AJCC staging 8th edition oesophagus

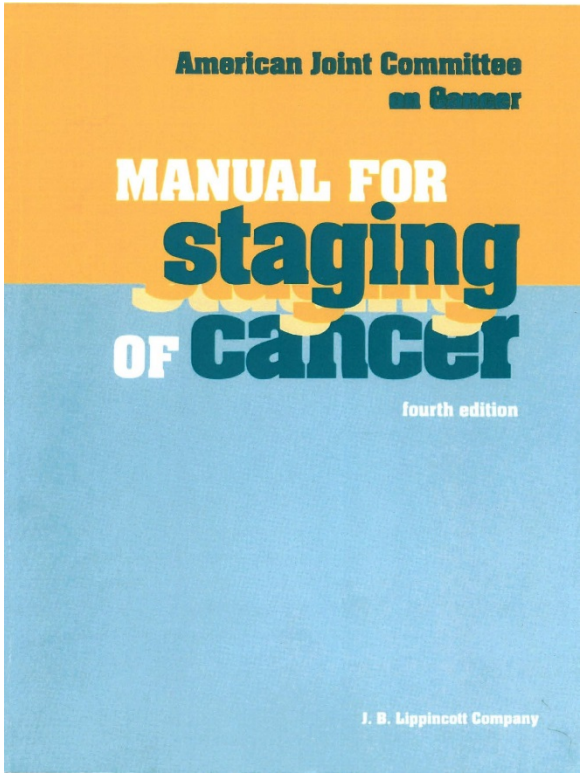
Alfred Lam

Foundation Chair Professor

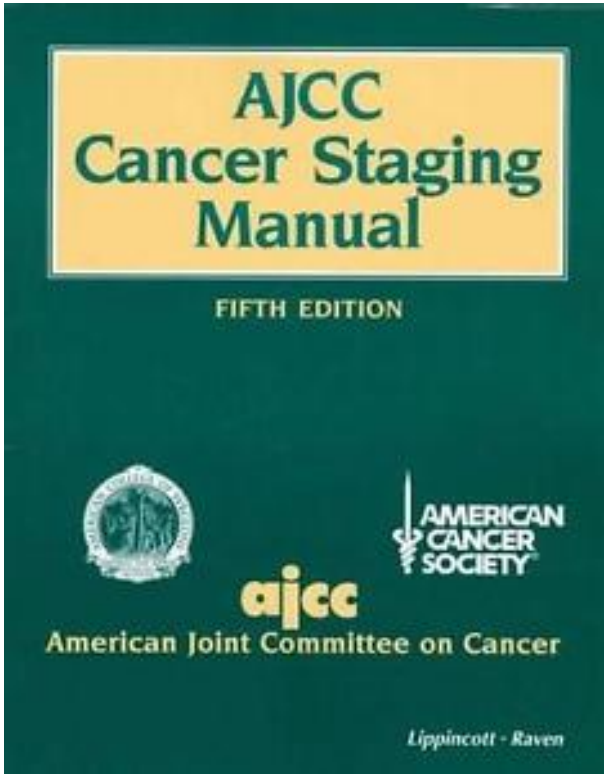
Head of Pathology

Griffith University

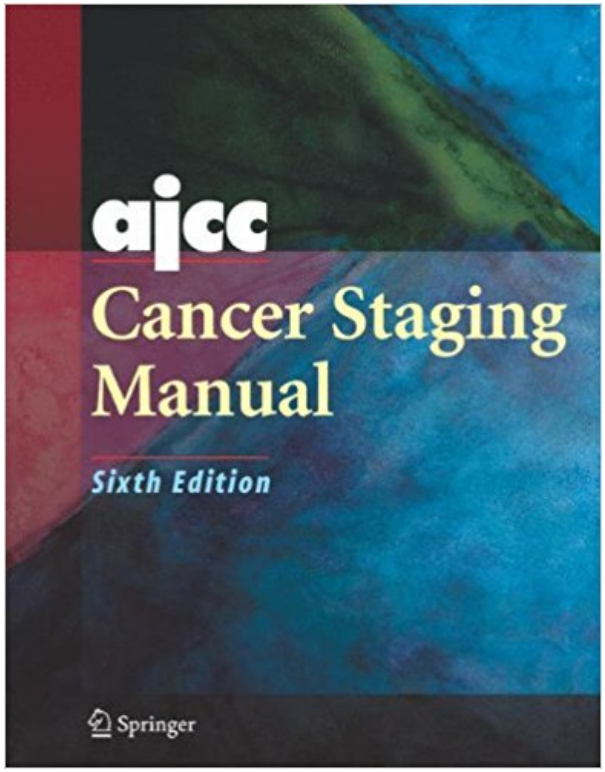
1992



1997



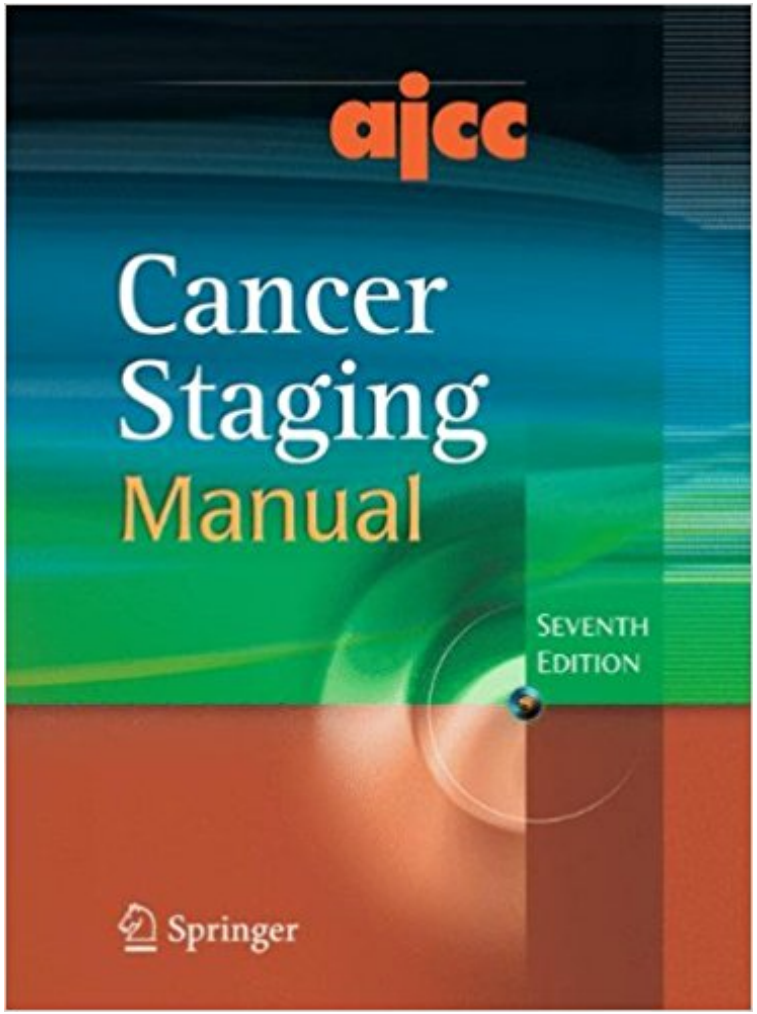
2002

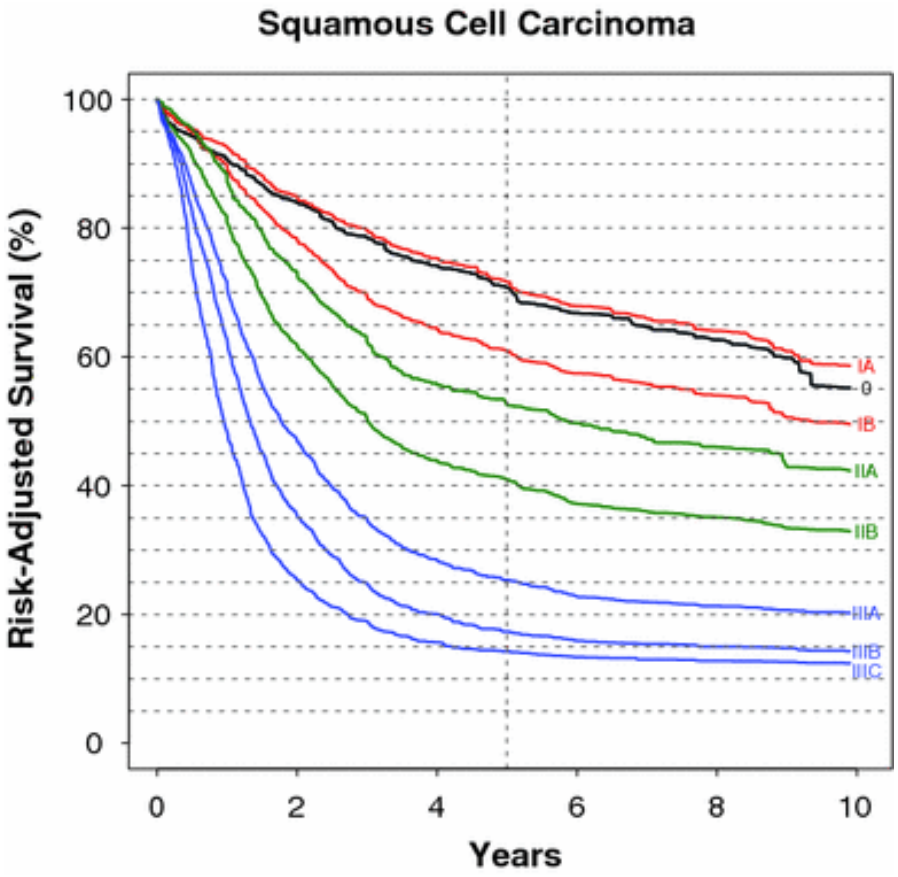


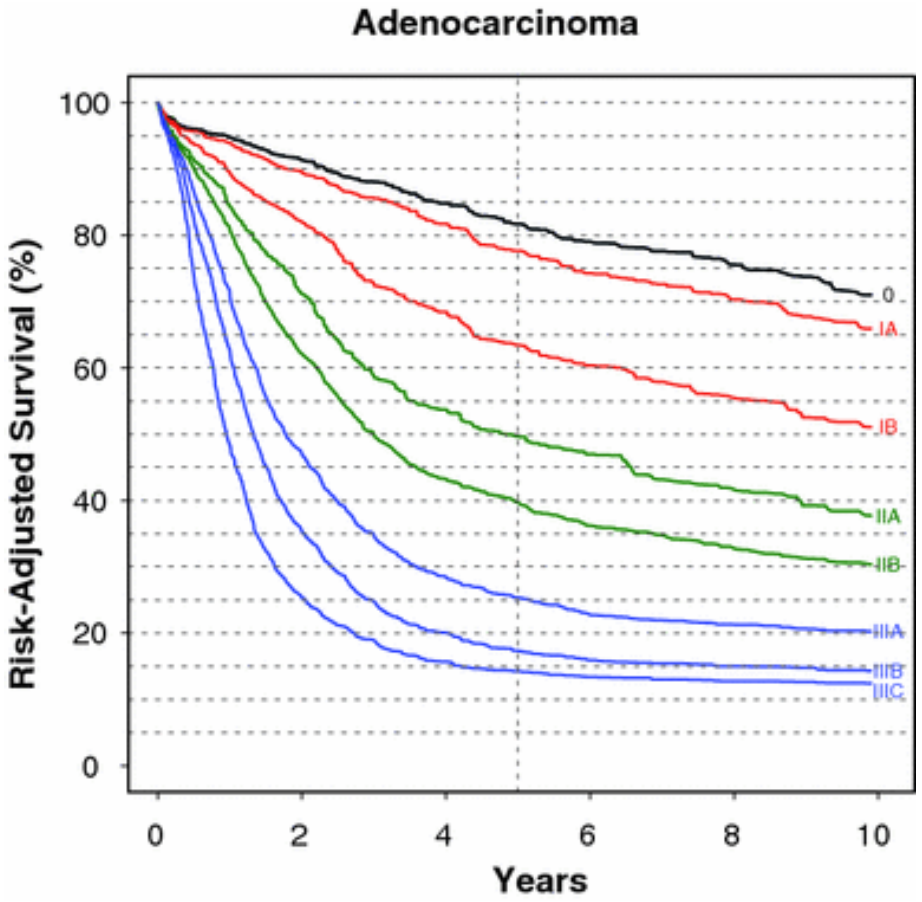
1st edition - 1977

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

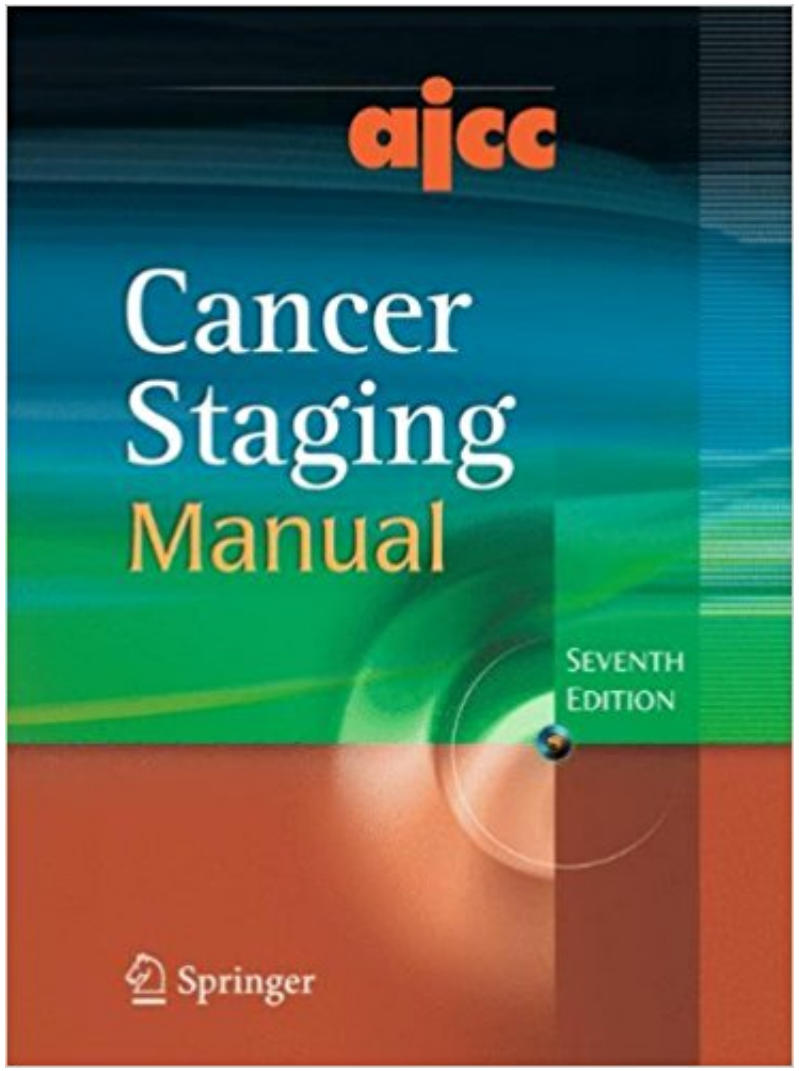
Table 2 AJCC 7th edition stage groupings

Stage	Adenocarcinoma				Squamous cell carcinoma				
	T	N	M	Grade	T	N	M	G	Location
0	is	0	0	1	is	0	0	1	Any
IA	1	0	0	1-2	1	0	0	1	Any
IB	1	0	0	3	1	0	0	2-3	Any
	2	0	0	1-2	2-3	0	0	1	Lower
IIA	2	0	0	3	2-3	0	0	1	Upper, middle
					2-3	0	0	2-3	Lower
IIB	3	0	0	Any	2-3	0	0	2-3	Upper, middle
	1-2	1	0	Any	1-2	1	0	Any	Any
IIIA	1-2	2	0	Any	1-2	2	0	Any	Any
	3	1	0	Any	3	1	0	Any	Any
	4a	0	0	Any	4a	0	0	Any	Any
IIIB	3	2	0	Any	3	2	0	Any	Any
IIIC	4a	1-2	0	Any	4a	1-2	0	Any	Any
	4b	Any	0	Any	4b	Any	0	Any	Any
	Any	3	0	Any	Any	3	0	Any	Any
IV	Any	Any	1	Any	Any	Any	1	Any	Any

Cancer location definitions: upper thoracic, 20-25 cm from incisors; middle thoracic, 25-30 cm from incisors; lower thoracic, 30-40 cm from incisors.

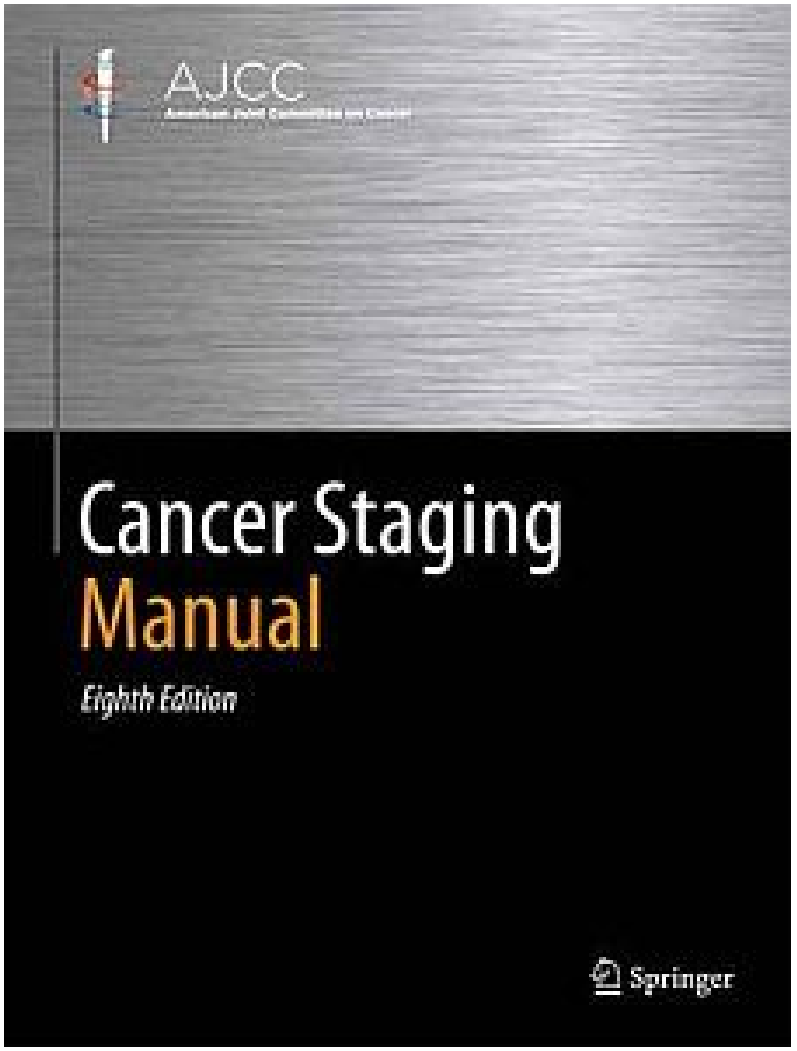
Berry MF. J Thorac Dis 2014;6(S3):S289-97

2010



Part III: Digestive system Chapter 10

2017



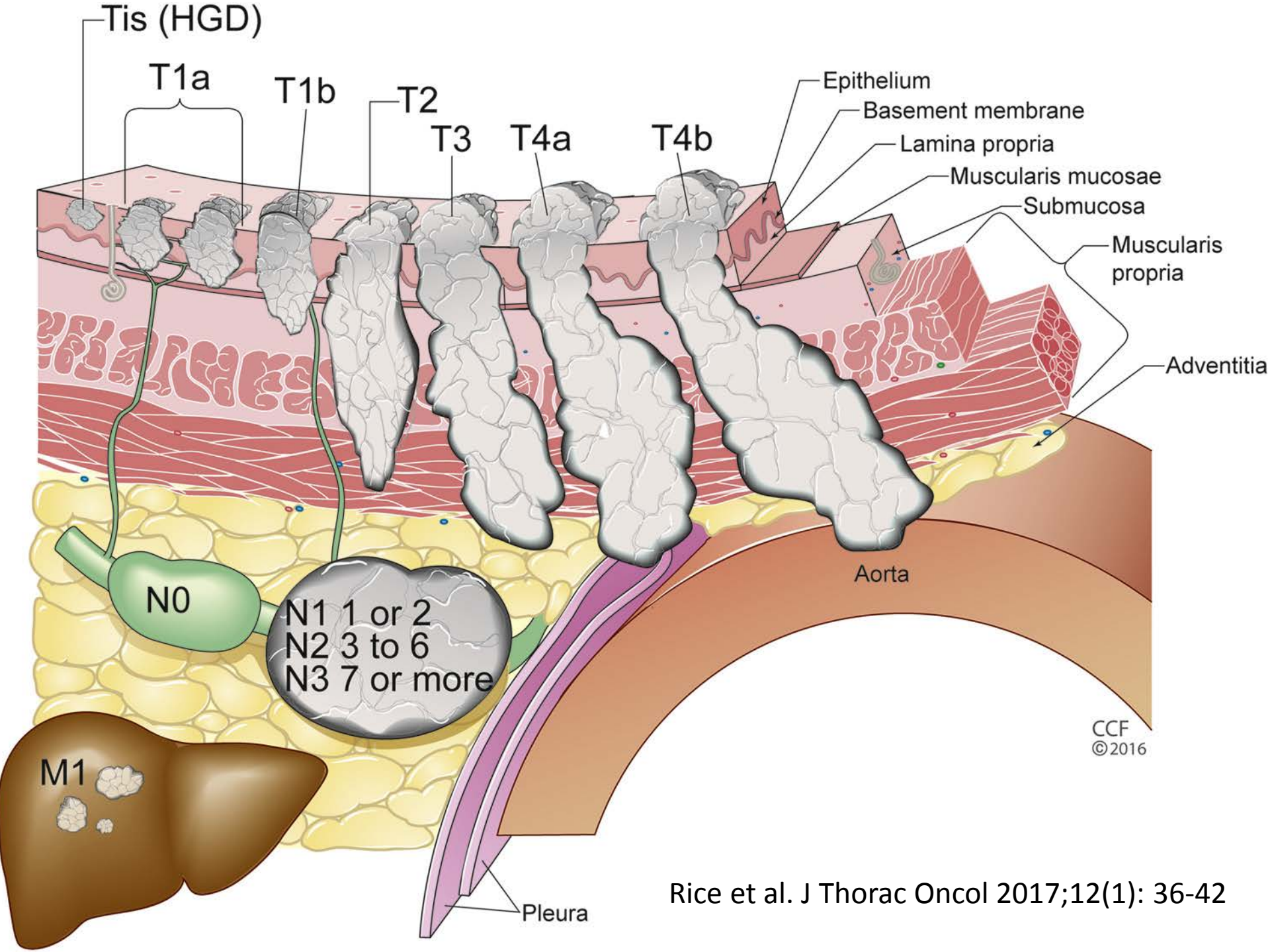
Part III: Upper Gastrointestinal tract chapter 16

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)

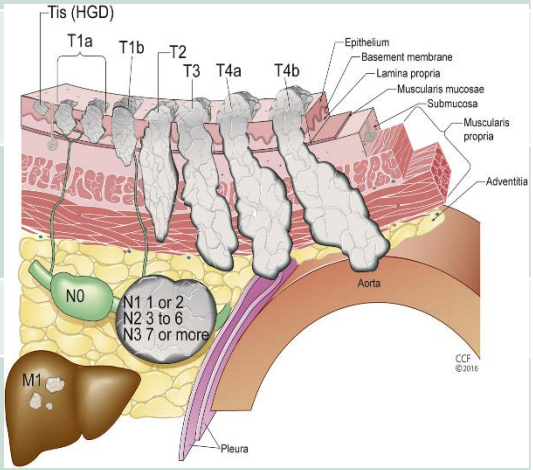
Changes in 8th edition

- 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



Rice et al. J Thorac Oncol 2017;12(1): 36-42

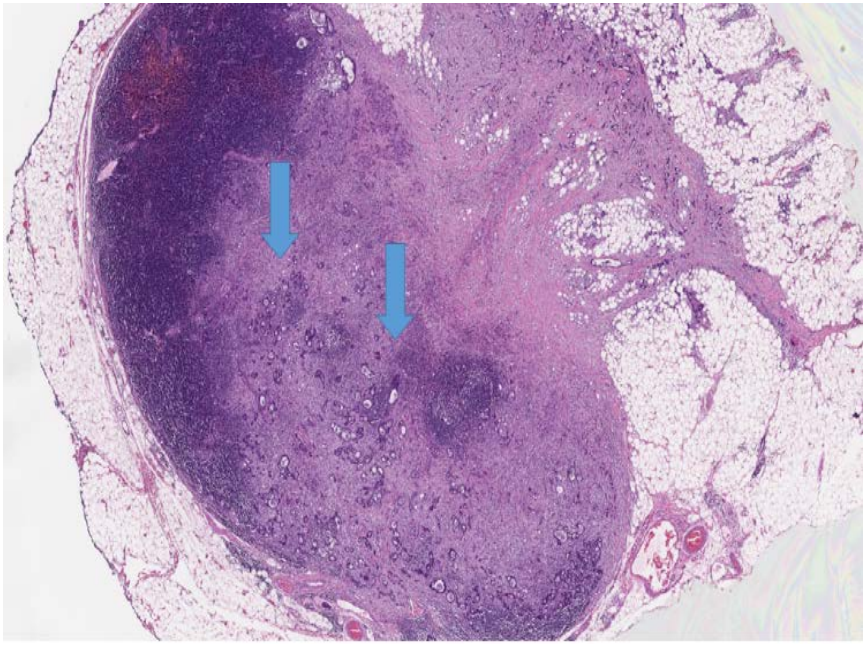
T category	Criteria
TX	Tumour cannot be assessed
T0	No evidence of primary tumour
Tis	High-grade dysplasia, defined as malignant cells confined by the basement membrane
T1	Tumour invades the lamina propria, muscularis mucosae, or submucosa
T1a	Tumour invades the lamina propria or muscularis mucosae
T1b	Tumour invades the submucosa
T2	Tumour invades the muscularis propria
T3	Tumour invades the adventitia
T4	Tumour invades adjacent structures
T4a	Tumour invades the pleura, pericardium, azygos vein, diaphragm, or peritoneum
T4b	Tumour invades other adjacent structures, such as the aorta, vertebral body, or trachea



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

SQCA	criteria
GX	Differentiation cannot be assessed
G1	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
G2	Moderately differentiated, with variable histologic features ranging from parakeratotic to poorly keratinizing lesions and pearl formation generally absent
G3	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

Rice et al. J Thorac Oncol 2017;12(1): 36-42

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

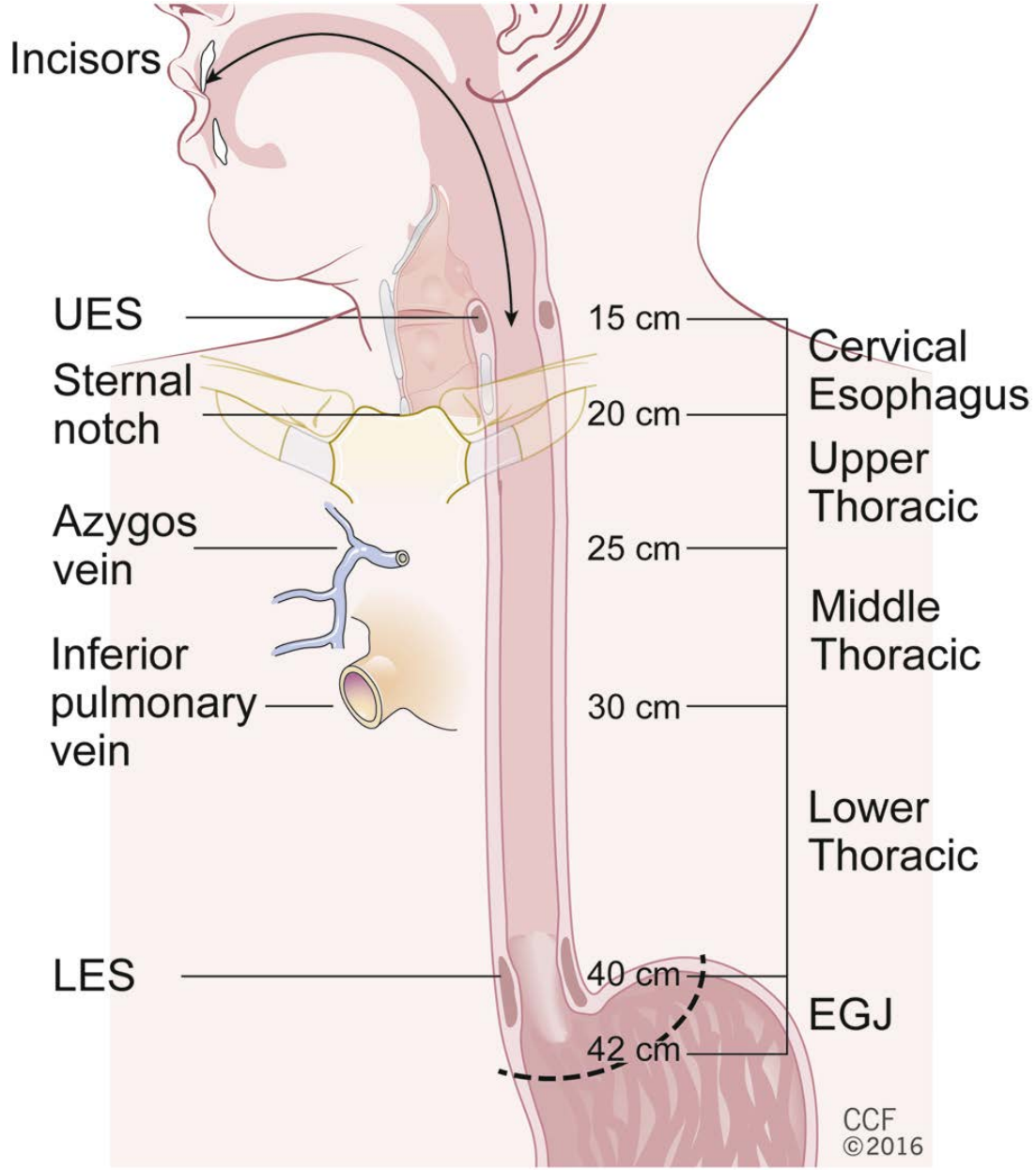
Adenocarcinoma grading

Adenocarcinoma	Criteria
GX	Differentiation cannot be assessed
G1	Well differentiated, with >95% of the tumour composed of well-formed glands
G2	Moderately differentiated, with 50%–95% of the tumour showing gland formation
G3	Poorly differentiated, with tumours composed of nest and sheets of cells with <50% of the tumour demonstrating glandular formation

Rice et al. J Thorac Oncol 2017;12(1): 36-42

Adenocarcinoma

- Glandular dysplasia, high grade
- Adenocarcinoma
- Adenoid cystic carcinoma
- Mucoepidermoid carcinoma
- Mixed neuroendocrine carcinoma
- Undifferentiated carcinoma with adenocarcinoma component



Rice et al. J Thorac Oncol 2017;12(1): 36-42

Location – 8th 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 – 7th 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 0esophagogastric junction or distal thoracic esophagus

Location

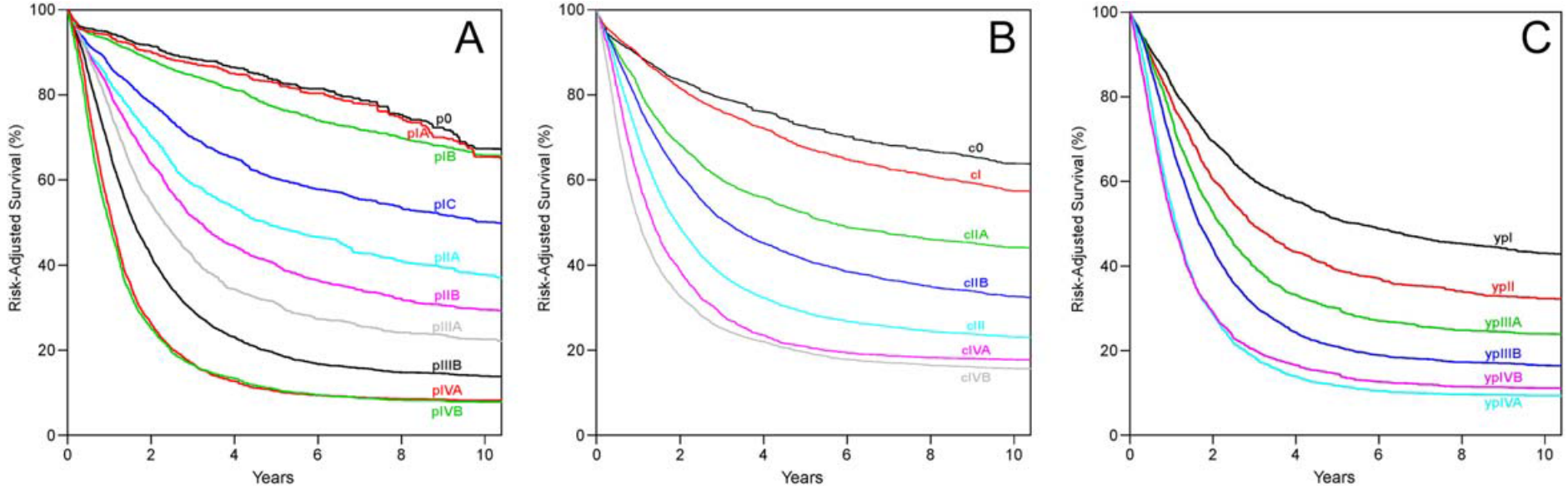
- The genetic signature of OGJ cancers may be more accurate in identifying the cell of origin for cancer staging rather than its gross location.
- Cancer genetics will be a subsequent focus of the 9th edition staging of EGJ cancers.

Change in TNM grouping for adenocarcinoma

- Group 1C introduced
- Group IIIC removed
- Group IVA introduced

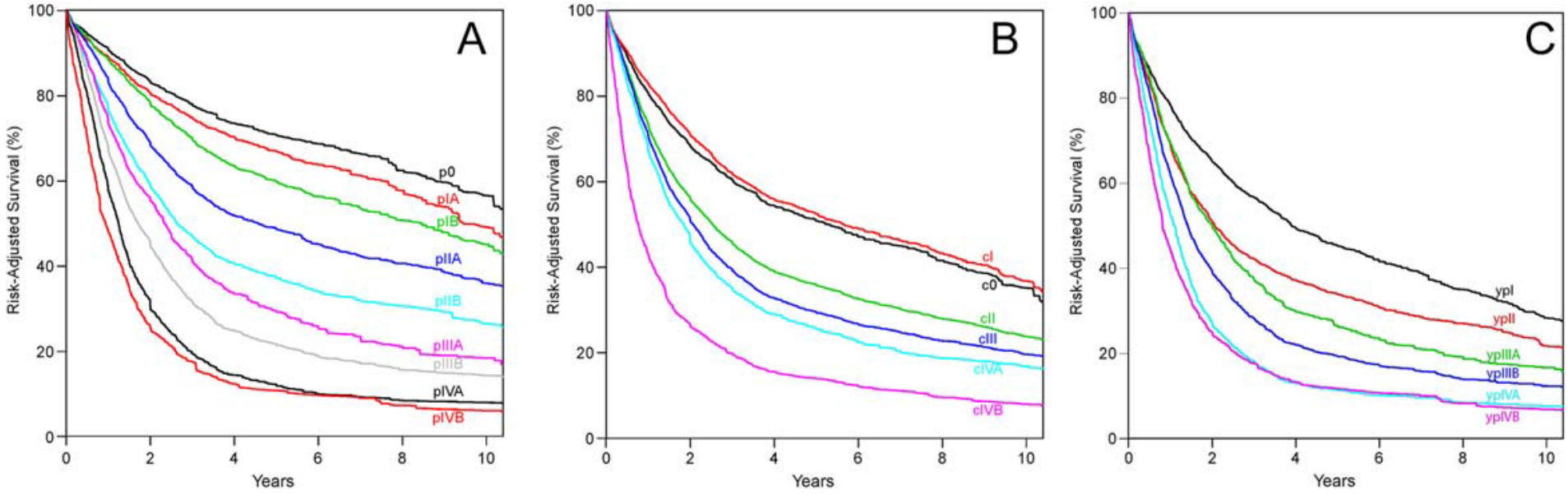
ypTNM

- 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