- If any doubt or ambiguity, assign ENE(-)



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### Pathological Staging

- Clearly defined pathological ENE(+) based on
  - Tumor present within confines of node and
  - Extending through the node capsule
  - Into surrounding connective tissue
  - With or without associated stromal reaction
- ENE(+) may be classified as
  - ENE<sub>mi</sub> for microscopic ENE ≤2 mm
  - ENE<sub>ma</sub> for major ENE >2 mm
- If any doubt or ambiguity, assign ENE(-)



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**ENE - N Characteristic 8<sup>th</sup> Edition**

- **Clinical**
  - Any ENE is N3b
- **Pathological**
  - ENE either Minor ( $\leq 2\text{mm}$ ) or Major ( $> 2\text{mm}$ ) increases N by 1 step



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**Unknown Primary Tumors of Head and Neck**



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**Unknown Primary Tumor – T0**

- **Unique to head & neck**
  - Due to anatomic site staging differences
  - Impossible to choose between multiple head and neck chapters
  - Metastatic cervical node with no primary found
- **p16 and EBER are required for staging**
  - p16+ will be staged as T0 N-appropriate in HPV-Mediated p16+ Oropharynx chapter
  - EBER + will be staged T0 N-appropriate in Nasopharynx Chapter
  - EBER-, p16- SCC will be staged in the Cervical Node Chapter as T0 N-appropriate and will need ENE designation
- **T0 eliminated from all other chapters except**
  - EBV-related nasopharynx
  - HPV-related oropharynx
  - Salivary gland based on histology of lymph node



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### Prognostic Stage Groups

- Metastatic cervical adenopathy & unknown primary tumor
  - *Except* for EBV-related and HPV-related tumors

When T is...	And N is...	And M is...	Then the stage group is...
T0	N1	M0	III
T0	N2	M0	IVA
T0	N3	M0	IVB
T0	Any N	M1	IVC

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### p16 Expression Staging Differences

- T category differences based on p16 expression
  - p16+
    - No T1s
    - No T4b
  - p16-
    - No T0
- pN category observations for p16+
  - pN3 behaves as Stage I
  - pN2 behaves as Stage II
  - Findings are unprecedented

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### Cutaneous Squamous Cell Carcinoma of Head and Neck



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### Cutaneous Carcinoma

- Chapter title reflects mostly data from squamous cell ca
- Histologic types include
  - All non-melanoma skin carcinomas, except Merkel cell ca
- Primary sites
  - Skin of lip, external ear, face, scalp, and neck
  - Vermilion lip is included (and excluded from Oral Cavity Ca)
  - Etiology is primarily based on ultraviolet (UV) exposure



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### Revised Cutaneous Carcinoma Staging System

- T category based on
  - Greatest dimension
  - Invasion >6mm or into subcutaneous tissue
  - Perineural invasion
  - Invasion of underlying bone
- N category mimics head & neck nodal staging and incorporates ENE



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### Other Chapter Changes



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### Additional Changes

- Oral Cavity
  - Depth of invasion (DOI) added to T category
  - Extrinsic muscle infiltration eliminated for T4

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### Oral Cavity

- Depth of Invasion now increases T by 1 step for every 5 mm\*
- T1 =
  - Tumor ≤ 2 cm, ≤ 5 mm depth of invasion (DOI)
- T2 =
  - Tumor ≤ 2cm, DOI > 5 mm and ≤ 10 mm
  - or tumor > 2 cm but ≤ 4cm, and ≤ 10 mm DOI
- T3 =
  - Tumor > 4 cm
  - or any tumor > 10 mm DOI
- \*DOI is depth of invasion and not tumor thickness

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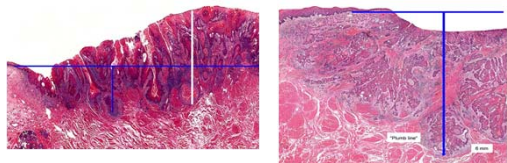
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### Depth is not Thickness (Courtesy Margie Brandwein)



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### Additional Changes

- Nasopharynx
  - T2 includes adjacent muscle involvement including medial and lateral pterygoid and prevertebral muscles
  - T4 includes specific description of soft tissue involvement
  - N3a and N3b are now one category N3



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### Key Patient and Tumor Factors

- Comorbidity
  - Reporting of all major illnesses
- Performance Status
  - Zubrod/ECOG
- Lifestyle factors
  - Smoking: never, ≤10years, >10 ≤20 years, >20 years
  - Alcohol abuse
- Nutrition
  - Weight loss of >10% over 3 months
- Depression diagnosis
  - Impacts quality of life and survival



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### Summary



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Summary

- *New* HPV-Mediated (p16+) Oropharyngeal
- *New* criteria for extranodal extension (ENE)
- *New* staging for unknown primaries with nodal involvement
- *New* cutaneous squamous cell carcinoma of head and neck
- *New* T category addition of Depth of Invasion

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Thank you



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