AJCC staging 8th edition
oesophagus

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MANUAL FOR STAGING CANCER
fourth edition

J. B. Lippincott Company

AJCC Cancer Staging Manual
FIFTH EDITION

AMERICAN CANCER SOCIETY

American Joint Committee on Cancer

Lippincott - Raven

ajcc Cancer Staging Manual
Sixth Edition

Springer

1st edition - 1977
New features in 7th edition

- T4 sub classified
- N based on number of lymph node
- M is redefined
- Incorporation of histological grade and location
- Separate groups for squamous cell carcinoma and adenocarcinoma
Risk-adjusted survival for squamous-cell carcinoma according to the American Joint Committee on Cancer Cancer Staging Manual, 7th edition, stage groups
# Staging of oesophageal cancer in AJCC 7th edition

## Table 2 AJCC 7th edition stage groupings

<table>
<thead>
<tr>
<th>Stage</th>
<th>Adenocarcinoma</th>
<th>Squamous cell carcinoma</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>T</td>
<td>N</td>
</tr>
<tr>
<td>0</td>
<td>is</td>
<td>0</td>
</tr>
<tr>
<td>IA</td>
<td>1</td>
<td>0</td>
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<tr>
<td>IB</td>
<td>1</td>
<td>0</td>
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<tr>
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<tr>
<td>IIA</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td></td>
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</tr>
<tr>
<td>IIB</td>
<td>3</td>
<td>0</td>
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<tr>
<td></td>
<td>1-2</td>
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<tr>
<td>IIIA</td>
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<tr>
<td>IIIB</td>
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<td>4a</td>
<td>1-2</td>
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<td></td>
<td>4b</td>
<td>Any</td>
</tr>
<tr>
<td></td>
<td>Any</td>
<td>3</td>
</tr>
<tr>
<td>IV</td>
<td>Any</td>
<td>Any</td>
</tr>
</tbody>
</table>

Cancer location definitions: upper thoracic, 20-25 cm from incisors; middle thoracic, 25-30 cm from incisors; lower thoracic, 30-40 cm from incisors.
Part III: Digestive system Chapter 10

Part III: Upper Gastrointestinal tract chapter 16
Key perspectives

• Creating the Bridge from a “Population Based” to a More “Personalized” Approach

• machine-learning analysis of data from six continents from the Worldwide Esophageal Cancer Collaboration (WECC)
Changes in 8th edition

- Separate staging system for clinical (c), pathology (p) and after neoadjuvant therapy (yp)
- Refine of T group
- Definition of subtype and grading of cancers
- Definition of location
- Change in the groping of TNM
<table>
<thead>
<tr>
<th>T category</th>
<th>Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>TX</td>
<td>Tumour cannot be assessed</td>
</tr>
<tr>
<td>T0</td>
<td>No evidence of primary tumour</td>
</tr>
<tr>
<td>Tis</td>
<td>High-grade dysplasia, defined as malignant cells confined by the basement membrane</td>
</tr>
<tr>
<td>T1</td>
<td>Tumour invades the lamina propria, muscularis mucosae, or submucosa</td>
</tr>
<tr>
<td>T1a</td>
<td>Tumour invades the lamina propria or muscularis mucosae</td>
</tr>
<tr>
<td>T1b</td>
<td>Tumour invades the submucosa</td>
</tr>
<tr>
<td>T2</td>
<td>Tumour invades the muscularis propria</td>
</tr>
<tr>
<td>T3</td>
<td>Tumour invades the adventitia</td>
</tr>
<tr>
<td>T4</td>
<td>Tumour invades adjacent structures</td>
</tr>
<tr>
<td>T4a</td>
<td>Tumour invades the pleura, pericardium, azygos vein, diaphragm, or peritoneum</td>
</tr>
<tr>
<td>T4b</td>
<td>Tumour invades other adjacent structures, such as the aorta, vertebral body, or trachea</td>
</tr>
</tbody>
</table>
T4 stage

• T4a is generally resectable tumour invading the pleura, pericardium, azygous vein or diaphragm or peritoneum.
• T4b is usually unresectable tumour that invades the other structures such as the aorta, vertebral body or trachea, etc.
Definition of regional lymph nodes

- NX = regional lymph nodes cannot be assessed
- N0 = no regional lymph node metastasis
- N1 = metastasis in 1 or 2 regional lymph node
- N2 = metastasis in 3 to 6 regional lymph node
- N3 = metastasis in ≥ 7 regional lymph nodes

Considerations:
1. as many lymph nodes as possible
2. pT1 – 10 lymph node; T2 – 20 lymph nodes; T3/T4 – 30 lymph nodes
3. 12 -23 lymph nodes
4. Early T stage and well differentiated, more lymph nodes
## Squamous cell carcinoma grading

<table>
<thead>
<tr>
<th>SQCA</th>
<th>Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>GX</td>
<td>Differentiation cannot be assessed</td>
</tr>
<tr>
<td>G1</td>
<td>Well-differentiated, with prominent keratinization with pearl formation and a minor component of Non keratinizing basal-like cells, tumour cells arranged in sheets, and mitotic counts low</td>
</tr>
<tr>
<td>G2</td>
<td>Moderately differentiated, with variable histologic features ranging from parakeratotic to poorly keratinizing lesions and pearl formation generally absent</td>
</tr>
<tr>
<td>G3</td>
<td>Poorly differentiated, consisting predominantly of basal-like cells forming large and small nests with frequent central necrosis and with the nests consisting of sheets or pavement-like arrangements of tumor cells that are occasionally punctuated by small numbers of parakeratotic or keratinizing cells</td>
</tr>
</tbody>
</table>
Squamous

- Squamous intraepithelial neoplasia, high grade
- Squamous cell carcinoma
- Basaloid squamous cell carcinoma
- Adenosquamous cell carcinoma
- Spindle cell (squamous) carcinoma
- Verrucous (squamous) carcinoma
- Undifferentiated carcinoma with squamous component
## Adenocarcinoma grading

<table>
<thead>
<tr>
<th>Adenocarcinoma</th>
<th>Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>GX</td>
<td>Differentiation cannot be assessed</td>
</tr>
<tr>
<td>G1</td>
<td>Well differentiated, with &gt;95% of the tumour composed of well-formed glands</td>
</tr>
<tr>
<td>G2</td>
<td>Moderately differentiated, with 50%–95% of the tumour showing gland formation</td>
</tr>
<tr>
<td>G3</td>
<td>Poorly differentiated, with tumours composed of nest and sheets of cells with &lt;50% of the tumour demonstrating glandular formation</td>
</tr>
</tbody>
</table>

Adenocarcinoma

• Glandular dysplasia, high grade
• Adenocarcinoma
• Adenoid cystic carcinoma
• Mucoepidermoid carcinoma
• Mixed neuroendocrine carcinoma
• Undifferentiated carcinoma with adenocarcinoma component
Location – 8\textsuperscript{th} edition

**Oesophagus and Gastric Carcinomas**

- Cancers involving the oesophagogastric junction (OGJ) whose epicenter is within the proximal 2 cm of the cardia are to be staged as oesophageal.
- Cancers with epicenter more than 2 cm distal from the OGJ will be staged using the Stomach Cancer TNM and Stage even if the OGJ is involved.

Reference – 7\textsuperscript{th} edition

- The 7th edition staging system is for cancers of the oesophagus and oesophagogastric junction and includes cancer within the first 5 cm of the stomach that extend into the Oesophagogastric junction or distal thoracic esophagus.
Location

• The genetic signature of OGJ cancers may be more accurate in identifying the cell of origin for cancer staging rather than its gross location.

• Cancer genetics will be a subsequent focus of the 9th edition staging of EGJ cancers.
Change in TNM grouping for adenocarcinoma

• Group 1C introduced
• Group IIIC removed
• Group IVA introduced
ypTNM

- Survival for ypTNM groups differs from that for comparable pTNM groups
- The groupings are identical for both cell types
- ypTNM survival is less distinctive between groups,
- Survival curves are greatly depressed from above
- much poorer survival of early ypTNM groups compared with corresponding pTNM groups and
dismal survival of advanced ypTNM groups, no better or worse than corresponding pTNM groups.
Risk-Adjusted Survival for Adenocarcinoma of the oesophagus based on worldwide oesophageal Cancer Collaboration Data. [A] Pathologic (p) stage groups, [B] clinical (c) stage groups, and [C] post-neoadjuvant pathologic (yp) stage groups.

Rice et al. CA Cancer J Clin 2017;67:304-317
Risk-Adjusted survival for **Squamous cell carcinoma** of the oesophagus based on worldwide oesophageal cancer collaboration data

[A] Pathologic (p) stage groups,
[B] clinical (c) stage groups, and [C] postneoadjuvant pathologic (yp) stage groups.

Rice et al. CA Cancer J Clin 2017;67:304-317
Summary of changes in 8th edition

• Separate staging system for clinical (c), pathology (p) and after neoadjuvant therapy (yp)
• Refine of T group – T1 – in early stages
• Definition of subtype (squamous/glandular) and grading of cancers (% in glands)
• Definition of location (2cm)
• Change in the groping of TNM