Upper Aerodigestive Tract (Including Salivary Glands)

Protocol applies to all invasive carcinomas of the upper aerodigestive tract including the oral cavity (including lip and tongue), pharynx (oropharynx, hypopharynx, nasopharynx), larynx, paranasal sinuses, and salivary glands.

Protocol revision date: January 2005
Based on AJCC/UICC TNM, 6th edition

Procedures
• Cytology (No Accompanying Checklist)
• Biopsy
• Resection

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For the Members of the Cancer Committee, College of American Pathologists
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The College of American Pathologists offers these protocols to assist pathologists in providing clinically useful and relevant information when reporting results of surgical specimen examinations of surgical specimens. The College regards the reporting elements in the “Surgical Pathology Cancer Case Summary (Checklist)” portion of the protocols as essential elements of the pathology report. However, the manner in which these elements are reported is at the discretion of each specific pathologist, taking into account clinician preferences, institutional policies, and individual practice.

The College developed these protocols as an educational tool to assist pathologists in the useful reporting of relevant information. It did not issue the protocols for use in litigation, reimbursement, or other contexts. Nevertheless, the College recognizes that the protocols might be used by hospitals, attorneys, payers, and others. Indeed, effective January 1, 2004, the Commission on Cancer of the American College of Surgeons mandated the use of the checklist elements of the protocols as part of its Cancer Program Standards for Approved Cancer Programs. Therefore, it becomes even more important for pathologists to familiarize themselves with the document. At the same time, the College cautions that use of the protocols other than for their intended educational purpose may involve additional considerations that are beyond the scope of this document.
The following changes have been made to the data elements of the checklist(s) since the January 2004 protocol revision.

**Upper Aerodigestive Tract and Minor Salivary Glands:**
**Incisional and Excisional Biopsy, Resection Checklist**

**Microscopic**

Histologic Type: Carcinomas of the Upper Aerodigestive Tract:
Adenocardinoma, Non-salivary Gland Type, was modified to include high, intermediate, and low grade adenocardinoma NOS, as shown below

[Table: Carcinomas of the Upper Aerodigestive Tract]

Histologic Type: Carcinomas of Minor Salivary Glands:
Adenocardinoma NOS was modified to include high, intermediate, and low grade, as shown below

[Table: Carcinomas of Minor Salivary Glands]
Major Salivary Glands: Resection Checklist

Macroscopic

Specimen Type: “Tumor Site” was relabeled “Specimen Type,” as shown below

**Specimen Type**
- ___ Resection, submandibular gland
- ___ Resection, sublingual gland
- ___ Superficial parotidectomy
- ___ Total parotidectomy
- ___ Other (specify): ____________________________
- ___ Not specified

Microscopic

Histologic Type: Adenocarcinoma NOS was modified to include high, intermediate, and low grade, as shown below

**Histologic Type**
- ___ Acinic cell carcinoma
- ___ Adenoid cystic carcinoma
- ___ Adenocarcinoma not otherwise specified (NOS), low grade
- ___ Adenocarcinoma NOS, intermediate grade
- ___ Adenocarcinoma NOS, high grade
- etc
Surgical Pathology Cancer Case Summary (Checklist)

Protocol revision date: January 2005
Applies to invasive cancers only
Based on AJCC/UICC TNM, 6th edition

UPPER AERODIGESTIVE TRACT AND MINOR SALIVARY GLANDS: Incisional and Excisional Biopsy, Resection

Patient name:
Surgical pathology number:

Note: Check 1 response unless otherwise indicated.

MACROSCOPIC

Specimen Type
___ Incisional biopsy
___ Excisional biopsy
___ Resection (specify type): ____________________________
___ Other (specify): ____________________________
___ Not specified

Tumor Site (check all that apply)
___ Lip
___ Oral cavity
___ Pharynx, oropharynx
___ Pharynx, hypopharynx
___ Pharynx, nasopharynx
___ Larynx, supraglottis
___ Larynx, glottis
___ Larynx, subglottis
___ Paranasal sinus(es), maxillary
___ Paranasal sinus(es), ethmoid
___ Other (specify): ____________________________
___ Not specified

Tumor Size
Greatest dimension: ___ cm
*Additional dimensions: ___ x ___ cm
___ Cannot be determined (see Comment)

* Data elements with asterisks are not required for accreditation purposes for the Commission on Cancer. These elements may be clinically important, but are not yet validated or regularly used in patient management. Alternatively, the necessary data may not be available to the pathologist at the time of pathologic assessment of this specimen.
### MICROSCOPIC

#### Histologic Type

**Carcinomas of the Upper Aerodigestive Tract**

- __Squamous cell carcinoma, conventional__

**Squamous Cell Carcinoma, Variant**

- __Verrucous carcinoma__
- __Spindle cell squamous carcinoma__
- __Adenosquamous carcinoma__
- __Basaloid squamous cell carcinoma__
- __Papillary squamous cell carcinoma__

- __Lymphoepithelioma-like carcinoma (non-nasopharyngeal)__

**Sinonasal Carcinoma**

- __Keratinizing sinonasal carcinoma__
- __Non-keratinizing sinonasal carcinoma (Transitional type)__
- __Sinonasal undifferentiated carcinoma (SNUC)__

**Nasopharyngeal Carcinoma**

- __Keratinizing nasopharyngeal carcinoma__
- __Non-keratinizing nasopharyngeal carcinoma__
- __Non-keratinizing nasopharyngeal carcinoma, differentiated__
- __Non-keratinizing nasopharyngeal carcinoma, undifferentiated (lymphoepithelioma)__
- __Non-keratinizing nasopharyngeal carcinoma, mixed differentiated and undifferentiated__

- __Adenocarcinoma, salivary gland type (specify type): ____________________________

**Adenocarcinoma, Non-salivary Gland Type**

- __Papillary adenocarcinoma__
- __Intestinal-type adenocarcinoma__
- __Adenocarcinoma not otherwise specified (NOS), low grade__
- __Adenocarcinoma NOS, intermediate grade__
- __Adenocarcinoma NOS, high grade__

**Neuroendocrine carcinoma**

- __Typical carcinoid tumor (well differentiated neuroendocrine carcinoma)__
- __Atypical carcinoid tumor (moderately differentiated neuroendocrine carcinoma)__
- __Small cell carcinoma (poorly differentiated neuroendocrine carcinoma)__

- __Other (specify): ____________________________
- __Carcinoma, type cannot be determined__

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Carcinomas of Minor Salivary Glands
___ Acinic cell carcinoma
___ Adenoid cystic carcinoma
___ Adenocarcinoma not otherwise specified (NOS), low grade
___ Adenocarcinoma NOS, intermediate grade
___ Adenocarcinoma NOS, high grade
___ Adenosquamous carcinoma
___ Squamous cell carcinoma
___ Carcinoma ex pleomorphic adenoma (malignant mixed tumor)
___ Carcinosarcoma (true malignant mixed tumor)
___ Mucoepidermoid carcinoma, low grade
___ Mucoepidermoid carcinoma, intermediate grade
___ Mucoepidermoid carcinoma, high grade
___ Polymorphous low-grade adenocarcinoma
___ Epithelial-myoepithelial carcinoma
___ Basal cell adenocarcinoma
___ Sebaceous carcinoma
___ Cystadenocarcinoma
___ Mucinous carcinoma (colloid carcinoma)
___ Oncocytic carcinoma
___ Salivary duct carcinoma
___ Myoepithelial carcinoma (malignant myoepithelioma)
___ Small cell carcinoma
___ Undifferentiated carcinoma
___ Other (specify): ____________________________
___ Carcinoma, type cannot be determined

Histologic Grade
___ Not applicable
___ GX: Cannot be assessed
___ G1: Well differentiated
___ G2: Moderately differentiated
___ G3: Poorly differentiated
___ Other (specify): ____________________________

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Pathologic Staging (pTNM) (see appropriate site below)

Note: The phrases in italics include clinical findings required for AJCC staging. This clinical information may be unknown to the pathologist. It is included here only for the sake of completeness.

Primary Tumor (pT): Lip and Oral Cavity
___ pTX: Cannot be assessed
___ pT0: No evidence of primary tumor
___ pTis: Carcinoma in situ
___ pT1: Tumor 2 cm or less in greatest dimension
___ pT2: Tumor more than 2 cm but not more than 4 cm in greatest dimension
___ pT3: Tumor more than 4 cm in greatest dimension
___ pT4: Lip: Tumor invades through cortical bone, inferior alveolar nerve, floor of mouth, or skin of face, ie, chin or nose
   ___ pT4a: Oral cavity: Tumor invades adjacent structures (eg, through cortical bone, into deep [extrinsic] muscle of tongue [genioglossus, hyoglossus, palatoglossus, and styloglossus], maxillary sinus, skin of face)
   ___ pT4b: Tumor invades masticator space, pterygoid plates, or skull base, and/or encases internal carotid artery

Primary Tumor (pT): Oropharynx
___ pTX: Cannot be assessed
___ pT0: No evidence of primary tumor
___ pTis: Carcinoma in situ
___ pT1: Tumor 2 cm or less in greatest dimension
___ pT2: Tumor more than 2 cm but not more than 4 cm in greatest dimension
___ pT3: Tumor more than 4 cm in greatest dimension
___ pT4a: Tumor invades larynx, deep/extrinsic muscle of tongue, medial pterygoid muscles, hard palate, or mandible
___ pT4b: Tumor invades lateral pterygoid muscle, pterygoid plates, lateral nasopharynx, or skull base, or encases carotid artery

Primary Tumor (pT): Hypopharynx
___ pTX: Cannot be assessed
___ pT0: No evidence of primary tumor
___ pTis: Carcinoma in situ
___ pT1: Tumor limited to 1 subsite of hypopharynx and 2 cm or less in greatest dimension
___ pT2: Tumor invades more than 1 subsite of hypopharynx or an adjacent site, or measures more than 2 cm but not more than 4 cm in greatest dimension without fixation of hemilarynx
___ pT3: Tumor measures more than 4 cm in greatest dimension or with fixation of hemilarynx
___ pT4a: Tumor invades thyroid/cricoid cartilage, hyoid bone, thyroid gland, esophagus, or central compartment soft tissue
___ pT4b: Tumor invades prevertebral fascia, encases carotid artery, or involves mediastinal structures
Primary Tumor (pT): Nasopharynx
___ pTX: Cannot be assessed
___ pT0: No evidence of primary tumor
___ pTis: Carcinoma in situ
___ pT1: Tumor confined to nasopharynx
___ pT2: Tumor extends to soft tissue
___ pT2a: Tumor extends to the oropharynx and/or nasal cavity without parapharyngeal extension
___ pT2b: Any tumor with parapharyngeal extension
___ pT3: Tumor invades bony structures and/or paranasal sinuses
___ pT4: Tumor with intracranial extension and/or involvement of cranial nerves, infratemporal fossa, hypopharynx, orbit, or masticator space

Primary Tumor (pT): Supraglottis
___ pTX: Cannot be assessed
___ pT0: No evidence of primary tumor
___ pTis: Carcinoma in situ
___ pT1: Tumor limited to 1 subsite of supraglottis with normal vocal cord mobility
___ pT2: Tumor invades mucosa of more than 1 adjacent subsite of supraglottis or glottis or region outside the supraglottis (eg, mucosa of base of tongue, vallecula, medial wall of pyriform sinus) without fixation of the larynx
___ pT3: Tumor limited to larynx with vocal cord fixation and/or invades any of the following: postcricoid area, pre-epiglottic tissues, paraglottic space, and/or minor thyroid cartilage erosion (eg, inner cortex)
___ pT4a: Tumor invades through thyroid cartilage and/or invades tissues beyond the larynx (eg, trachea, soft tissues of neck including deep extrinsic muscle of tongue, strap muscles, thyroid, or esophagus)
___ pT4b: Tumor invades prevertebral space, encases carotid artery, or invades mediastinal structures

Primary Tumor (pT): Glottis
___ pTX: Cannot be assessed
___ pT0: No evidence of primary tumor
___ pTis: Carcinoma in situ
___ pT1: Tumor limited to the vocal cords (may involve anterior or posterior commissure) with normal mobility
___ pT1a: Tumor limited to 1 vocal cord
___ pT1b: Tumor involves both vocal cords
___ pT2: Tumor extends to supraglottis and/or subglottis and/or with impaired vocal cord mobility
___ pT3: Tumor limited to the larynx with vocal cord fixation and/or invades paraglottic space, and/or minor thyroid cartilage erosion (eg, inner cortex)
___ pT4a: Tumor invades through thyroid cartilage and/or invades tissues beyond the larynx (eg, trachea, soft tissues of neck including deep extrinsic muscle of the tongue, strap muscles, thyroid, or esophagus)
___ pT4b: Tumor invades prevertebral space, encases carotid artery, or invades mediastinal structures

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Primary Tumor (pT): Subglottis

___ pTX: Cannot be assessed
___ pT0: No evidence of primary tumor
___ pTis: Carcinoma in situ
___ pT1: Tumor limited to subglottis
___ pT2: Tumor extends to vocal cord(s) with normal or impaired mobility
___ pT3: Tumor limited to larynx with vocal cord fixation
___ pT4a: Tumor invades cricoid or thyroid cartilage and/or invades tissues beyond the larynx (eg, trachea, soft tissues of neck including deep extrinsic muscles of the tongue, strap muscles, thyroid, or esophagus)
___ pT4b: Tumor invades prevertebral space, encases carotid artery, or invades mediastinal structures

Primary Tumor (pT): Maxillary Sinus

___ pTX: Cannot be assessed
___ pT0: No evidence of primary tumor
___ pTis: Carcinoma in situ
___ pT1: Tumor limited to the maxillary sinus mucosa with no erosion or destruction of bone
___ pT2: Tumor causing bone erosion or destruction including extension into the hard palate and/or middle nasal meatus, except extension to posterior wall of maxillary sinus and pterygoid plates
___ pT3: Tumor invades any of the following: bone of the posterior wall of maxillary sinus, subcutaneous tissues, floor or medial wall of orbit, pterygoid fossa, ethmoid sinuses
___ pT4a: Tumor invades anterior orbital contents, skin of cheek, pterygoid plates, infratemporal fossa, cribiform plate, sphenoid or frontal sinuses
___ pT4b: Tumor invades any of the following: orbital apex, dura, brain, middle cranial fossa, cranial nerves other than maxillary division of trigeminal nerve (V₂), nasopharynx, or clivus

Primary Tumor (pT): Nasal Cavity and Ethmoid Sinus

___ pTX: Cannot be assessed
___ pT0: No evidence of primary tumor
___ pTis: Carcinoma in situ
___ pT1: Tumor restricted to any 1 subsite, with or without bony invasion
___ pT2: Tumor invading 2 subsites in a single region or extending to involve an adjacent region within the nasoethmoidal complex, with or without bony invasion
___ pT3: Tumor extends to invade the medial wall or floor of the orbit, maxillary sinus, palate, or cribiform plate
___ pT4a: Tumor invades any of the following: anterior orbital contents, skin of nose or cheek, minimal extension to anterior cranial fossa, pterygoid plates, sphenoid or frontal sinuses
___ pT4b: Tumor invades any of the following: orbital apex, dura, brain, middle cranial fossa, cranial nerves other than (V₂), nasopharynx, or clivus

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**Regional Lymph Nodes (pN): All Aerodigestive Sites Except Nasopharynx**

<table>
<thead>
<tr>
<th>pNX</th>
<th>Cannot be assessed</th>
</tr>
</thead>
<tbody>
<tr>
<td>pN0</td>
<td>No regional lymph node metastasis</td>
</tr>
<tr>
<td>pN1</td>
<td>Metastasis in a single ipsilateral lymph node, 3 cm or less in greatest dimension</td>
</tr>
<tr>
<td>pN2a</td>
<td>Metastasis in a single ipsilateral lymph node, more than 3 cm but not more than 6 cm in greatest dimension</td>
</tr>
<tr>
<td>pN2b</td>
<td>Metastasis in multiple ipsilateral lymph nodes, none more than 6 cm in greatest dimension</td>
</tr>
<tr>
<td>pN2c</td>
<td>Metastasis in bilateral or contralateral lymph nodes, none more than 6 cm in greatest dimension</td>
</tr>
<tr>
<td>pN3</td>
<td>Metastasis in a lymph node more than 6 cm in greatest dimension</td>
</tr>
</tbody>
</table>

Specify:
- Number examined: ___
- Number involved: ___

**Regional Lymph Nodes (pN): Nasopharynx**

<table>
<thead>
<tr>
<th>pNX</th>
<th>Cannot be assessed</th>
</tr>
</thead>
<tbody>
<tr>
<td>pN0</td>
<td>No regional lymph node metastasis</td>
</tr>
<tr>
<td>pN1</td>
<td>Unilateral metastasis in lymph node(s), 6 cm or less in greatest dimension, above the supraclavicular fossa</td>
</tr>
<tr>
<td>pN2</td>
<td>Bilateral metastasis in lymph node(s), 6 cm or less in greatest dimension, above the supraclavicular fossa</td>
</tr>
<tr>
<td>pN3</td>
<td>Metastasis in a lymph node greater than 6 cm and/or to supraclavicular fossa</td>
</tr>
<tr>
<td>pN3a</td>
<td>Greater than 6 cm in dimension</td>
</tr>
<tr>
<td>pN3b</td>
<td>Extension to the supraclavicular fossa</td>
</tr>
</tbody>
</table>

Specify:
- Number examined: ___
- Number involved: ___

*Extra-capsular Extension of Nodal Tumor*

* ___ Absent
* ___ Present
* ___ Indeterminate

**Distant Metastasis (pM)**

<table>
<thead>
<tr>
<th>pMX</th>
<th>Cannot be assessed</th>
</tr>
</thead>
<tbody>
<tr>
<td>pM1</td>
<td>Distant metastasis</td>
</tr>
</tbody>
</table>

*Specify site(s), if known: ____________________________

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Margins (check all that apply)
___ Cannot be assessed
___ Margins uninvolved by tumor
   Distance of tumor from closest margin: ___ mm
   Specify margin, if possible: ____________________________
___ Carcinoma in situ absent
___ Carcinoma in situ present
___ Carcinoma in situ, not applicable
___ Margin(s) involved by tumor
   Specify margins(s), if possible: ____________________________
___ Not applicable

*Venous/Lymphatic (Large/Small Vessel) Invasion (V/L)
*___ Absent
*___ Present
*___ Indeterminate

Perineural Invasion
___ Absent
___ Present

*Additional Pathologic Findings (check all that apply)
*___ None identified
*___ Carcinoma in situ
*___ Inflammation (specify type): ____________________________
*___ Epithelial hyperplasia
*___ Epithelial dysplasia
*___ Other (specify): ____________________________

*Comment(s)

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Surgical Pathology Cancer Case Summary (Checklist)

Protocol revision date: January 2005
Applies to invasive cancers only
Based on AJCC/UICC TNM, 6th edition

MAJOR SALIVARY GLANDS: Resection

Patient name:
Surgical pathology number:

Note: Check 1 response unless otherwise indicated.

MACROSCOPIC

Specimen Type
- ___ Resection, submandibular gland
- ___ Resection, sublingual gland
- ___ Superficial parotidectomy
- ___ Total parotidectomy
- ___ Other (specify): ____________________________
- ___ Not specified

Laterality
- ___ Right
- ___ Left
- ___ Not specified

Tumor Size
Greatest dimension: ___ cm
*Additional dimension: ___ x ___ cm
- ___ Cannot be determined (see Comment)

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MICROSCOPIC

Histologic Type
___ Acinic cell carcinoma
___ Adenoid cystic carcinoma
___ Adenocarcinoma not otherwise specified (NOS), low grade
___ Adenocarcinoma NOS, intermediate grade
___ Adenocarcinoma NOS, high grade
___ Squamous cell carcinoma
___ Carcinoma ex pleomorphic adenoma (malignant mixed tumor)
___ Carcinosarcoma (true malignant mixed tumor)
___ Mucoepidermoid carcinoma, low grade
___ Mucoepidermoid carcinoma, intermediate grade
___ Mucoepidermoid carcinoma, high grade
___ Polymorphous low-grade adenocarcinoma
___ Epithelial-myoepithelial carcinoma
___ Basal cell adenocarcinoma
___ Sebaceous carcinoma
___ Cystadenocarcinoma
___ Mucinous carcinoma (colloid carcinoma)
___ Oncocytic carcinoma
___ Salivary duct carcinoma
___ Myoepithelial carcinoma (malignant myoepithelioma)
___ Small cell carcinoma
___ Undifferentiated carcinoma
___ Other (specify): ____________________________
___ Carcinoma, type cannot be determined

Histologic Grade (if appropriate)
___ Not applicable
___ GX: Cannot be assessed
___ G1: Well differentiated
___ G2: Moderately differentiated
___ G3: Poorly differentiated
___ Other (specify): ____________________________

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Pathologic Staging (pTNM)

Note: The phrases in italics include clinical findings required for AJCC staging. This clinical information may be unknown to the pathologist. It is included here only for the sake of completeness.

Primary Tumor (pT)
___ pTX: Cannot be assessed
___ pT0: No evidence of primary tumor
___ pT1: Tumor 2 cm or less in greatest dimension without extraparenchymal extension
___ pT2: Tumor more than 2 cm but not more than 4 cm in greatest dimension without extraparenchymal extension
___ pT3: Tumor more than 4 cm and/or tumor having extraparenchymal extension
___ pT4a: Tumor invades skin, mandible, ear canal, and/or facial nerve.
___ pT4b: Tumor invades skull base and/or pterygoid plates and/or encases carotid artery

Regional Lymph Nodes (pN)
___ pNX: Cannot be assessed
___ pN0: No regional lymph node metastasis
___ pN1: Metastasis in a single ipsilateral lymph node, 3 cm or less in greatest dimension
___ pN2a: Metastasis in a single ipsilateral lymph node, more than 3 cm but not more than 6 cm in greatest dimension
___ pN2b: Metastasis in multiple ipsilateral lymph nodes, none more than 6 cm in greatest dimension
___ pN2c: Metastasis in bilateral or contralateral lymph nodes, none more than 6 cm in greatest dimension
___ pN3: Metastasis in a lymph node, more than 6 cm in greatest dimension
Specify: Number examined: ___
Number involved: ___

*Extracapsular Extension of Nodal Tumor
*___ Absent
*___ Present
*___ Indeterminate

Distant Metastasis (pM)
___ pMX: Cannot be assessed
___ pM1: Distant metastasis
  *Specify site(s), if known: ____________________________

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Margins
___ Cannot be assessed
___ Margins uninvolved by tumor
    Distance of tumor from closest margin: ___ mm
    Specify margin, if possible: ____________________________
___ Margin(s) involved by tumor
    Specify margin(s), if possible: ____________________________

*Venous/Lymphatic (Large/Small Vessel) Invasion (V/L)
*___ Absent
*___ Present
*___ Indeterminate

Perineural Invasion
___ Absent
___ Present

*Additional Pathologic Findings
*Specify: ____________________________

*Comment(s)

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Background Documentation

Protocol revision date: January 2005

I. Cytologic Material

A. Clinical Information

1. Patient identification
   a. Name
   b. Identification number
   c. Age (birth date)
   d. Sex

2. Responsible physician(s)/clinic(s)

3. Date of procedure

4. Other clinical information
   a. Relevant history
      (1) surgery and date(s)
      (2) radiation and date(s)
      (3) chemotherapy and date(s)
      (4) others (eg, hyperthermia, photodynamic therapy)
   b. Clinical findings (eg, imaging studies)
   c. Clinical diagnoses
   d. Procedure (eg, fine-needle aspiration [FNA])
   e. Anatomic site(s) of specimen(s) (eg, tongue, tonsil, pharynx, epiglottis, false cord, true cord; specify right, left, midline)

B. Macroscopic Examination

1. Specimen
   a. Unfixed/fixed (specify fixative)
   b. Number of slides received
   c. Quantity and appearance of fluid specimen, if appropriate
   d. Other (eg, tissue received for cytologic preparation)
   e. Results of intraprocedural consultation with clinician (eg, rapid/immediate interpretation)

2. Material submitted for microscopic evaluation (eg, smear, cytocentrifuge, touch or filter preparation, other liquid-based cytology preparations, cell block)

3. Special studies (specify)

C. Microscopic Evaluation

1. Adequacy of specimen (if unsatisfactory for evaluation, specify reason)

2. Tumor, if present
   a. Histologic type, if possible (Note A)
   b. Other characteristics (eg, nuclear grade, necrosis)
   c. Indeterminate as to the presence of tumor

3. Presence and description of effects of previous treatment, if present and evaluable

4. Additional pathologic findings, if present

5. Results/status of special studies (specify)

6. Comments
   a. Correlation with intra procedural consultation, as appropriate
   b. Correlation with other specimens, as appropriate
   c. Correlation with clinical information, as appropriate
II. Biopsy

A. Clinical Information
   1. Patient identification
      a. Name
      b. Identification number
      c. Age (birth date)
      d. Sex
   2. Responsible physician(s)/clinic(s)
   3. Date of procedure
   4. Other clinical information that may assist the pathologist interpret the biopsy
      a. Relevant history
         (1) surgery and date(s)
         (2) radiation and date(s)
         (3) chemotherapy and date(s)
         (4) others (eg, hyperthermia, photodynamic therapy)
      b. Clinical findings (eg, imaging studies)
      c. Clinical diagnosis
      d. Procedure
      e. Operative findings
      f. Anatomic site(s) of specimen(s) (eg, tongue, tonsil, pharynx, epiglottis, false cord, true cord; specify right, left, midline)

B. Macroscopic Examination
   1. Specimen
      a. Unfixed/fixed (specify fixative)
      b. Size (3 dimensions)
      c. Results of intraoperative consultation
   2. Tissue(s) submitted for microscopic evaluation (all or selected samples)
   3. Special studies (specify)

C. Microscopic Evaluation
   1. Tumor, if present
      a. Histologic type (Note A)
      b. Histologic grade (Note B)
      c. Extent of invasion
         (1) noninvasive (in situ)
         (2) subepithelial connective tissue (depth of invasion from the basement membrane in millimeters: lip and tongue cancer only)
         (3) muscle, when applicable
         (4) bone or cartilage, when applicable
         (5) indeterminate (state reasons)
      d. Lymphovascular invasion, if identified
      e. Perineural invasion, if identified
   2. Tissue changes adjacent to the tumor, if present
      a. Dysplasia or atypia
      b. Carcinoma in situ (CIS)
      c. Others (eg, hyperkeratosis, radiation change, scar)
   3. Presence and description of effects of previous treatment, if present and evaluable
   4. Results/status of special studies (specify)
   5. Comments
      a. Correlation with intraoperative consultation, as appropriate
      b. Correlation with other specimens, as appropriate
      c. Correlation with clinical information, as appropriate
III. Resection

A. Clinical Information
   1. Patient identification
      a. Name
      b. Identification number
      c. Age (birth date)
      d. Sex
   2. Responsible physician(s)/clinic(s)
   3. Date of procedure
   4. Other clinical information
      a. Relevant history
         (1) previous diagnoses
         (2) previous cervical lymph node biopsy, if applicable
         (3) surgery and date(s)
         (4) radiation and date(s)
         (5) chemotherapy and date(s)
         (6) others (eg, hyperthermia, photodynamic therapy)
      b. Relevant physical, radiologic, and laboratory findings
      c. Clinical diagnosis
      d. Procedure
         (1) excision (eg, right hemiglossectomy)
         (2) all anatomical structures removed (Note C)
         (3) lymph node dissection (Note D)
      e. Operative findings (documentation of areas of concern marked by surgeon)
      f. Anatomic site(s) of specimen(s)

B. Macroscopic Examination
   1. Specimen
      a. Unfixed/fixed (specify fixative)
      b. Size (3 dimensions)
      c. Constituent organs/tissues submitted en bloc or separately
      d. Margins (tumor present/absent, distance from free margin)
         (1) note areas designated by surgeon
         (2) ink margin(s) of clinical relevance
      e. Neck contents accompanying specimen in continuity or separately (specify)
      f. Results of intraoperative consultation
   2. Neoplasm
      a. Anatomical site(s) involved by tumor
      b. Size (3 dimensions) (Note E)
      c. Pattern of growth
         (1) exophytic
         (2) endophytic
         (3) others
      d. Anatomic extent (structures involved by tumor and depth of invasion) (Note E)
      e. Relation to margins
      f. Additional tumors (describe each primary tumor, as above)
         (1) size
         (2) number
         (3) location
   3. Additional pathologic findings, if present
      a. Abnormal mucosa (eg, leukoplakia)
      b. Other lesions (eg, scar)
4. Lymph nodes submitted as part of specimen
   a. Location by levels (Note F)
   b. Number, each level (Note G)
   c. Description of lymph nodes containing tumor
      (1) matted
      (2) gross metastasis
      (3) size of largest metastasis in a lymph node containing metastatic tumor
          (Note H)
      (4) extranodal extension
      (5) gross involvement of adjacent nerve or vessel (eg, internal jugular vein)
5. Separately submitted lymph nodes (according to the regional lymph node groups or levels, as designated by surgeon) (Note F)
6. Other separately submitted organ(s)/tissue(s)
   a. Location, as specified by surgeon
   b. Description
      (1) salivary gland
      (2) thyroid
      (3) parathyroid
      (4) others
   c. Involvement by tumor
7. Tissue submitted for microscopic evaluation
   a. Tumor, representative
   b. Tumor at point of deepest penetration
   c. Interface of tumor with adjacent nontumorous mucosa/tissue
   d. Mucosa/tissue remote from cancer
   e. Margin(s) of resection
   f. Areas designated by surgeon
   g. Areas with additional pathologic findings
   h. Other organ(s)/tissue(s)
8. Special studies (specify)
   C. Microscopic Evaluation
      1. Tumor, if present
         a. Histologic type (Note A)
         b. Histologic grade (Note B)
         c. Location
         d. Extent of invasion (Note E)
            (1) noninvasive (carcinoma in situ)
            (2) subepithelial connective tissue depth of invasion (from the basement
                membrane, in millimeters: lip and tongue cancer only)
            (3) muscle, if applicable
            (4) bone or cartilage, if applicable
            (5) adjacent structures
         e. Lymphovascular invasion
         f. Perineural invasion (designate the name of nerve, if applicable)
      2. Margins
         a. Tumor present
         b. Tumor absent, margin width (in millimeters)
         c. Margins pushing or invasive
      3. Status of area(s) marked by surgeon
      4. Presence and description of effects of previous treatment, if present and evaluable
5. Additional pathologic findings, if present
   a. Dysplasia or atypia
   b. Carcinoma in situ (CIS)
   c. Others (eg, radiation changes or scars)
6. Lymph nodes
   a. Site(s) (according to levels) (Note F)
      (1) included in specimen (report according to level)
      (2) separately submitted (report as specified)
   b. Number
      (1) total number, according to level
      (2) number involved by tumor according to level
         i. number involved by viable tumor
         ii. number involved by evidence of treated (eg, radiated) nonviable tumor
            (eg, keratin and parakeratotic debris, fibrosis, necrotic cells consistent with tumor cells)
      (3) size of largest metastasis in a lymph node containing metastatic tumor
         (Note H)
   c. Extracapsular extension
      (1) number involved by tumor, according to level
7. Results/status of special studies (specify)
8. Comments
   a. Correlation with intraoperative consultation, as appropriate
   b. Correlation with other specimens, as appropriate
   c. Correlation with clinical information, as appropriate

Explanatory Notes

A. Histological Type
A modification of the World Health Organization (WHO) classification of carcinomas of the head and neck is shown below. This list may not be complete. This protocol applies only to carcinomas and does not apply to melanomas, lymphomas, or sarcomas.

Carcinomas of Upper Aerodigestive Tract
Squamous cell carcinoma, conventional
Squamous cell carcinoma, variant (see below)
   Verrucous carcinoma
   Spindle cell squamous carcinoma
   Adenosquamous carcinoma
   Basaloid squamous cell carcinoma
   Papillary squamous cell carcinoma
Lymphoepithelioma-like carcinoma (non-nasopharyngeal)\*
Sinonasal carcinoma
   Keratinizing
   Non-keratinizing (transitional-type)
   Sinonasal undifferentiated carcinoma (SNUC)\*
Nasopharyngeal carcinoma
   Keratinizing
   Non-keratinizing
      Differentiated nasopharyngeal carcinoma (specify)
      Undifferentiated nasopharyngeal carcinoma (lymphoepithelioma)
      Mixed differentiated and undifferentiated nasopharyngeal carcinoma
         (specify types)
Adenocarcinoma
   Salivary gland type (specify)
   Non-salivary gland type
      Papillary adenocarcinoma
      Intestinal-type adenocarcinoma
      Not otherwise specified (NOS)
         Low grade
         Intermediate grade
         High grade

Neuroendocrine carcinoma
   Typical carcinoid tumor (well differentiated neuroendocrine carcinoma)
   Atypical carcinoid (moderately differentiated neuroendocrine carcinoma)
   Small cell carcinoma (poorly differentiated neuroendocrine carcinoma)

Other#

# Diagnoses not included in WHO classification.

Carcinomas of the Major and Minor Salivary Glands
The histologic classification recommended is a modification of the WHO classification of salivary gland tumors. The major malignant varieties include the following:

Acinic cell carcinoma
Adenoid cystic carcinoma
Adenocarcinoma (not otherwise specified [NOS])
   Low grade
   Intermediate grade
   High grade
Adenosquamous carcinoma (minor salivary gland only)
Squamous cell carcinoma
Carcinoma ex pleomorphic adenoma (malignant mixed tumor)
   Non-invasive/minimally invasive (carcinoma in situ ex pleomorphic adenoma)
   Invasive
Carcinosarcoma (true malignant mixed tumor)
Mucoepidermoid carcinoma
   Low grade
   Intermediate grade
   High grade
Polymorphous low-grade adenocarcinoma
Epithelial-myoepithelial carcinoma
Basal cell adenocarcinoma
Sebaceous carcinoma
Cystadenocarcinoma
Mucinous carcinoma (colloid carcinoma)
Oncocytic carcinoma
Salivary duct carcinoma
Myoepithelial carcinoma (malignant myoepithelioma)
Small cell carcinoma
Undifferentiated carcinoma#
Other

# Diagnosis not included in WHO classification.
B. Histologic Grade
For histologic types of carcinomas that are amenable to grading, 3 histologic grades are suggested, as shown below. When a tumor manifests more than 1 grade of differentiation, the surgical report must designate both the highest and the most prevalent tumor grades.

<table>
<thead>
<tr>
<th>Grade</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>Cannot be assessed</td>
</tr>
<tr>
<td>1</td>
<td>Well differentiated</td>
</tr>
<tr>
<td>2</td>
<td>Moderately differentiated</td>
</tr>
<tr>
<td>3</td>
<td>Poorly differentiated</td>
</tr>
</tbody>
</table>

This grading system does not apply to all salivary gland tumors. When attempting to grade salivary gland tumors, pathologists are referred to the references on tumor grading listed below.

C. Orientation of Specimen
Complex specimens should be examined and oriented with the assistance of attending surgeons. Optimally, attending surgeons should submit diagrams illustrating graphically the extents of the tumors and the lines of resections, as shown in Figure 1.

Figure 1. Whenever possible, the tissue examination request form should include a drawing of the resected specimen showing the extent of the tumor and its relation to the anatomic structures of the region. The lines and extent of the resection can be depicted on preprinted adhesive labels, as shown in the figure, and attached to the surgical pathology request forms.

D. Classification of Neck Dissection
1. Radical neck dissection
2. Modified radical neck dissection, internal jugular vein and/or sternocleidomastoid muscle spared
3. Selective neck dissection, as specified by the surgeon
   a. Supraomohyoid neck dissection
   b. Posterolateral neck dissection
   c. Lateral neck dissection
   d. Central compartment neck dissection
   e. Others
4. Extended radical neck dissection, as specified by the surgeon
E  TNM and Stage Groupings
The protocol recommends the TNM staging system of the American Joint Committee on Cancer (AJCC) and the International Union Against Cancer (UICC) for head and neck cancer.\textsuperscript{1,2} Separate categories and stage grouping classifications for the various specific sites of the aerodigestive tract (including salivary glands) are enumerated individually below.

By AJCC/UICC convention, the designation “T” refers to a primary tumor that has not been previously treated. The symbol “p” refers to the pathologic classification of the TNM, as opposed to the clinical classification, and is based on gross and microscopic examination. pT entails a resection of the primary tumor or biopsy adequate to evaluate the highest pT category, pN entails removal of nodes adequate to validate lymph node metastasis, and pM implies microscopic examination of distant lesions. Clinical classification (cTNM) is usually carried out by the referring physician before treatment during initial evaluation of the patient or when pathologic classification is not possible.

Pathologic staging is usually performed after surgical resection of the primary tumor. Pathologic staging depends on pathologic documentation of the anatomic extent of disease, whether or not the primary tumor has been completely removed. If a biopsied tumor is not resected for any reason (eg, when technically unfeasible) and if the highest T and N categories or the M1 category of the tumor can be confirmed microscopically, the criteria for pathologic classification and staging have been satisfied without total removal of the primary cancer.

Lip and Oral Cavity

Anatomical Sites and Subsites for Lip and Oral Cavity

\textit{Lip}

- External upper lip (vermilion border)
- External lower lip (vermilion border)
- Commissures

\textit{Oral Cavity}

- Buccal mucosa
  - Mucosa of upper and lower lips
  - Cheek mucosa
  - Retromolar areas
  - Bucco-alveolar sulci, upper and lower (vestibule of mouth)
- Upper alveolus and gingiva (upper gum)
- Lower alveolus and gingiva (lower gum)
- Hard palate
- Tongue
  - Dorsal surface and lateral borders anterior to vallate papillae (anterior two-thirds)
  - Inferior (ventral) surface
- Floor of mouth
Primary Tumor (T): Lip and Oral Cavity
TX: Cannot be assessed
T0: No evidence of primary tumor
Tis: Carcinoma in situ
T1: Tumor 2 cm or less in greatest dimension
T2: Tumor more than 2 cm but not more than 4 cm in greatest dimension
T3: Tumor more than 4 cm in greatest dimension
T4: Lip: Tumor invades through cortical bone, inferior alveolar nerve, floor of mouth, or skin of face, ie, chin or nose
T4a: Oral cavity: Tumor invades adjacent structures (eg, through cortical bone, into deep [extrinsic] muscle of tongue [genioglossus, hyoglossus, palatoglossus, and styloglossus], maxillary sinus, skin of face)
T4b: Tumor invades masticator space, pterygoid plates, or skull base, and/or encases internal carotid artery

Note: Superficial erosion alone of bone/tooth socket by primary gingival tumor is not sufficient to classify a tumor as T4.

Pharynx

Anatomical Sites and Subsites for Pharynx
Oropharynx
Anterior wall (glosso-epiglottic area)
- Base of tongue (posterior to the vallate papillae or posterior third)
- Vallecula
Lateral wall
- Tonsil
- Tonsillar fossa and tonsillar (faucial) pillars
- Glossotonsillar sulci
Posterior wall
Superior wall
- Inferior surface of soft palate
- Uvula

Nasopharynx
- Postero-superior wall: junction of the hard and soft palates to the base of the skull
- Lateral wall: includes fossa of Rosenmuller
- Inferior wall: superior surface of the soft palate

Note: The margin of the choanal orifices, including the posterior margin of the nasal septum, is included with the nasal fossa.

Hypopharynx
- Pharyngo-esophageal junction (postcricoid area): level of arytenoid cartilages and connecting folds to inferior border of cricoid cartilage (forming anterior wall of hypopharynx)
- Pyriform sinus: pharyngoepiglottic fold to the upper end of the esophagus, bounded laterally by the thyroid cartilage and medially by the hypopharyngeal surface of the aryepiglottic fold and the arytenoid and cricoid cartilages
- Posterior pharyngeal wall: superior level of the hyoid bone (floor of the vallecula) to the inferior border of the cricoid cartilage and the apex of one pyriform sinus to the other
Primary Tumor (T): Oropharynx
TX: Cannot be assessed
T0: No evidence of primary tumor
Tis: Carcinoma in situ
T1: Tumor 2 cm or less in greatest dimension
T2: Tumor more than 2 cm but not more than 4 cm in greatest dimension
T3: Tumor more than 4 cm in greatest dimension
T4a: Tumor invades larynx, deep/extrinsic muscle of tongue, medial pterygoid muscles, hard palate, or mandible
pT4b: Tumor invades lateral pterygoid muscle, pterygoid plates, lateral nasopharynx, or skull base, or encases carotid artery

Primary Tumor (T): Nasopharynx
TX: Cannot be assessed
T0: No evidence of primary tumor
Tis: Carcinoma in situ
T1: Tumor confined to nasopharynx
T2: Tumor extends to soft tissue
T2a: Tumor extends to the oropharynx and/or nasal cavity without parapharyngeal extension
T2b: Any tumor with parapharyngeal extension
T3: Tumor invades bony structures and/or paranasal sinuses
T4: Tumor with intracranial extension and/or involvement of cranial nerves, infratemporal fossa, hypopharynx, orbit, or masticator space

# Parapharyngeal extension denotes postero-lateral infiltration of tumor beyond the pharyngo-basilar fascia.

Primary Tumor (T): Hypopharynx
TX: Cannot be assessed
T0: No evidence of primary tumor
Tis: Carcinoma in situ
T1: Tumor limited to 1 subsite of hypopharynx and 2 cm or less in greatest dimension
T2: Tumor invades more than 1 subsite of hypopharynx or an adjacent site, or measures more than 2 cm but not more than 4 cm in greatest dimension without fixation of hemilarynx
T3: Tumor measures more than 4 cm in greatest dimension or with fixation of hemilarynx
T4a: Tumor invades thyroid/cricoid cartilage, hyoid bone, thyroid gland, esophagus, or central compartment soft tissue
T4b: Tumor invades prevertebral fascia, encases carotid artery, or involves mediastinal structures

# May only be determined clinically.
## Central compartment soft tissue includes prelaryngeal strap muscles and subcutaneous fat.
Regional Lymph Nodes (N): Lip and Oral Cavity, Oropharynx, and Hypopharynx

NX  Regional lymph nodes cannot be assessed
N0  No regional lymph node metastasis
N1  Metastasis in a single ipsilateral lymph node, 3 cm or less in greatest dimension
N2  Metastasis in a single ipsilateral lymph node, more than 3 cm but not more than 6 cm in greatest dimension; or in multiple ipsilateral lymph nodes, none more than 6 cm in greatest dimension; or in bilateral or contralateral lymph nodes, none more than 6 cm in greatest dimension
N2a Metastasis in a single ipsilateral lymph node, more than 3 cm but not more than 6 cm in greatest dimension
N2b Metastasis in multiple ipsilateral lymph nodes, none more than 6 cm in greatest dimension
N2c Metastasis in bilateral or contralateral lymph nodes, none more than 6 cm in greatest dimension
N3  Metastasis in a lymph node more than 6 cm in greatest dimension

Note: Midline nodes are considered ipsilateral nodes.

Regional Lymph Nodes (N): Nasopharynx

NX  Regional lymph nodes cannot be assessed
N0  No regional lymph node metastasis
N1  Unilateral metastasis in lymph node(s), # 6 cm or less in greatest dimension, above supraclavicular fossa
N2  Bilateral metastasis in lymph node(s), 6 cm or less in greatest dimension, above supraclavicular fossa
N3  Metastasis in lymph node(s) more than 6 cm in greatest dimension and/or to supraclavicular fossa
N3a Metastasis in lymph node(s) more than 6 cm in dimension
N3b Metastasis in lymph node(s) residing wholly or in part in the supraclavicular fossa

# Midline nodes are considered ipsilateral nodes.

Distant Metastasis (M): Lip and Oral Cavity, Oropharynx, Nasopharynx, and Hypopharynx

MX  Distant metastasis cannot be assessed
M0  No distant metastasis
M1  Distant metastasis

Stage Groupings: Lip and Oral Cavity, Oropharynx, and Hypopharynx

Stage 0  Tis  N0  M0
Stage I  T1  N0  M0
Stage II  T2  N0  M0
Stage III  T1,T2  N1  M0
 T3  N0,N1  M0
Stage IVA  T1,T2,T3  N2  M0
 T4a  N0,N1,N2  M0
Stage IVB  Any T  N3  M0
 T4b  Any N  M0
Stage IVC  Any T  Any N  M1
Upper Aerodigestive Tract • Head and Neck

Stage Groupings: Nasopharynx

<table>
<thead>
<tr>
<th>Stage</th>
<th>T</th>
<th>N</th>
<th>M</th>
</tr>
</thead>
<tbody>
<tr>
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<td>Tis</td>
<td>N0</td>
<td>M0</td>
</tr>
<tr>
<td>Stage I</td>
<td>T1</td>
<td>N0</td>
<td>M0</td>
</tr>
<tr>
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<td>T2a</td>
<td>N0</td>
<td>M0</td>
</tr>
<tr>
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<td>M0</td>
</tr>
<tr>
<td>Stage III</td>
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<td>N2</td>
<td>M0</td>
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<tr>
<td></td>
<td>T2a,T2b</td>
<td>N2</td>
<td>M0</td>
</tr>
<tr>
<td></td>
<td>T3</td>
<td>N0,N1,N2</td>
<td>M0</td>
</tr>
<tr>
<td>Stage IVA</td>
<td>T4</td>
<td>N0,N1,N2</td>
<td>M0</td>
</tr>
<tr>
<td>Stage IVB</td>
<td>Any T</td>
<td>N3</td>
<td>M0</td>
</tr>
<tr>
<td>Stage IVC</td>
<td>Any T</td>
<td>Any N</td>
<td>M1</td>
</tr>
</tbody>
</table>

Larynx

Anatomical Sites and Subsites for Larynx

Supraglottis

- Epilarynx, including marginal zone
- Suprahypoid epiglottis, including tip, lingual (anterior) and laryngeal surfaces
- Aryepiglottic fold, laryngeal aspect
- Arytenoid
- Supraglottis, excluding epilarynx
- Infrahypoid epiglottis
- Ventricular bands (false cords)

Glottis

- Vocal cords
- Anterior commissure
- Posterior commissure

Subglottis

Primary Tumor (T): Supraglottis

TX: Cannot be assessed
T0: No evidence of primary tumor
Tis: Carcinoma in situ
T1: Tumor limited to 1 subsite of supraglottis with normal vocal cord mobility#
T2: Tumor invades mucosa of more than 1 adjacent subsite of supraglottis or glottis or region outside the supraglottis (eg, mucosa of base of tongue, vallecula, medial wall of pyriform sinus) without fixation of the larynx#
T3: Tumor limited to larynx with vocal cord fixation# and/or invades any of the following: postcricoid area, pre-epiglottic tissues, paraglottic space, and/or minor thyroid cartilage erosion (eg, inner cortex)
T4a: Tumor invades through thyroid cartilage and/or invades tissues beyond the larynx (eg, trachea, soft tissues of neck including deep extrinsic muscle of tongue, strap muscles, thyroid, or esophagus)
T4b: Tumor invades prevertebral space, encases carotid artery, or invades mediastinal structures

# May only be determined clinically.
Primary Tumor (T): Glottis
TX: Cannot be assessed
T0: No evidence of primary tumor
Tis: Carcinoma in situ
T1: Tumor limited to the vocal cords (may involve anterior or posterior commissure) with normal mobility#
T1a: Tumor limited to 1 vocal cord
T1b: Tumor involves both vocal cords
T2: Tumor extends to supraglottis and/or subglottis and/or with impaired vocal cord mobility#
T3: Tumor limited to the larynx with vocal cord fixation# and/or invades paraglottic space, and/or minor thyroid cartilage erosion (eg, inner cortex)
T4a: Tumor invades through thyroid cartilage and/or invades tissues beyond the larynx (eg, trachea, soft tissues of neck including deep extrinsic muscle of the tongue, strap muscles, thyroid, or esophagus)
T4b: Tumor invades prevertebral space, encases carotid artery, or invades mediastinal structures

# May only be determined clinically.

Primary Tumor (T): Subglottis
TX: Cannot be assessed
T0: No evidence of primary tumor
Tis: Carcinoma in situ
T1: Tumor limited to subglottis
T2: Tumor extends to vocal cord(s) with normal or impaired mobility#
T3: Tumor limited to larynx with vocal cord fixation#
T4a: Tumor invades cricoid or thyroid cartilage and/or invades tissues beyond the larynx (eg, trachea, soft tissues of neck including deep extrinsic muscle of the tongue, strap muscles, thyroid, or esophagus)
T4b: Tumor invades prevertebral space, encases carotid artery, or invades mediastinal structures

# May only be determined clinically.

Regional Lymph Nodes (N): Supraglottis, Glottis, and Subglottis
NX Regional lymph nodes cannot be assessed
N0 No regional lymph node metastasis
N1 Metastasis in a single ipsilateral lymph node 3 cm or less in greatest dimension
N2 Metastasis in a single ipsilateral lymph node more than 3 cm but not more than 6 cm in greatest dimension; or in multiple ipsilateral lymph nodes, none more than 6 cm in greatest dimension; or in bilateral or contralateral lymph nodes, none more than 6 cm in greatest dimension
N2a Metastasis in a single ipsilateral lymph node, more than 3 cm but not more than 6 cm in greatest dimension
N2b Metastasis in multiple ipsilateral lymph nodes, none more than 6 cm in greatest dimension
N2c Metastasis in bilateral or contralateral lymph nodes, none more than 6 cm in greatest dimension
N3 Metastasis in a lymph node more than 6 cm in greatest dimension
Upper Aerodigestive Tract • Head and Neck

For Information Only

Distant Metastasis (M): Supraglottis, Glottis, and Subglottis

MX  Distant metastasis cannot be assessed
M0  No distant metastasis
M1  Distant metastasis

Stage Groupings: Supraglottis, Glottis, and Subglottis

Stage 0   Tis  N0  M0
Stage I   T1  N0  M0
Stage II  T2  N0  M0
Stage III T1  N1  M0
       T2  N1  M0
       T3  N0,N1  M0
Stage IVA T1,T2,T3 N2  M0
       T4a  N0,N1,N2  M0
Stage IVB T4b  Any N  M0
       Any T  N3  M0
Stage IVC Any T  Any N  M1

Paranasal Sinuses

Anatomical Subsites of Paranasal Sinuses

Nasal Cavity
- Septum
- Floor
- Lateral wall
- Vestibule

Maxillary sinus

Ethmoid sinus
- Left
- Right

Primary Tumor (T): Maxillary Sinus

TX:  Cannot be assessed
T0:  No evidence of primary tumor
Tis:  Carcinoma in situ
T1:  Tumor limited to the maxillary sinus mucosa with no erosion or destruction of bone
T2:  Tumor causing bone erosion or destruction including extension into the hard palate and/or middle nasal meatus, except extension to posterior wall of maxillary sinus and pterygoid plates
T3:  Tumor invades any of the following: bone of the posterior wall of maxillary sinus, subcutaneous tissues, floor or medial wall of orbit, pterygoid fossa, ethmoid sinuses
T4a: Tumor invades anterior orbital contents, skin of cheek, pterygoid plates, infratemporal fossa, cribiform plate, sphenoid or frontal sinuses
T4b: Tumor invades any of the following: orbital apex, dura, brain, middle cranial fossa, cranial nerves other than maxillary division of trigeminal nerve (V2), nasopharynx, or clivus
Primary Tumor (T): Nasal Cavity and Ethmoid Sinus
TX: Cannot be assessed
T0: No evidence of primary tumor
Tis: Carcinoma in situ
T1: Tumor restricted to any 1 subsite, with or without bony invasion
T2: Tumor invading 2 subsites in a single region or extending to involve an adjacent region within the nasoethmoidal complex, with or without bony invasion
T3: Tumor extends to invade the medial wall or floor of the orbit, maxillary sinus, palate, or cribriform plate
T4a: Tumor invades any of the following: anterior orbital contents, skin of nose or cheek, minimal extension to anterior cranial fossa, pterygoid plates, sphenoid or frontal sinuses
T4b: Tumor invades any of the following: orbital apex, dura, brain, middle cranial fossa, cranial nerves other than (V2), nasopharynx, or clivus

Regional Lymph Nodes (N): Nasal Cavity, Maxillary Sinus, and Ethmoid Sinus
NX Regional lymph nodes cannot be assessed
N0 No regional lymph node metastasis
N1 Metastasis in a single ipsilateral lymph node, 3 cm or less in greatest dimension
N2 Metastasis in a single ipsilateral lymph node, more than 3 cm but not more than 6 cm in greatest dimension; or in multiple ipsilateral lymph nodes, none more than 6 cm in greatest dimension; or in bilateral or contralateral lymph nodes, none more than 6 cm in greatest dimension
N2a Metastasis in a single ipsilateral lymph node, more than 3 cm but not more than 6 cm in greatest dimension
N2b Metastasis in multiple ipsilateral lymph nodes, none more than 6 cm in greatest dimension
N2c Metastasis in bilateral or contralateral lymph nodes, none more than 6 cm in greatest dimension
N3 Metastasis in a lymph node more than 6 cm in greatest dimension

Distant Metastasis (M): Nasal Cavity, Maxillary Sinus, and Ethmoid Sinus
MX Distant metastasis cannot be assessed
M0 No distant metastasis
M1 Distant metastasis

Stage Groupings: Nasal Cavity, Maxillary Sinus, and Ethmoid Sinus
Stage 0 Tis N0 M0
Stage I T1 N0 M0
Stage II T2 N0 M0
Stage III T1 N1 M0
T2 N1 M0
T3 N0,N1 M0
Stage IVA T1,T2,T3 N2 M0
T4a N0,N1,N2 M0
Stage IVB T4b Any N M0
Any T N3 M0
Stage IVC Any T Any N M1
Salivary Glands

Rules for Classification
The classification applies only to carcinomas of the major salivary glands: parotid, submandibular (submaxillary), and sublingual glands. Tumors arising in minor salivary glands (mucous-secreting glands in the lining membrane of the upper aerodigestive tract) are staged according to the classification schemes corresponding to the anatomic sites in which they reside, eg, lip.

Primary Tumor (T): Salivary Glands

<table>
<thead>
<tr>
<th>T</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>TX</td>
<td>Primary tumor cannot be assessed</td>
</tr>
<tr>
<td>T0</td>
<td>No evidence of primary tumor</td>
</tr>
<tr>
<td>T1</td>
<td>Tumor 2 cm or less in greatest dimension without extraparenchymal extension</td>
</tr>
<tr>
<td>T2</td>
<td>Tumor more than 2 cm but not more than 4 cm in greatest dimension without</td>
</tr>
<tr>
<td></td>
<td>extraparenchymal extension</td>
</tr>
<tr>
<td>T3</td>
<td>Tumor more than 4 cm and/or tumor having extraparenchymal extension</td>
</tr>
<tr>
<td>T4a</td>
<td>Tumor invades skin, mandible, ear canal, and/or facial nerve</td>
</tr>
<tr>
<td>T4b</td>
<td>Tumor invades base of skull and/or pterygoid plates and/or encases carotid artery</td>
</tr>
</tbody>
</table>

# Extraparenchymal extension is clinical or macroscopic evidence of invasion of soft tissues or nerve except those listed under T4a and 4b. Microscopic evidence alone does not constitute extraparenchymal extension for classification purposes.

Regional Lymph Nodes (N): Salivary Glands

<table>
<thead>
<tr>
<th>N</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>NX</td>
<td>Regional lymph nodes cannot be assessed</td>
</tr>
<tr>
<td>N0</td>
<td>No regional lymph node metastasis</td>
</tr>
<tr>
<td>N1</td>
<td>Metastasis in a single ipsilateral lymph node, 3 cm or less in greatest</td>
</tr>
<tr>
<td></td>
<td>dimension</td>
</tr>
<tr>
<td>N2</td>
<td>Metastasis in a single ipsilateral lymph node, more than 3 cm but not more</td>
</tr>
<tr>
<td></td>
<td>than 6 cm in greatest dimension; or in multiple ipsilateral lymph nodes,</td>
</tr>
<tr>
<td></td>
<td>none more than 6 cm in greatest dimension; or in bilateral or contralateral</td>
</tr>
<tr>
<td></td>
<td>lymph nodes, none more than 6 cm in greatest dimension</td>
</tr>
<tr>
<td>N2a</td>
<td>Metastasis in a single ipsilateral lymph node, more than 3 cm but not more</td>
</tr>
<tr>
<td></td>
<td>than 6 cm in greatest dimension</td>
</tr>
<tr>
<td>N2b</td>
<td>Metastasis in multiple ipsilateral lymph nodes, none more than 6 cm in</td>
</tr>
<tr>
<td></td>
<td>greatest dimension</td>
</tr>
<tr>
<td>N2c</td>
<td>Metastasis in bilateral or contralateral lymph nodes, none more than 6 cm</td>
</tr>
<tr>
<td></td>
<td>in greatest dimension</td>
</tr>
<tr>
<td>N3</td>
<td>Metastasis in a lymph node, more than 6 cm in greatest dimension</td>
</tr>
</tbody>
</table>

Distant Metastasis (M): Salivary Glands

<table>
<thead>
<tr>
<th>M</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MX</td>
<td>Distant metastasis cannot be assessed</td>
</tr>
<tr>
<td>M0</td>
<td>No distant metastasis</td>
</tr>
<tr>
<td>M1</td>
<td>Distant metastasis</td>
</tr>
</tbody>
</table>
Stage Groupings: Salivary Glands

Stage I  T1  N0  M0
Stage II T2  N0  M0
Stage III T3  N0  M0  
            T1,T2,T3  N1  M0
Stage IVA T1,T2,T3  N2  M0  
            T4a  N0,N1,N2  M0
Stage IVB T4b  Any N  M0
            Any T  N3  M0
Stage IVC Any T  Any N  M1

TNM Descriptors

For identification of special cases of TNM or pTNM classifications, the “m” suffix and “y,” “r,” and “a” prefixes are used. Although they do not affect the stage grouping, they indicate cases needing separate analysis.

The “m” suffix indicates the presence of multiple primary tumors in a single site and is recorded in parentheses: pT(m)NM.

The “y” prefix indicates those cases in which classification is performed during or following initial multimodality therapy (ie, neoadjuvant chemotherapy, radiation therapy, or both chemotherapy and radiation therapy). The cTNM or pTNM category is identified by a “y” prefix. The ycTNM or ypTNM categorizes the extent of tumor actually present at the time of that examination. The “y” categorization is not an estimate of tumor prior to multimodality therapy (ie, before initiation of neoadjuvant therapy).

The “r” prefix indicates a recurrent tumor when staged after a documented disease-free interval, and is identified by the “r” prefix: rTNM.

The “a” prefix designates the stage determined at autopsy: aTNM.

Additional Descriptors

Residual Tumor (R)

Tumor remaining in a patient after therapy with curative intent (eg, surgical resection for cure) is categorized by a system known as R classification, shown below.

RX  Presence of residual tumor cannot be assessed
R0  No residual tumor
R1  Microscopic residual tumor
R2  Macroscopic residual tumor

For the surgeon, the R classification may be useful to indicate the known or assumed status of the completeness of a surgical excision. For the pathologist, the R classification is relevant to the status of the margins of a surgical resection specimen. That is, tumor involving the resection margin on pathologic examination may be assumed to correspond to residual tumor in the patient and may be classified as macroscopic or microscopic according to the findings at the specimen margin(s).
Vessel Invasion
By AJCC/UICC convention, vessel invasion (lymphatic or venous) does not affect the T category indicating local extent of tumor unless specifically included in the definition of a T category. In all other cases, lymphatic and venous invasion by tumor are coded separately as follows.

Lymphatic Vessel Invasion (L)
LX Lymphatic vessel invasion cannot be assessed
L0 No lymphatic vessel invasion
L1 Lymphatic vessel invasion

Venous Invasion (V)
VX Venous invasion cannot be assessed
V0 No venous invasion
V1 Microscopic venous invasion
V2 Macroscopic venous invasion

Regional Lymph Nodes (pN0): Isolated Tumor Cells
Isolated tumor cells (ITCs) are single cells or small clusters of cells not more than 0.2 mm in greatest dimension. Lymph nodes or distant sites with ITCs found by either histologic examination, immunohistochemistry, or nonmorphologic techniques (eg, flow cytometry, DNA analysis, polymerase chain reaction [PCR] amplification of a specific tumor marker) should be classified as N0 or M0, respectively. Specific denotation of the assigned N category is suggested as follows for cases in which ITCs are the only evidence of possible metastatic disease.3,4

pN0 No regional lymph node metastasis histologically, no examination for isolated tumor cells (ITCs)
pN0(i-) No regional lymph node metastasis histologically, negative morphologic (any morphologic technique, including hematoxylin-eosin and immunohistochemistry) findings for ITCs
pN0(i+) No regional lymph node metastasis histologically, positive morphologic (any morphologic technique, including hematoxylin-eosin and immunohistochemistry) findings for ITCs
pN0(mol-) No regional lymph node metastasis histologically, negative nonmorphologic (molecular) findings for ITCs
pN0(mol+) No regional lymph node metastasis histologically, positive nonmorphologic (molecular) findings for ITCs

F. Lymph Nodes
The status of cervical lymph nodes is the single most important prognostic factor in aerodigestive cancer. For purposes of pathologic evaluation, lymph nodes are organized by levels as shown in Figure 2.5,6
Figure 2. The lymph node groups included in the node dissection specimens should be designated as shown in the figure and identified with the assistance of the surgeon in charge, whenever possible.

P: Parotid-Preauricular.
R: Retroauricular.
S: Suboccipital.


In order for pathologists to properly identify these nodes, they must be familiar with the terminology of the regional lymph node groups and with the relationships of those groups to the regional anatomy. Which lymph node groups surgeons submit for histopathologic evaluation depends on the type of neck dissection they perform. Therefore, surgeons must supply information on the types of neck dissections that they perform and on the details of the local anatomy in the specimens they submit for examination, or in other manners, orient those specimens for pathologists.

If it is not possible to assess the levels of lymph nodes (for instance, when the anatomic landmarks in the excised specimens are not specified), then the lymph node levels may be estimated as follows: level II, upper third of internal jugular (IJ) vein or neck specimen; level III, middle third of IJ vein or neck specimen; level IV, lower third of IJ vein or neck specimen, all anterior to the sternocleidomastoid muscle.

**Level I. Submental Group**
Lymph nodes within the triangular boundary of the anterior belly of the digastric muscles and the hyoid bone.

**Submandibular Group**
Lymph nodes within the boundaries of the anterior and posterior bellies of the digastric muscle and the body of the mandible. The submandibular gland is included in the specimen when the lymph nodes within this triangle are removed.

**Level II. Upper Jugular Group**
Lymph nodes located around the upper third of the internal jugular vein and adjacent spinal accessory nerve extending from the level of the carotid bifurcation (surgical landmark) or hyoid bone (clinical landmark) to the skull base. The posterior boundary is the posterior border of the sternocleidomastoid muscle, and the anterior boundary is the lateral border of the sternohyoid muscle.
Upper Aerodigestive Tract • Head and Neck

Level III. Middle Jugular Group
Lymph nodes located around the middle third of the internal jugular vein extending from the carotid bifurcation superiorly to the omohyoid muscle (surgical landmark), or cricothyroid notch (clinical landmark) inferiorly. The posterior boundary is the posterior border of the sternocleidomastoid muscle, and the anterior boundary is the lateral border of the sternothyoid muscle.

Level IV. Lower Jugular Group
Lymph nodes located around the lower third of the internal jugular vein extending from the omohyoid muscle superiorly to the clavicle inferiorly. The posterior boundary is the posterior border of the sternocleidomastoid muscle, and the anterior boundary is the lateral border of the sternohyoid muscle.

Level V. Posterior Triangle Group
This group comprises predominantly the lymph nodes located along the lower half of the spinal accessory nerve and the transverse cervical artery. The supraclavicular nodes are also included in this group. The posterior boundary of the posterior triangle is the anterior border of the trapezius muscle, the anterior boundary of the posterior triangle is the posterior border of the sternocleidomastoid muscle, and the inferior boundary of the posterior triangle is the clavicle.

Lymph node groups removed from areas not included in the above levels, eg, scalene, suboccipital and retropharyngeal, should be identified and reported from all levels separately. When staging lymph node involvement by metastases from nasopharyngeal carcinoma, the supraclavicular fossa refers to a triangular region, the base of which is the superior margin of the clavicle between its sternal and lateral ends, and the apex of which is the point where the neck meets the shoulder. This includes caudal portions of Levels IV and V (see above). All cancers metastatic to the posterior nodes in the supraclavicular fossa are designated as N3b.

G. Lymph Node Number
Histological examination of a selective neck dissection specimen will ordinarily include 6 or more lymph nodes. Histological examination of a radical or modified radical neck dissection specimen will ordinarily include 10 or more lymph nodes in the untreated neck.

H. Measurement of Tumor Metastasis
The cross-sectional diameter of the largest metastasis in a lymph node containing metastatic tumor is measured in the gross specimen at the time of macroscopic examination or if necessary, on the histologic slide at the time of microscopic examination. The prognostic impact of regional lymph node metastases from nasopharyngeal cancer, particularly undifferentiated nasopharyngeal carcinoma (lymphoepithelioma), differs from and is not necessarily comparable to the prognoses of other head and neck mucosal carcinomas. Therefore, a different N classification scheme is used for nasopharyngeal carcinoma.

References


**Bibliography**

**General**


**Histologic Grade**


**Vascular Invasion**


**Perineural Invasion**


**Surgical Margins**


**Extranodal Extension**


Levels and Size of Nodes

Number of Nodes

Type of Margin

Thickness of Tumor

