



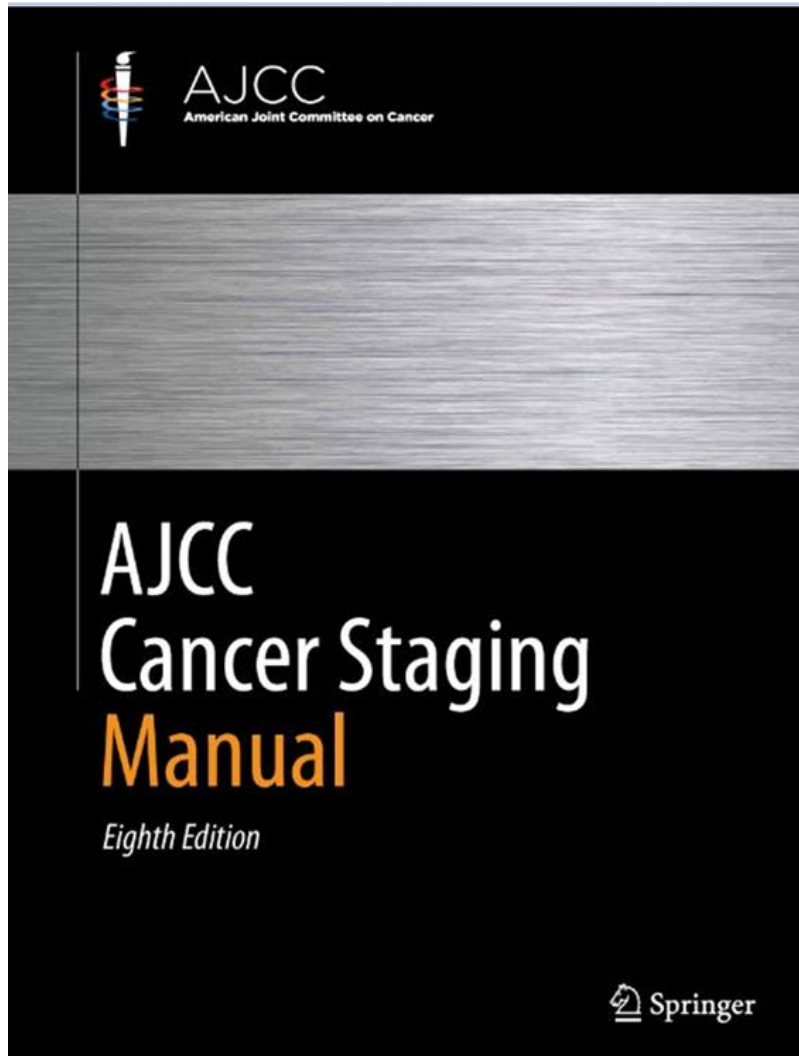
HEAD & NECK TUMOURS

The 8th AJCC Staging & The 2016 WHO Classification

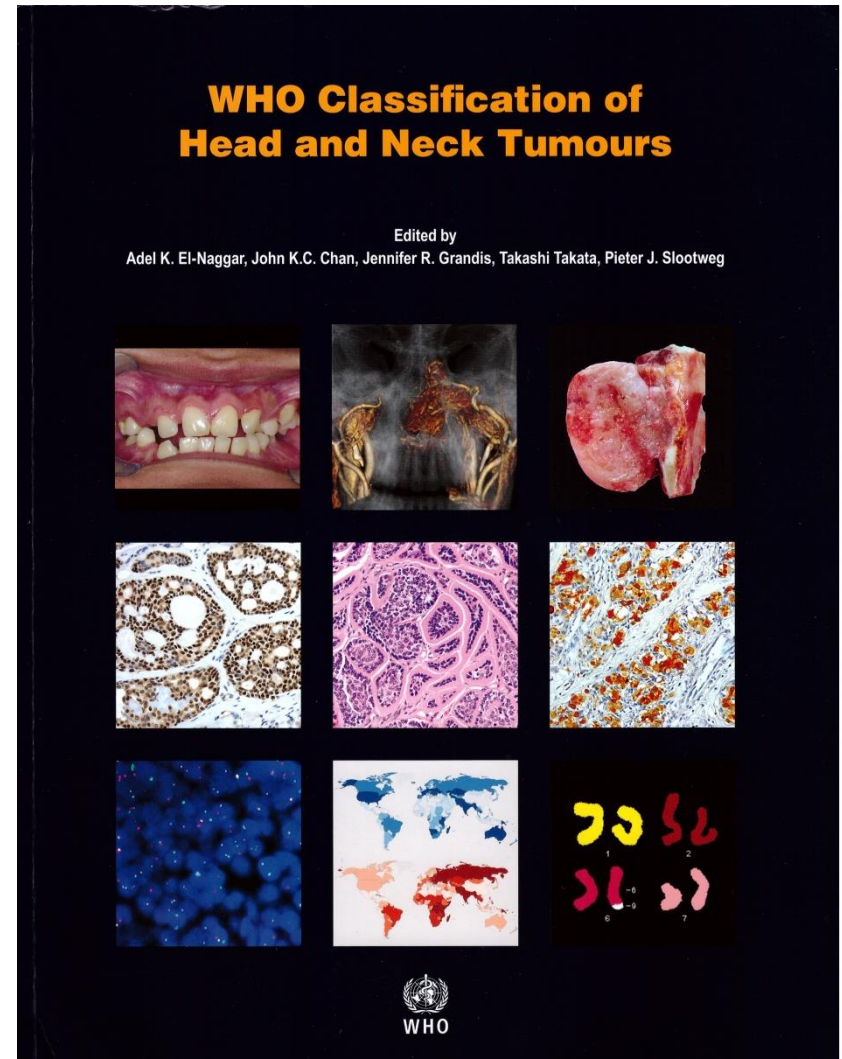
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AJCC, 8th edition

Effective with cases diagnosed
January 1, 2018



WHO classification, 2016



AJCC Staging

Head & neck

the 8th edition since 2018

1. Cervical lymph nodes and unknown primary tumors of head and neck
2. Lip and Oral cavity
3. Oropharynx(p16-) and Hypopharynx
4. HPV-mediated (p16+) oropharyngeal cancer
5. Nasopharynx
6. Larynx
7. Nasal cavity and Paranasal sinuses
8. Major salivary glands
9. Cutaneous squamous cell carcinoma of the Head and neck
10. Mucosal melanoma of the Head and Neck
11. Soft tissue sarcoma of the head and neck

Changes for 8th Edition

- New chapters/staging systems

- Cervical Lymph Nodes and Unknown Primary Tumors of the Head and Neck
- Pharynx - HPV-Mediated Oropharynx Cancer (p16+)
- Cutaneous Squamous Cell Carcinoma of the Head and Neck
- Thymus
- Bone: Appendicular Skeleton/Trunk/Skull/Face, Pelvis, and Spine
- Soft Tissue Sarcoma of the Head and Neck
- Soft Tissue Sarcoma of the Trunk and Extremities
- Soft Tissue Sarcoma of the Abdomen and Thoracic Visceral Organs
- Soft Tissue Sarcoma of the Retroperitoneum
- Soft Tissue Sarcoma – Unusual Histologies and Sites
- Parathyroid
- Leukemia



Changes for 8th Edition

- Split chapters

- p16 negative oropharynx and hypopharynx (previously pharynx)
- Nasopharynx (previously pharynx)
- Pancreas – exocrine (previously endocrine/exocrine pancreas)
- Pancreas – endocrine (previously endocrine/exocrine pancreas)
- Neuroendocrine Tumors of the Stomach
- Neuroendocrine Tumors of the Duodenum and Ampulla of Vater
- Neuroendocrine Tumors of the Jejunum and Ileum
- Neuroendocrine Tumors of the Appendix
- Neuroendocrine Tumors of the Colon and Rectum
- Neuroendocrine Tumors of the Pancreas
- Thyroid – Differentiated and Anaplastic
- Thyroid – Medullary
- Adrenal Cortical Carcinoma
- Adrenal – Neuroendocrine



Changes for 8th Edition

1. New stage classifications

- HPV-related oropharyngeal cancer
- Soft tissue sarcoma of the head and neck

2. Modification of T and N categories

- T and N categories for nasopharyngeal cancer
- T categories for oral cavity squamous cell carcinomas
- N categories for non-viral related head and neck cancer and unknown primary
- T categories for head and neck cutaneous carcinoma

Changes for 8th Edition

1. Changes in T category

A. oral cavity

- Depth of invasion (DOI)** added as a modification to T
- Invasion of extrinsic muscle – not important in 8th edition

B. Elimination of T0 category except HPV- and EBV-associated cancer

2. Changes in regional LN category

A. Introduction of **extranodal extension (ENE)**

- Clinical ENE(+): unquestionable evidence of ENE by physical examination (gross) and supported by radiologic examination
- Pathological ENE (+): clearly defined as extension of metastatic cancer through LN capsule into surrounding connective tissue, with or without associated with stromal reaction
- Effect of ENE on prognosis in H&N is profound **except for high risk-HPV-associated tumor.**

AJCC staging

Rules for classification. The 8th edition

1. **Pathological staging** is based on clinical stage information supplemented/modified by operative findings and pathological evaluation of the resected specimen.
2. Pathological staging represents **additional and important information**, but pathological staging does not supplant clinical staging as the primary staging scheme.
3. pT or pN : based on complete resection of primary sites with LN dissection.
 - An excisional biopsy of a lymph node does not qualify for full evaluation of the pN category and should be assigned cN.
 - pT is derived from the actual measurement of the unfixed tumor in resected specimen

Cervical lymph nodes and unknown primary

Cervical lymph nodes : General rules

pN classification – 7th edition

Regional Lymph Nodes (N)		
N1		Single ipsilateral, $\leq 3\text{cm}$
N2	N2a	Single ipsilateral, $3\text{cm} < \text{LN} \leq 6\text{cm}$
	N2b	Multiple ipsilateral, $\leq 6\text{cm}$
	N2c	Bilateral or contralateral, $\leq 6\text{cm}$
N3		$> 6\text{cm}$ in greatest dimension

Cervical lymph nodes : General rules

pN classification-8th edition

- **N classification except nasopharynx, HPV-mediated (p16+) oropharynx, mucosal melanoma of H&N**

Regional Lymph Nodes (N)		
N1		Single ipsilateral, ≤ 3cm, ENE(-)
N2	N2a	Single ipsilateral or contralateral, LN < 3cm, ENE(+) ; or Single ipsilateral, 3cm < LN ≤ 6cm, ENE(-)
	N2b	Multiple ipsilateral, ≤ 6cm, ENE(-)
	N2c	Bilateral or contralateral, ≤ 6cm, ENE(-)
N3	N3a	>6cm and ENE(-)
	N3b	Single ipsilateral, LN > 3cm, ENE(+); or Multiple, ipsilateral, contralateral, bilateral, any with ENE(+)

pN staging Guideline by AJCC

(the 8th edition)

1. Minimum number of LN: in radical/modified neck dissection in untreated patients **>15 LNs**, in a selective neck dissection **>10 LNs**
2. pN is designated based on measurement of largest dimension of **metastatic deposit** and not of the entire lymph node
3. Micrometastasis
 - **<2mm deposits** in single or multiple nodes detected exclusively on histological examination.
 - Considered **positive for the definition of pN**
 - Describe as pN1(mi), pN2b(mi)
4. Description of extranodal extension(ENE)
 - ENEc, ENEmi (microscopic ENE \leq 2mm), ENEMA(major ENE $>$ 2 mm)
 - **Both ENEmi and ENEMA qualify as ENE(+)** for definition of pN.
5. **Tumor deposits in the lymph drainage area** of primary carcinoma **without histologic evidence of residual LN tissue** should be regarded as a positive lymph node with ENE(+).

AJCC prognostic stage groups

For metastatic cervical adenopathy and unknown primary tumor except HPV- and EBV- related tumors

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

HPV-related tumors

When T is..	And N is..	And M is..	The the stage group is ..
T0, T1, T2	N0, N1	M0	I
T0, T1, T2	N2	M0	II
T3, T4	N0,N1	M0	II
T3, T4	N2	M0	III
Any T	Any N	M1	IV

Lip and Oral cavity

Lip and oral cavity

T classification – 7th edition

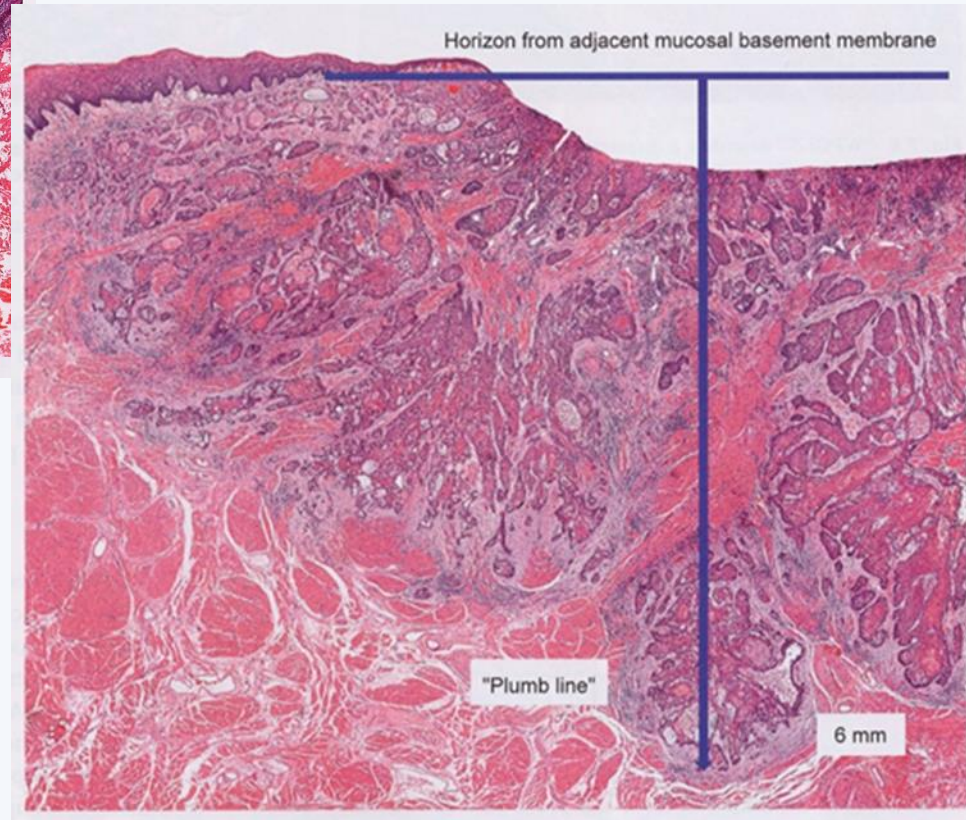
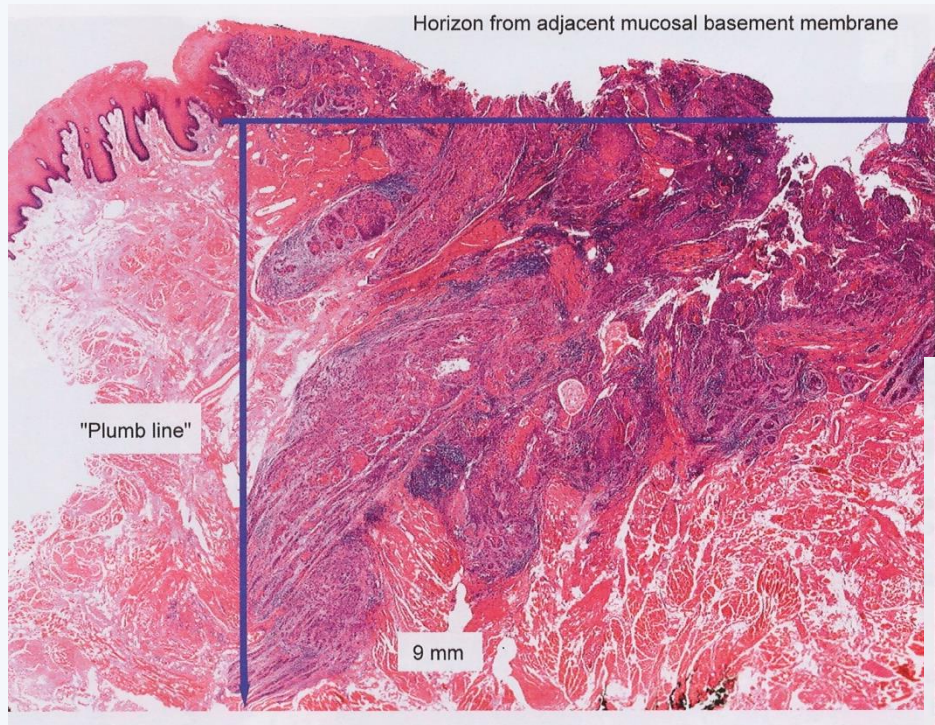
Primary tumor(T)		
Tis	Carcinoma in situ	
T1	≤ 2cm	
T2	2cm < tumor ≤ 4cm	
T3	> 4cm	
T4a	Moderately advanced local disease	(Lip)cortical bone, inferior alveolar nerve, floor of mouth, skin of face
		(Oral cavity)through cortical bone into deep muscle of tongue, maxillary sinus, skin of face
T4b	Very advanced local disease	Masticator space, pterygoid plates, skull base, encasement of internal carotid artery

Lip and oral cavity

T classification – 8th edition

Primary tumor(T)		
Tis	Carcinoma in situ	
T1	≤ 2cm, ≤5mm depth of invasion (DOI)	
T2	≤ 2cm, 5mm < DOI ≤ 10mm 2cm < tumor ≤ 4cm and DOI ≤ 10mm	
T3	>4cm or any tumor > 10 mm DOI	
T4a	Moderately advanced local disease	(Lip)cortical bone, inferior alveolar nerve, floor of mouth, skin of face
		(Oral cavity)local invasion through cortical bone, maxillary sinus, skin of face
T4b	Very advanced local disease	Masticator space, pterygoid plates, skull base, encasement of internal carotid artery

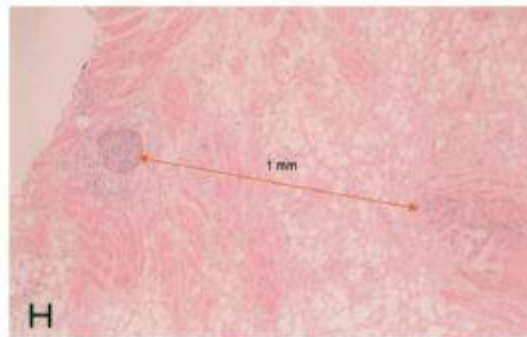
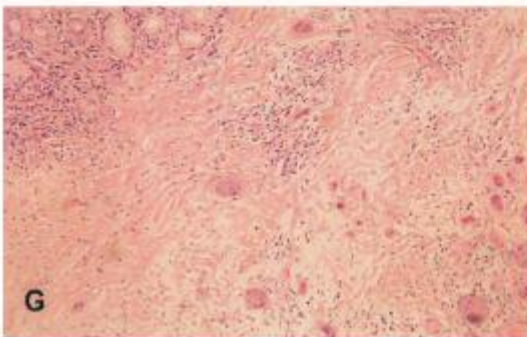
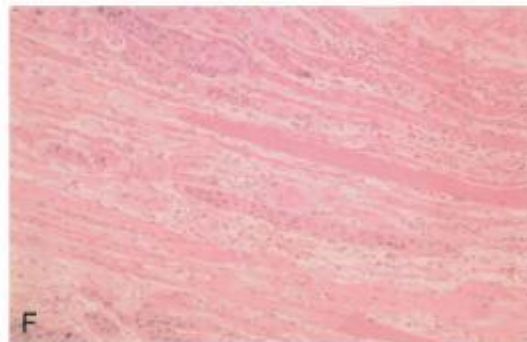
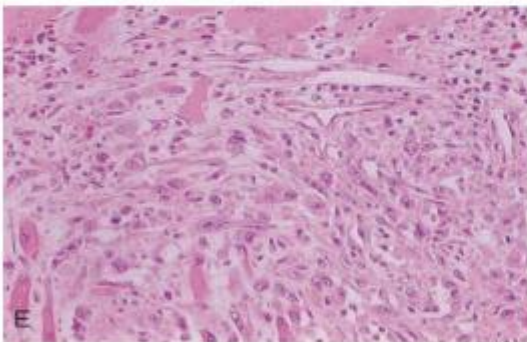
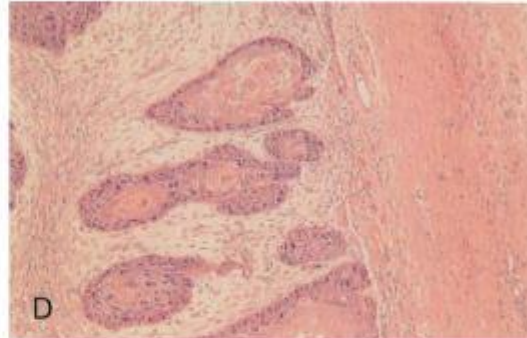
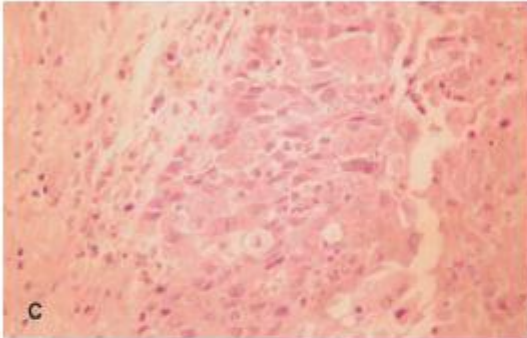
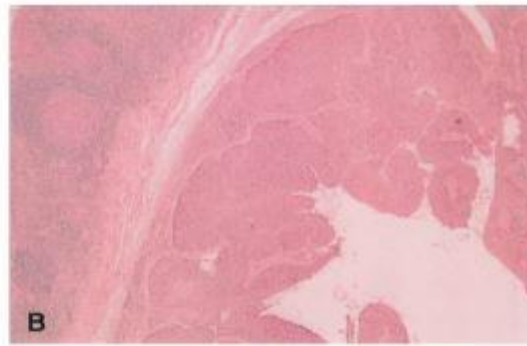
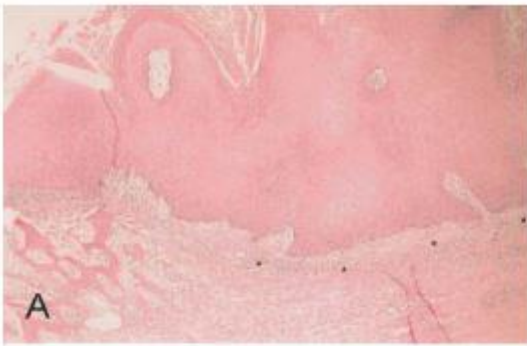
Depth of invasion



Prognostic factors in lip and oral cavity

1. Extranodal extension(ENE)
2. Depth of invasion (DOI)
3. Resection margins: margin sections should be taken perpendicular to the resection planes.
4. Worst pattern of invasion(WPOI): present or absent
 - Validated outcome predictor of oral cancer.
 - WPOI-5 defined as tumor dispersion of >1mm between tumor satellites
 - WPOI-5 includes tumor dispersion through soft tissue and dispersed extratumoral perineural invasion or extratumoral lymphovascular invasion
5. Perineural invasion; intratumoral or extratumoral/focal or multifocal
6. Lymphovascular invasion; intratumoral or extratumoral/focal or multifocal

Pattern of invasion (POI)



- A, Type 1: broad pushing front.
B, Type 2: "finger-like" pushing pattern.
D, Type 3: islands at tumor periphery greater larger than 15 cells/island.
E, Type 4: individual tumor cells infiltrating at interface.
F, Type 4: strands of infiltrating tumor cells.
G, Type 4: tumor islands composed of 15 cells or less.
H, Type 5: tumor satellites (regardless of size) dispersed 1 mm or farther from the closest intervening tumor island.

Grading system for epithelial dysplasia of the oral cavity and mobile tongue

WHO grade (Level+architectural and cytologic criteria)	Binary system (Not recommended)	The 15-year malignant transformation by traditional three grading system (<12%)
Mild dysplasia	Low-grade dysplasia	6%
Moderate dysplasia	High-grade dysplasia	18%
Severe dysplasia (CIS)		39%

Diagnostic criteria for epithelial dysplasia

Architectural changes	Cytological changes
Irregular epithelial stratification	Abnormal variation in nuclear size
Loss of polarity of basal cells	Abnormal variation in nuclear shape
Drop-shaped rete ridges	Abnormal variation in cell size
Increased number of mitotic figures	Abnormal variation in cell shape
Abnormally superficial mitotic figures	Increased N:C ratio
Premature keratinization of single cells	Abnormal mitotic figures
Keratin pearls within rete ridges	Increased number and size of nucleoli
Loss of epithelial cell cohesion	Hyperchromasia

High grade dysplasia ; 4 architectural changes + 5 cytologic changes

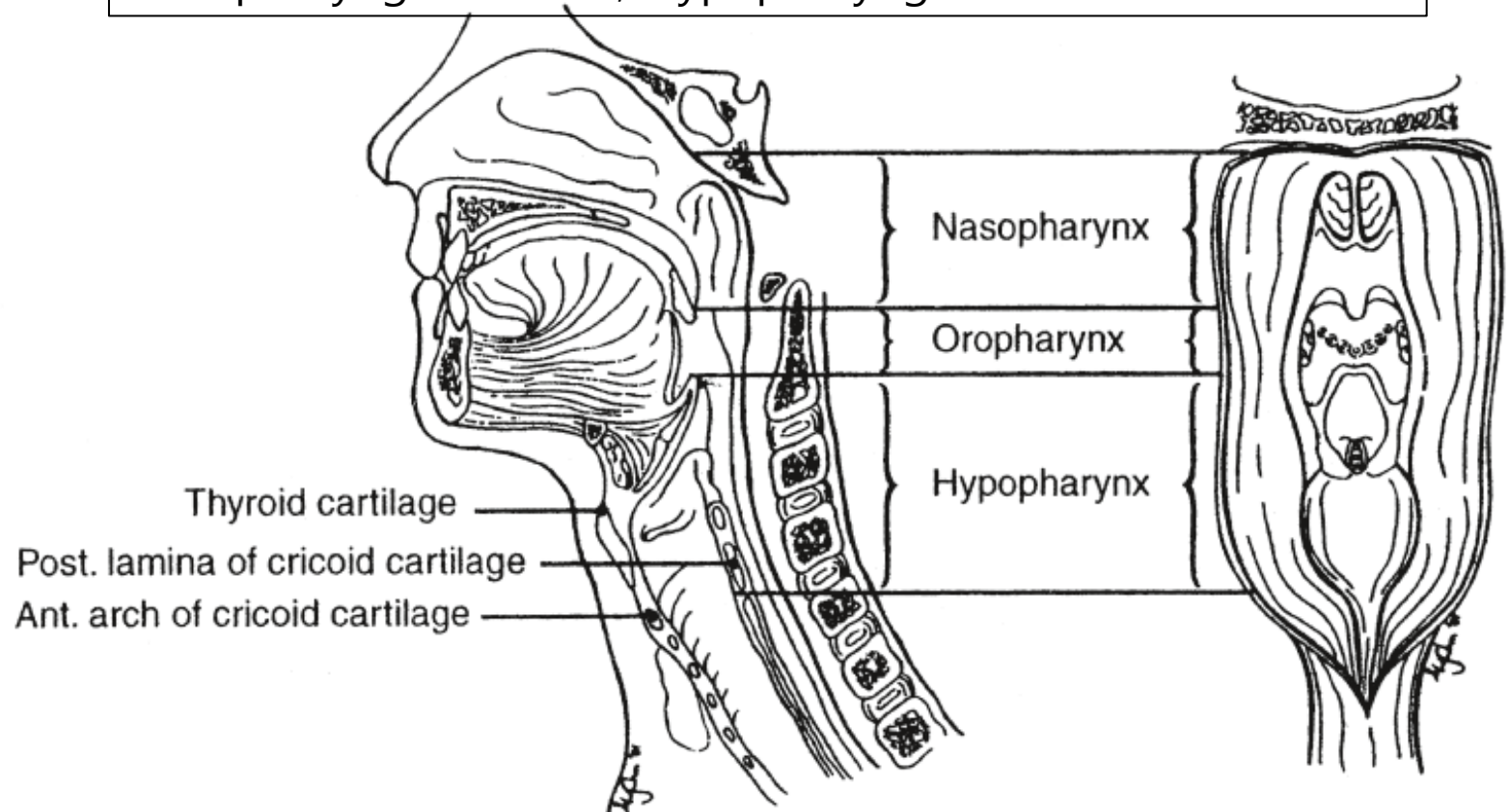
Pharynx

Pharynx

Tumor site

Nasopharynx, Oropharynx, Hypopharynx

P16(-) oropharyngeal cancer, p16(+) oropharyngeal cancer,
Nasopharyngeal cancer, Hypopharyngeal cancer



Hypopharynx

Hypopharynx

- Pyramiform sinus, lateral & posterior hypopharyngeal walls, postcricoid region

Primary tumor(T)		
Tis	Carcinoma in situ	
T1	One subsite and/or ≤ 2 cm	
T2	More than one subsite or $2\text{cm} < \text{tumor} \leq 4\text{cm}$, no fixation of hemilarynx	
T3	$> 4\text{cm}$ or fixation of hemilarynx or extension to esophagus	
T4a	Moderately advanced local disease	Thyroid/cricoid cartilage, hyoid bone, thyroid gland, central compartment soft tissue
T4b	Very advanced local disease	Prevertebral fascia, encasement of carotid artery, mediastinal structures

Central compartment soft tissue includes prelaryngeal strap muscles and subcutaneous fat

WHO classification of the tumours of the oropharynx - Squamous cell carcinoma-

Characteristics	HPV-positive	HPV-negative
Median age	50-56 years	60-70 years
Risk factors	Sexual behaviour	Smoking and alcohol abuse
Lymph node metastasis	Frequently cystic	Uncommonly cystic
Postulated origin	Reticulated epithelium of invaginated crypts	Surface epithelium
Dysplasia	Rare	Often present
Morphology	Commonly non-keratinizing	Conventional SCC
Grading	Not applicable	Applicable
P16 immunostaining	Positive	Negative
Overall 3 year survival	82%	57%

Staging based on P16 overexpression

Context specific (AJCC)

- Currently applicable only to oropharynx
- Oropharyngeal SCC, nonkeratinizing type with p16 overexpression
- Keratinizing SCC with p16 overexpression.
- AJCC Criteria: $\geq +2/+3$ intensity and $\geq 75\%$ distribution
- Oropharyngeal cancer with low p16 expression ($<75\%$ of cells) should be staged using guideline for oropharyngeal cancer, P16-negative.
- Those for which p16 testing is not performed, are staged using the staging system for p16 negative oropharyngeal cancer.

HPV detection (2016 WHO)

- Diffuse immunoreactivity for p16
- Reliable surrogated marker
- May be sufficient as a standalone test in a SCC arising in oropharynx with appropriate morphology
- HPV in situ hybridization
- PCR

p16 Expression as a surrogate marker for HPV-related oropharyngeal carcinoma: A guide for interpretative relevance and consistency

1. Strong and uniform p16 staining (both cytoplasmic and nuclear) in all or most cancer cells of basaloid nonkeratinizing/partially keratinizing oropharyngeal carcinoma may substitute for HPV testing.
2. Strong p16 staining in metastatic squamous cell carcinoma in cervical lymph nodes (level II to IV) of known, occult, and/or suspected oropharyngeal origin may substitute for HPV testing.
3. Absent or weak p16 staining in oropharyngeal carcinoma of basaloid nonkeratinized/partially keratinized phenotypes requires additional HPV testing.
4. p16 staining in conventional keratinizing squamous carcinoma of the oropharynx requires additional HPV testing.

(Head & Neck 2012;34(4):459-461)

Oropharynx (p16-)

Oropharyngeal cancer (p16-)

Tongue base, anterior surface of uvula and soft tissue, anterior and posterior tonsillar pillar, pharyngeal tonsil, lateral and posterior pharyngeal wall

Primary tumor(T)		
Tis	Carcinoma in situ	
T1	≤ 2cm	
T2	2cm < tumor ≤ 4cm	
T3	> 4cm or extension to lingual surface of epiglottis	
T4a	Moderately advanced local disease	Larynx, extrinsic muscle of tongue, medial pterygoid, hard palate, mandible
T4b	Very advanced local disease	Lateral pterygoid muscle, pterygoid plates, lateral nasopharynx, skull base, incasement of carotid artery

Mucosal extension to lingual surface of epiglottis from the base of the tongue **does not constitute invasion of larynx**

HPV-mediated (p16+) Oropharyngeal cancer

Base of tongue, Lingual tonsil, soft palate, uvula, tonsillar fossa, tonsillar pillar, vallecula, lateral wall of oropharynx, posterior pharyngeal wall, pharyngeal tonsil, oropharynx, NOS

Primary tumor(T)		
T0	No primary identified	
T1	≤ 2cm	
T2	2cm < tumor ≤ 4cm	
T3	> 4cm or extension to lingual surface of epiglottis	
T4	Moderately advanced local disease	Larynx, extrinsic muscle of tongue, medial pterygoid, hard palate, mandible

No histologic grading system applied
No T4b in the 7th edition

pN classification

Regional Lymph Nodes (N)	
N0	No regional LN metastasis
N1	Metastasis in 4 or fewer LNs
N2	Metastasis in more than 4 LNs

No prognostic effect of ENE and size of deposit

cN classification

Regional Lymph Nodes (N)	
N0	No regional LN metastasis
N1	One or more ipsilateral LN \leq 6 cm
N2	Bilateral or contralateral, \leq 6cm
N3	> 6cm in greatest dimension

Larynx

WHO classification of the tumours of the hypopharynx, larynx, trachea, and parapharyngeal space

The 2005 WHO

Precursor lesions

- Dysplasia, mild
- Dysplasia, moderate
- Dysplasia, severe
- CIS

Neuroendocrine tumors

- Typical carcinoid
- Atypical carcinoid
- Small cell carcinoma, neuroendocrine type
- Combined small cell carcinoma, neuroendocrine type

The 2016 WHO

Precursor lesions

- Dysplasia, low grade
- Dysplasia, high grade

Neuroendocrine tumors

- W/D neuroendocrine carcinoma
- M/D neuroendocrine carcinoma
- P/D neuroendocrine carcinoma
- Small cell NEC
- Large cell NEC

Larynx

T classification

Supraglottis		
Tis	Carcinoma in situ	
T1	One subsite, normal vocal cord mobility	
T2	More than one adjacent subsite of supraglottis or glottis or mucosa of base of tongue, vallecula, medial wall of pyriform sinus, no fixation of the larynx	
T3	Limited to larynx with vocal cord fixation and/or postcricoid area, preepiglottic space, paraglottic space, inner cortex of thyroid cartilage	
T4a	Moderately advanced local disease	Invasion through outer cortex of thyroid cartilage and/or trachea, soft tissues of neck including deep extrinsic muscle of the tongue, strap muscle, thyroid, esophagus
T4b	Very advanced local disease	Prevertebral space, encasement of carotid artery, mediastinal structure

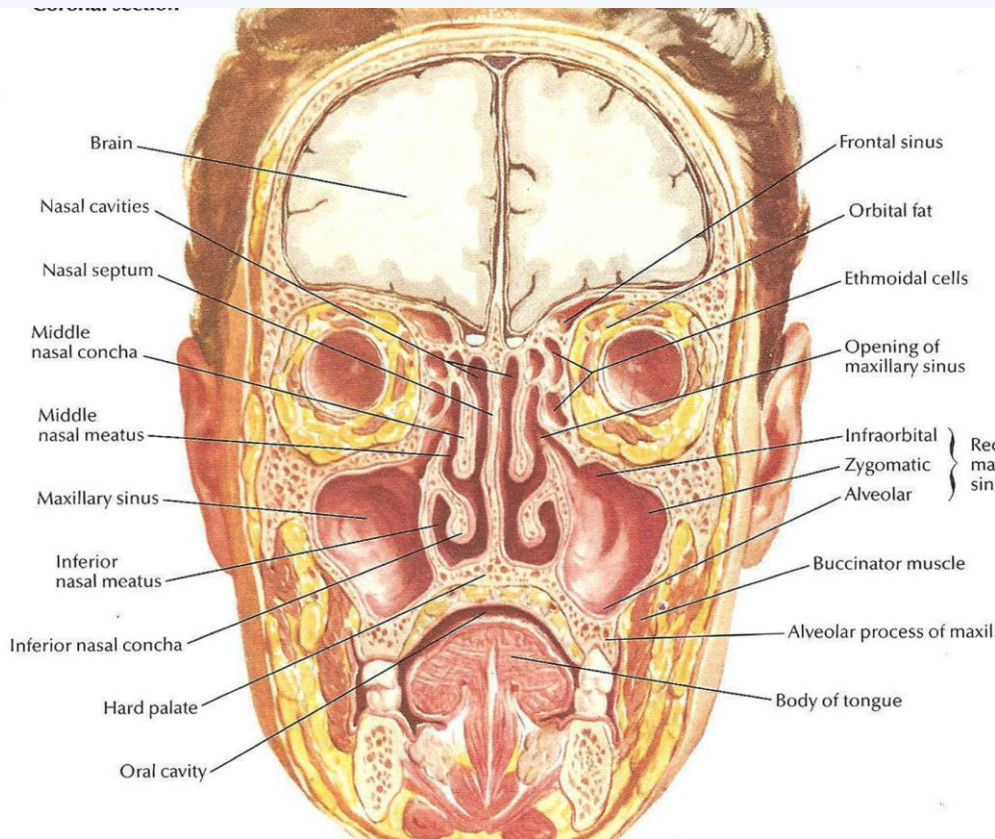
Larynx

Glottis		
Tis	Carcinoma in situ	
T1a	One vocal cord, normal mobility	
T1b	Both vocal cord, normal mobility	
T2	Extension to supraglottis or subglottis and/or impaired vocal cord mobility	
T3	Limited to larynx with vocal cord fixation, and/or paraglottic space, and/or inner cortex of thyroid cartilage	
T4a	Moderately advanced local disease	Invasion through outer cortex of thyroid cartilage , and/or trachea, soft tissues of neck including deep extrinsic muscle of the tongue, strap muscle, thyroid, esophagus
T4b	Very advanced local disease	Prevertebral space, encasement of carotid artery, mediastinal structure

Larynx

Subglottis		
Tis	Carcinoma in situ	
T1	Limited to the subglottis	
T2	Extension to vocal cord(s)	
T3	Limited to larynx with vocal cord fixation, and/or paraglottic space, and/or inner cortex of thyroid cartilage	
T4a	Moderately advanced local disease	Invades cricoid or thyroid cartilage, and/or trachea, soft tissues of neck including deep extrinsic muscle of the tongue, strap muscle, thyroid, esophagus
T4b	Very advanced local disease	Prevertebral space, encasement of carotid artery, mediastinal structure

Nasal cavity and paranasal sinuses



Site	Subsites
Maxillary sinus	Left/right
Nasal cavity	Septum
	Floor
	Lateral wall
	Edge of nares to mucocutaneous junction
Ethmoid sinus	Left/right

Nasal cavity and paranasal sinuses

Maxillary sinus

Tis	Carcinoma in situ	
T1	Limited to mucosa, no destruction of bone	
T2	Destruction of bone, no extension to post. wall and pterygoid plates	
T3	Bone of the post. wall, subcutaneous tissue, floor or medial wall of orbit, pterygoid fossa, ethmoid sinuses	
T4a	Moderately advanced local disease	Anterior orbital contents, skin of cheek, pterygoid plates, infratemporal fossa, cribriform plate, sphenoid or frontal sinuses
T4b	Very advanced local disease	Orbital apex, dura, brain, middle cranial fossa, cranial nerves(except V2), nasopharynx, clivus

Nasal cavity and ethmoid sinus

Tis	Carcinoma in situ	
T1	Restriction in one subsite, with/without bony invasion	
T2	Two subsites in a single region or extension to adjacent region within the nasoethmoidal complex, Restriction in one subsite, with/without bony invasion	
T3	Floor or medial wall of orbit, maxillary sinus, cribriform plate	
T4a	Moderately advanced local disease	Anterior orbital contents, skin of nose or cheek, pterygoid plates, minimal extension to anterior cranial fossa, sphenoid or frontal sinuses
T4b	Very advanced local disease	Orbital apex, dura, brain, middle cranial fossa, cranial nerves(except V2), nasopharynx, clivus

WHO classification of carcinomas of the nasal cavity, PNS and skull base

- Keratinizing SCC
- Non-keratinizing SCC
- Spindle cell SCC
- Lymphoepithelial carcinoma
- Sinunasal undifferentiated carcinoma
- NUT carcinoma
- Neuroendocrine carcinoma
 - Small cell neuroendocrine carcinoma
 - Large cell neuroendocrine carcinoma
- Adenocarcinoma
 - Intestinal type adenocarcinoma
 - Non-intestinal type adenocarcinoma

New entities of tumors of nasal cavity, PNS and skull base

Definite entity

- NUT carcinoma
- Biphenotypic sinonasal sarcoma

Provisional entity

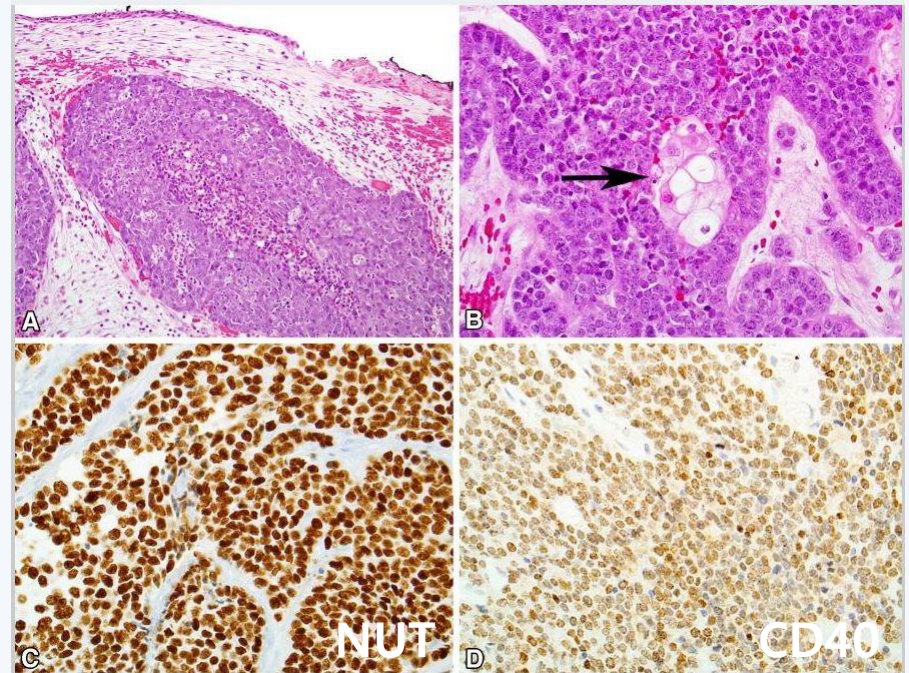
- HPV-related carcinoma with adenoid cystic-like features

New findings, but not distinct entity

- SMARCB1 (INI1)-deficient carcinoma in SNUC

NUT carcinoma

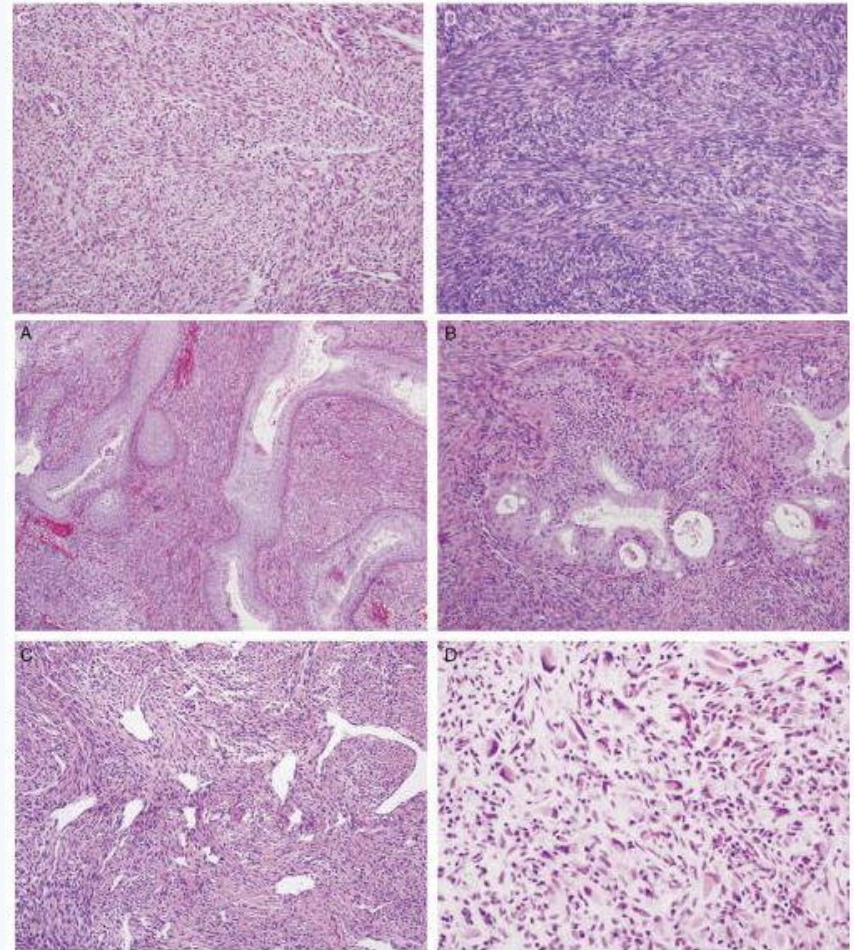
- Poorly differentiated carcinoma with NUT(nuclear protein in testis) gene rearrangement
- Mainly in midline
- Monomorphic proliferation of undifferentiated or poorly differentiated cells with abrupt foci of keratinization
- Diagnosis
 1. nuclear staining of NUT protein in >50% of cells. or
 2. NUT gene rearrangement by FISH, RT-PCR, NGS, etc
- Poor prognosis



Head Neck Pathol. 2017;11: 3–15.

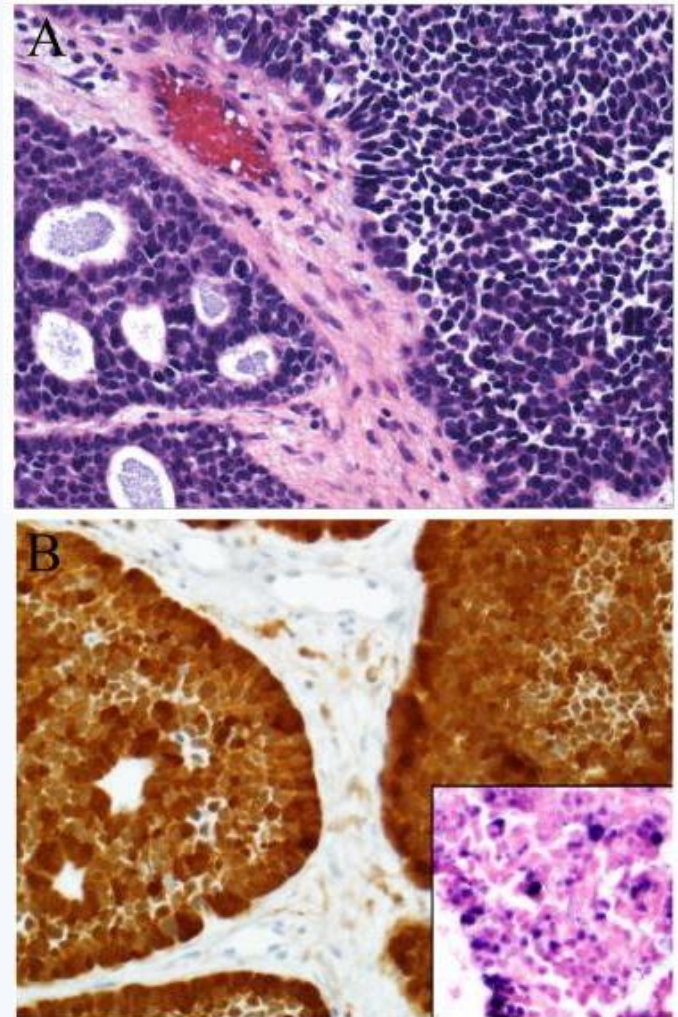
Biphenotypic sinonasal sarcoma

- Low grade spindle cell sarcoma
- Both neural and myogenic features
- **S100+**, **SMA+**, focal+ for CD34,desmin,MYOD1, EMA and Cytokeratin.
- **T(2;4)(q35;q31.1)**: fusion of *PAX3* and *MAML3*(or *FOXO1*, *NCOA1*)
- Local recurrence, but no metastasis



HPV-related carcinoma with adenoid cystic-like features

- Included in NKSCC
- Both features of surface derived and salivary gland carcinoma
- Squamous dysplasia and high grade ACC
- High risk HPV+
- Diffuse P16 positive
- Local recurrence but no metastasis reported so far.



Major salivary glands

Major salivary glands

Parotid, submandibular gland, sublingual gland

T classification

Primary tumor(T)		
Tis	Carcinoma in situ	
T1	$\leq 2\text{cm}$, no extraparenchymal extension	
T2	$2\text{cm} < \text{tumor} \leq 4\text{cm}$, no extraparenchymal extension	
T3	$> 4\text{cm}$ and/or extraparenchymal extension	
T4a	Moderately advanced local disease	Skin, mandible, ear canal, facial nerve
T4b	Very advanced local disease	Skull base, pterygoid plates, encasement of carotid artery

Extraparenchymal extension is clinical or macroscopic invasion of soft tissues or nerve (except those of T4).

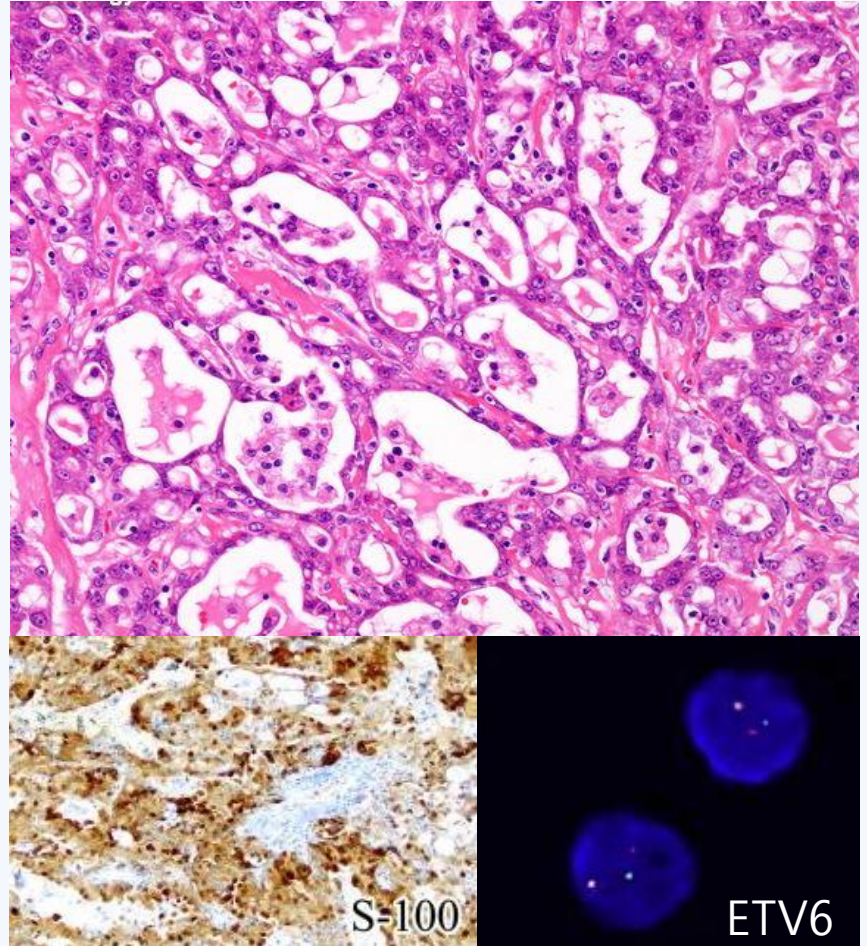
Microscopic invasion alone does not constitute extraparenchymal extension

WHO classification of the tumours of salivary glands

2017 WHO	2005 WHO	ICD-O codes
Intraductal carcinoma	Cribriform cystadenocarcinoma, low grade; intraductal carcinoma, low grade; salivary duct carcinoma	8500/2
Secretory carcinoma*		8502/3
Poorly differentiated carcinoma		
Undifferentiated carcinoma		8020/3
Large cell neuroendocrine carcinoma		8013/3
Small cell neuroendocrine carcinoma	Small cell carcinoma	8041/3
Adenocarcinoma, NOS	Cystadenocarcinoma, Mucinous adenocarcinoma, Adenocarcinoma, NOS	8140/3

Secretory carcinoma

- Low grade carcinoma with characteristic histologic changes and ETV6-NTRK3 fusion
- Synonym: Mammary analogue secretory carcinoma
- S100+, mamaglobin+, DOG1-



Cutaneous squamous cell carcinoma of the head and neck

All nonmelanoma skin carcinoma of head and neck except Merkel cell carcinoma

T classification

Primary tumor(T)	
Tis	Carcinoma in situ
T1	≤ 2cm*
T2	2cm < tumor ≤ 4cm,
T3	> 4cm or minor bone erosion or perineural invasion* or deep invasion**
T4a	Gross cortical bone/marrow invasion
T4b	Skull base invasion and/or skull base foramen involvement

* Tumor diameter: maximal clinical diameter of lesion (preoperatively based on physical examination)

**within the nerve sheath of a nerve lying deeper than the dermis or measuring 0.1 mm or larger in caliber, or presenting with clinical or radiographic involvement of named nerves without skull base invasion....

***deep invasion(beyond subcutaneous tissue or >6mm from granular layer)

Mucosal melanoma of the head and neck

Nasal cavity, PNS, oral cavity, oropharynx, nasopharynx, larynx, hypopharynx

T classification

Primary tumor(T)	
T3	Limited to mucosa and immediately underlying soft tissue, regardless of thickness or size
T4a	Moderately advanced: deep soft tissue, cartilage, bone or overlying skin
T4b	Very advanced; brain, dura, skull base, lower cranial nerve, prevertebral space, carotid artery, masticator space, mediastinal structure.

T classification

Primary tumor(T)	
TX	Primary tumor can not be assessed
T1	$\leq 2\text{cm}$
T2	$2\text{cm} < \text{tumor} \leq 4\text{cm}$
T3	$> 4\text{cm}$
T4	Tumor with invasion of adjoining structures
T4a	Invasion of orbit, skull base, dura, central compartment viscera, facial skeleton, pterygoid muscle
T4b	Invasion of brain parenchyme, carotid artery encasement, prevertebral muscle, CNS via perineural spread



