

Index

- adenocarcinoma, 1
 - columnar-lined esophagus (CLE), 18–19
- dysplastic epithelium, 19
- esophageal cancer
 - clinical presentation, 6
 - epidemiology, 2–3
 - etiology, 4–6
 - prognosis, 7
- FDG and, 87
- histopathology
 - Barrett's esophagus, 17–19
 - dysplasia, 17, 19
 - effects of treatment, 19
 - macroscopic appearance, 19
 - microscopic appearance, 19
 - precursor lesions, 17–19
- pathology, 17
- adjuvant chemotherapy, 128–9
 - see also* chemotherapy; neoadjuvant therapy
- AFI, *see* autofluorescence imaging (AFI)
- anatomy, esophageal, 62–4
- autofluorescence imaging (AFI), 37–8
 - see also* chromoendoscopy; confocal endomicroscopy; endoscopic imaging; magnification endoscopy; narrow band imaging (NBI); optical coherence tomography (OCT)
- Barrett's esophagus, 5–6
 - columnar-lined esophagus (CLE), 18–19
 - histopathology, 17–19
- basaloid squamous cell carcinoma, 16
 - see also* squamous cell carcinomas (SCC)
- carcinoma, *see* adenocarcinoma; squamous cell carcinomas (SCC)
- carcinosarcoma, 16
- cardiac columnar epithelium, 18
- chemoradiation, 126–9
 - definitive, 127
 - neoadjuvant, 126
- chemoradiotherapy (CRT), 87
 - esophageal cancer pathology and, 23
 - response assessment, 95, 96
 - for SCCs, 17
- chemotherapy
 - development, 122
 - esophageal cancer, 122
 - neoadjuvant, 124
 - see also* radiotherapy
- chromoendoscopy, 31
 - indigo carmine, 33
 - Lugol's iodine, 31–2
 - see also* endoscopic imaging
- CLE, *see* columnar-lined esophagus (CLE)
- clinical presentation
 - adenocarcinoma, 6
 - SCC, 6
- columnar epithelium, 19
 - cardiac, 18
 - gastric, 18
 - metaplastic, 18
- columnar-lined esophagus (CLE)
 - effects of treatment, 19
 - histological diagnosis, 18
 - see also* Barrett's esophagus
- computer tomography (CT), 62
 - for diagnosis esophageal cancer, 66–8
- esophageal anatomy and staging, 62–4
- follow-up imaging, 79–81
- magnetic resonance imaging, 76
- M staging, 73–6, 90–3
- neoadjuvant therapy, response to, 77
- N staging, 72–3, 89
- recurrent esophageal cancer
 - frequency and timing of recurrence, 78
 - recurrent disease, 78–9

152 Index

- computer tomography (CT) (cont.)
 - response assessment, 96–8
 - staging classification, 64–5
 - disease, 66–7
 - TNM, 65
 - T staging, 68–72, 88
 - workup guidelines, 76–7
 - see also* positron emission tomography (PET)
- confocal endomicroscopy, 36
 - see also* chromoendoscopy; endoscopic imaging; magnification endoscopy; narrow band imaging (NBI)
- CRT, *see* chemoradiotherapy (CRT)
- CT, *see* computer tomography (CT)
- cytokeratin staining, 18
 - esophageal cancer pathology and, 23
 - for SCC, 17
- definitive chemoradiation
 - current best practice, 127
 - current controversies, 127
 - promising areas of research, 127
 - see also* chemoradiation
- differential diagnosis, squamous cell carcinoma, 17
- distant metastatic disease (M) staging, 73–6
 - see also* M staging
- dysphagia, 7
 - palliation, 116–17
- dysplasia, 5–6
 - high-grade, 5, 19
 - histopathology, 14–15
 - adenocarcinoma precursor lesions, 17, 19
 - squamous cell carcinoma precursor lesions, 14
 - low-grade, 19
 - macroscopic appearance, 15
 - microscopic appearance, 15
 - see also* hyperplasia; squamous cell carcinomas (SCC)
- dysplastic epithelium, 19, 21
- ECF chemotherapy, 129
- elastic scatter spectroscopy, 39
- EMR, *see* endoscopic mucosal resection (EMR)
- endomicroscopy, confocal, 36
- endoscopic diagnosis of esophageal cancer, 28
 - autofluorescence imaging, 37–8
 - chromoendoscopy, 31
 - indigo carmine, 33
 - Lugol's iodine, 31–2
 - confocal endomicroscopy, 36
 - elastic scatter spectroscopy, 39
 - endoscopic ablation techniques for
 - adenocarcinoma, 20
 - endoscopic imaging, 28–30
 - magnification endoscopy, 34–6
 - narrow band imaging (NBI), 33–4
 - optical coherence tomography (OCT), 36–7
 - Raman spectroscopy, 38–9
 - wireless capsule endoscopy (WCE), 39
- endoscopic imaging, 28–30
 - see also* chromoendoscopy
- endoscopic mucosal resection (EMR), 28, 48
- endoscopic ultrasound (EUS), 44
 - clinical impact of, 52
 - future scope, 54–5
 - M staging, 51, 91–3
 - N staging, 49–50, 89
 - response assessment, 95, 97
 - staging following neoadjuvant therapy, 52
 - TNM staging, 45
 - T staging, 44–8
 - weaknesses of, 53–4
 - see also* positron emission tomography (PET)
- endoscopy
 - magnification, 34–6
 - wireless capsule (WCE), 39
- epidemiology
 - adenocarcinoma, 2–3
 - squamous cell carcinoma, 2–3
- esophageal cancer, 1
 - adenocarcinoma, 1
 - clinical presentation, 6
 - epidemiology, 2–3
 - etiology, 4–6
 - prognosis, 7
- chemotherapy development, 122
- clinical presentation, 6–7
- computer tomography (CT) in
 - diagnosis of cancer, 66–8
 - esophageal anatomy and staging, 62–4
 - follow-up imaging, 79–80
 - magnetic resonance imaging, 76
 - M1 disease, 66M staging, 73–6
 - neoadjuvant therapy, response to, 77
 - N staging, 72–3
 - recurrent esophageal cancer, 78–80
 - staging classification, 64–6
 - TNM staging, 65
 - T staging, 68–72
 - workup guidelines, 76–7
- endoscopic diagnosis of, 28
 - autofluorescence imaging, 37–8
 - chromoendoscopy, 31–3
 - confocal endomicroscopy, 36
 - elastic scatter spectroscopy, 39
 - endoscopic imaging, 28–30
 - magnification endoscopy, 34–6
 - narrow band imaging (NBI), 33–4
 - optical coherence tomography (OCT), 36–7
 - Raman spectroscopy, 38–9
 - wireless capsule endoscopy (WCE), 39
- endoscopic ultrasound (EUS) in, 44
 - clinical impact of, 52
 - EUS staging following neoadjuvant therapy, 52
 - future scope, 54–5
 - M staging, 51
 - N staging, 49–50

- TNM staging, 45
- T staging, 44–8
 - weaknesses of, 53–4
- FDG-PET in, 85
- lasers in, 145–8
- palliative treatment
 - chemotherapy, 129
 - first line, current best practice, 129
 - first line, current controversies, 130
 - first line, promising areas of research, 130
 - radiotherapy, 130
 - second line, 130
- pathology, *see* esophageal cancer pathology
- PET/CT in, 85
- photodynamic therapy, 147–8
- prognosis, 7
- radical treatment
 - adjuvant chemotherapy, 128–9
 - current best practice, 124
 - current controversies, 124
 - definitive chemoradiation, 127
 - neoadjuvant chemoradiation, 126
 - neoadjuvant chemotherapy, 124
 - promising areas of research, 125
- radiotherapy and, 122–3
- recurrent disease, 78–80
 - FDG-PET for, 98–9
 - frequency and timing of recurrence, 78
 - PET/CT for, 100
- resection principles, 109–10
- squamous cell carcinomas (SCCs), 1
 - clinical presentation, 6
 - epidemiology, 2–3
 - etiology, 4
 - prognosis, 7
- staging, 45, 87
 - M, 90–3
 - N, 88–90
 - T, 87–8
- stents
 - complications, 139
 - insertion, 137–8
 - for palliation, 134
 - placement, 135
 - selection, 135–7
 - success rates, 137, 139
- surgery and, 107–9
- esophageal cancer pathology
 - adenocarcinoma, 17
 - Barret's esophagus, 17–19
 - CLE, 18–19
 - dysplasia, 17–19
 - invasive, 21
 - macroscopic appearance, 19
 - microscopic appearance, 19
 - precursor lesions, 17
 - chemoradiotherapy, 23
 - cytokeratin staining, 23
 - histopathology
 - adenocarcinoma, 17
 - squamous cell carcinoma
 - dysplasia, 14–15
 - hyperplasia, 14
- adenocarcinoma, 17
 - squamous cell carcinoma, 14
- neoadjuvant treatment, 23
- prognostic factors, 22
- small cell carcinoma, 21
- squamous cell carcinoma, 14
 - basaloid, 16
 - differential diagnosis, 17
 - dysplasia, 14–15
 - hyperplasia, 14–15
 - invasive, 15–16
 - precursor lesions, 14
 - spindle cell, 16
 - verrucous, 17
- staging, 22
- esophageal tumors types, Type, 0–5, 30
- esophagectomy, 108
 - transhiatal, 110–13
 - transthoracic, 112
- etiology, esophageal cancer
 - adenocarcinoma, 4–6
 - squamous cell carcinoma, 4
- EUS, *see* endoscopic ultrasound (EUS) in
- EUS-guided fine-needle aspiration (EUSFNA), 50
- FDG (¹⁸F-fluoro-deoxy-D-glucose-positron emission tomography), 49
 - adenocarcinoma and, 87
 - PET and, 86
 - SCC and, 87
 - T staging and, 88
- FDG-PET, 86
 - M staging and, 90–3
 - prognosis aspects, 93
 - recurrent disease and, 98–9
 - response assessment, 95–8
 - treatment planning, 93–4
 - T staging and, 88
 - see also* positron emission tomography (PET)
- gastric columnar epithelium, 18
- gastroenterology, laser effects used in, 146
- gastroesophageal reflux, 4–5
- glucose transporters (GLUT), 85
- Helicobacter pylori*, 6
- HFCP, *see* high-frequency catheter probes (HFCP)
- HGIN, *see* high-grade intraepithelial neoplasia (HGIN)
- high-frequency catheter probes (HFCP), 48
- high-grade dysplasia, 5, 19, 31, 37
- high-grade intraepithelial neoplasia (HGIN), 30
- histopathology
 - adenocarcinoma, 17
 - squamous cell carcinoma
 - dysplasia, 14–15
 - hyperplasia, 14

154 Index

- histopathology (cont.)
 - invasive, 15
 - precursor lesions, 14
- Hyperplasia
 - see also* dysplasia; squamous cell carcinomas (SCC)
- imaging
 - autofluorescence, 37
 - endoscopic, 28–30
 - magnetic resonance imaging (MRI), 76
 - narrow band imaging (NBI), 33–4
- IMC, *see* intramucosal carcinoma (IMC)
- IMRT, *see* intensity-modulated radiotherapy
- indigo carmine, 33
 - see also* chromoendoscopy; Lugol's iodine; methylene blue
- intensity-modulated radiotherapy (IMRT), 127
- intestinal metaplastic epithelium, 18
- intramucosal carcinoma (IMC), 37
- invasive adenocarcinoma
 - macroscopic appearance, 21
 - microscopic appearance, 21
- invasive squamous cell carcinoma
 - histopathology, 15
 - macroscopic appearance, 15
 - microscopic appearance, 16
- laser
 - in esophageal cancer, 145–7
 - in gastroenterology, 146
 - photodynamic therapy, 147–8
- Lewis–Tanner (LT) approach, 110–11, 113
 - see also* surgery
- low-grade dysplasia, 19, 37
- Lugol's iodine, 31–2
 - see also* chromoendoscopy
- lymphadenectomy, 110, 113–14
 - see also* surgery
- lymph node metastasis, 22
- magnetic resonance imaging (MRI), 76, 90
 - see also* positron emission tomography (PET)
- magnification endoscopy, 34–6
 - see also* chromoendoscopy; endoscopic imaging; narrow band imaging (NBI)
- malignant dysphagia, 116–17, 148
- malignant strictures, 116
- M1 disease, 66
- metaplasia, 5
- metaplastic epithelium, 21
 - columnar, 18
 - intestinal, 18
- metastases staging, *see* M staging
- metastasis, lymph node, 22
- metastatic disease (M) staging, *see* M staging
- methylene blue, 32
 - see also* chromoendoscopy; Lugol's iodine
- MRI, *see* magnetic resonance imaging (MRI)
- M staging, 73–4, 90–3
 - CT and, 90–3
 - EUS and, 91–3
 - FDG-PET and, 90–3
 - MRI and, 90
 - PET/CT and, 91–3
 - PET and, 90
 - US and, 90
- narrow band imaging (NBI), 33–4
 - see also* chromoendoscopy; endoscopic imaging
- neoadjuvant chemotherapy, 124
 - see also* radical treatment
- neoadjuvant therapy
 - chemoradiation
 - current best practice, 126
 - current controversies, 126
 - chemotherapy, 124
 - CT and, 77
 - esophageal cancer pathology and, 23
 - EUS staging following, 52
 - see also* adjuvant chemotherapy
- node (N) staging, *see* N staging
- N staging, 49, 88–90
 - CT and, 77
 - EUS and, 89
 - PET and, 89–90
 - see also* M staging; T staging
- OCT, *see* optical coherence tomography (OCT)
- odynophagia, 7
- optical coherence tomography (OCT), 36–7
 - see also* chromoendoscopy; confocal endomicroscopy; endoscopic imaging; magnification endoscopy; narrow band imaging (NBI)
- palliation
 - advanced cancers, 145–7
 - malignant dysphagia, 116–17, 148
 - randomized trials of, 117
 - stents for, 134
- palliative treatment
 - chemotherapy, 129
 - first line, 129–30
 - radiotherapy, 130
 - second line, 130
- pathology, esophageal cancer, *see* esophageal cancer pathology
- PDT, *see* photodynamic therapy (PDT)
- PET, *see* positron emission tomography (PET)
- PET/CT, *see under* positron emission tomography (PET)
- photodynamic effect, 145
- photodynamic therapy (PDT), 147–8
- photofrin, 148
- positron emission tomography (PET), 85

- FDG and, 86
- FDG-PET, 85
- FDG-PET systems, 86
- M staging and, 90
- N staging and, 89–90
- PET/CT, 85–6
 - M staging and, 91–3
 - recurrent disease and, 100
 - treatment planning, 94
- SCC and, 89
- T staging and, 87–8
- precursor lesions
 - adenocarcinoma
 - Barrett's esophagus, 17–19
 - dysplasia, 17, 19
 - squamous cell carcinoma
 - dysplasia, 14–15
 - hyperplasia, 14
- primary tumor (T) staging, *see* T staging
- prognosis, esophageal cancer
 - adenocarcinoma, 7
 - SCC, 7
- prognostic factors, esophageal cancer
 - pathology, 22
- radical treatment
 - adjuvant chemotherapy, 128–9
 - current best practice, 124
 - current controversies, 124
 - definitive chemoradiation, 127
 - neoadjuvant chemotherapy, 124, 126
 - promising areas of research, 125
- radiotherapy
 - development, 123
 - esophageal cancer, 122
 - see also* chemotherapy
- Raman spectroscopy, 38–9
- recurrent disease, 98
 - FDG-PET and, 98–9
 - PET/CT and, 100
- recurrent esophageal cancer
 - frequency and timing of recurrence, 78
 - recurrent disease, 78–9
- reflux esophagitis, 5
- regional lymph node (N) staging, 72–3
 - see also* N staging
- resection
 - complications, 114–15
 - principles, 109–10
 - see also* surgery
- SCCs, *see* squamous cell carcinomas (SCC)
- small cell carcinoma, histopathology of, 21
- spindle cell carcinoma (carcinosarcoma), 16
 - see also* squamous cell carcinomas (SCC)
- squamous, 4
- squamous cell carcinomas (SCC), 1
 - basaloid, 16
 - differential diagnosis
 - chemoradiotherapy, 17
 - cytokeratin staining, 17
- esophageal cancer, 1
 - clinical presentation, 6
 - epidemiology, 2, 3
 - etiology, 4
 - prognosis, 7
- FDG and, 87
- histopathology, 14
 - differential diagnosis, 17
 - dysplasia, 14–15
 - hyperplasia, 14
 - invasive squamous cell carcinoma, 15
 - macroscopic appearance, 15
 - microscopic appearance, 15
 - precursor lesions, 14, 15
- invasive, 15
- neoadjuvant treatment for, 23
- pathology, 14
- PET and, 89
- precursor lesions, 14
- prognostic factors for, 22
- spindle cell carcinoma (carcinosarcoma), 16
- verrucous, 17
- staging
 - classification, 64–5
 - M1 disease, 66
 - TNM staging, 65
 - esophageal anatomy, 62–4
 - esophageal cancer, 45, 87
 - esophageal cancer pathology and, 22
 - EUS staging following neoadjuvant therapy, 52
 - M, 51, 73–6, 90–3
 - N, 49–50, 72–3, 88–90
 - T, 44–8, 68–72, 87–8
 - TNM system for, 22, 65
- stents
 - complications, 139
 - insertion, 137–8
 - for palliation, 134
 - placement, 135
 - selection, 135–7
 - success rates, 137, 139
- surgery
 - esophageal cancer and, 107–9
 - lymphadenectomy, 113–14
 - postoperative management, 115
 - replacement conduit and, 114
 - resection complication, 114–15
 - resection principles, 109
- TNM staging, 45, 65
- TNM system, 22
 - see also* esophageal cancer pathology
- transhiatal esophagectomy (THE), 110–13
- transthoracic esophagectomy, 112
- T staging, 44–8, 68–72, 87
 - CT and, 88
 - FDG and, 88

156 Index

- T staging (cont.)
 - FDG-PET and, 88
 - PET and, 87–8
 - see also* M staging; N staging
- tumor (T) staging, *see* T staging
- tumor types, histopathology of
 - adenocarcinoma, 17–19
 - invasive adenocarcinoma, 21
 - small cell carcinoma, 21
 - squamous cell carcinoma, 14–17
- US, M staging and, 90
- verrucous squamous cell carcinoma, 17
- wireless capsule endoscopy (WCE), 39