

Contents

1 Introduction	1
References	5
2 Assessment of Malnutrition and Nutritional Therapy Approaches in Cancer Patients	7
2.1 Definition.....	7
2.2 Prevalence of Malnutrition in Cancer Patients	8
2.3 Etiology of Malnutrition.....	8
2.3.1 Tumor-Related Etiology	8
2.3.2 Treatment-Related Etiology.....	10
2.4 Assessment of Malnutrition in Cancer Patients	10
2.4.1 Nutritional Screening.....	11
2.4.2 Nutritional Assessment.....	13
2.5 Nutrition Therapy	23
2.5.1 Estimation of Nutritional Needs	24
2.6 Route of Nutrition Intervention.....	28
2.6.1 Oral Intake	28
2.6.2 Enteral Nutrition	29
2.6.3 Parenteral Nutrition	33
2.7 Reassessment and Follow-up Nutritional Care	34
2.8 Patient and Family Communication/Education.....	34
2.9 Communication with Interdisciplinary Team.....	34
2.10 Future Directions.....	35
References	36
3 Cancer Anorexia (CA).....	43
3.1 Definition/Description	44
3.2 Prevalence.....	45
3.3 Etiology and Potential Mechanisms	46

3.3.1	Tumor- and Treatment-Related Etiology of Anorexia.....	46
3.3.2	Perturbations of the Physiological Regulation of Eating Behavior as Etiology of Anorexia.....	46
3.3.3	Psychosocial Etiology of Anorexia	48
3.4	Current Therapies for Cancer Anorexia	49
3.4.1	Timing of Diagnosis and Intervention.....	50
3.4.2	Nutrition Supplementation	51
3.4.3	Appetite Stimulants and Other Pharmacotherapies to Treat Anorexia	51
3.4.4	Increase Lean Body Mass with Physical Activity	53
3.5	Guidelines for Treatment.....	53
3.5.1	Nutrition Guidelines	53
3.5.2	Pharmacotherapy	56
3.5.3	Speech Therapist	56
3.5.4	Physical Activity.....	56
3.5.5	Follow-up.....	59
3.6	Future Directions.....	59
	References	61
4	Cancer Cachexia (CC)	65
4.1	Definition.....	66
4.2	Prevalence.....	66
4.3	Etiology of Cancer Cachexia.....	66
4.3.1	Potential Molecular Mechanisms of CC.....	67
4.4	Current Therapies for CC.....	69
4.4.1	Nutritional Approaches	69
4.4.2	Appetite Stimulants	72
4.4.3	Physical Activity.....	73
4.5	Guidelines for Treatment.....	73
4.5.1	Nutrition Guidelines	74
4.5.2	Pharmacotherapy	76
4.5.3	Physical Activity.....	76
4.5.4	Markers and Instruments for Patient Monitoring and Assessment of Response to Treatment by the Interdisciplinary Medical Team.....	76
4.5.5	Follow-up.....	79
4.6	Future Directions.....	79
	References	80
5	Oral Mucositis	85
5.1	Definition.....	86
5.2	Prevalence.....	87
5.3	Etiology	88
5.3.1	Patient- and Treatment-Related Etiology of Mucositis	88
5.3.2	Biologic Development of Mucositis.....	90

5.4	Current Therapies for Mucositis.....	90
5.4.1	Assessment and Early Identification of Oral Mucositis	90
5.4.2	Treatment Approaches with Immunomodulators, Amino Acids, and Vitamins	91
5.4.3	Physical Approaches for the Prevention and Treatment of Oral Mucositis	93
5.4.4	Treatment Approaches of Related Symptom Clusters to Oral Mucositis	93
5.5	Guidelines for Assessment and Treatment of Oral Mucositis.....	94
5.5.1	Assessment of Mucositis	95
5.5.2	Dental Care Guidelines.....	96
5.5.3	Pharmacotherapy	96
5.5.4	Nutrition Guidelines	97
5.5.5	Physical Activity.....	99
5.5.6	Markers and Instruments for Patient Monitoring and Assessment of Response to Treatment by the Interdisciplinary Medical Team.....	99
5.5.7	Follow-up.....	101
5.6	Future Directions.....	102
	References	103
6	Nausea and Vomiting in Cancer	107
6.1	Definition/Description	108
6.2	Prevalence.....	109
6.3	Etiology/Common Causes.....	109
6.3.1	Neurophysiology of Nausea and Vomiting.....	110
6.3.2	Cytotoxic Chemotherapy and Radiation-Induced Mechanisms	111
6.3.3	Tumor-Induced Nausea and Vomiting	112
6.3.4	Drugs Contributing to Nausea and Vomiting.....	112
6.3.5	Psychological Etiology	112
6.4	Current Treatment of Nausea and Vomiting.....	113
6.4.1	Pharmacological Approaches	114
6.4.2	Nonpharmacological Approaches	116
6.5	Guidelines for the Management of Nausea and Vomiting	119
6.5.1	Assessment	119
6.5.2	Pharmacologic Interventions	119
6.5.3	Nutrition Guidelines	120
6.5.4	Markers and Instruments for Patient Monitoring and Assessment of Response to Treatment by the Interdisciplinary Medical Team.....	122
6.5.5	Dentist.....	125
6.5.6	Follow-up.....	125
6.6	Future Directions.....	125
	References	127

7	Cancer-Related Fatigue (CRF)	131
7.1	Definition.....	132
7.2	Prevalence.....	132
7.3	Etiology of Fatigue in Cancer	133
7.3.1	Physiological Factors.....	135
7.3.2	Medications	142
7.3.3	Psychological Factors	142
7.3.4	Environmental Factors.....	144
7.4	Current Treatment Approaches	144
7.4.1	Assessment of Etiology of Fatigue.....	145
7.4.2	Pharmacological Approaches/Treating Comorbidities.....	145
7.4.3	Nonpharmacological Approaches	147
7.5	Guidelines.....	150
7.5.1	Comprehensive Assessment	151
7.5.2	Pharmacological Interventions	152
7.5.3	Nonpharmacological Interventions.....	152
7.6	Future Directions.....	157
	References	159
8	Treatment-Induced Enteritis (Radiation- or Combination Therapy-Induced Enteropathies)	171
8.1	Definition.....	172
8.2	Prevalence.....	173
8.3	Etiology	173
8.4	Current Therapies for Treatment of Alimentary Tract Enteritis.....	175
8.4.1	Screening and Comprehensive Evaluation	176
8.4.2	Radiation Techniques	176
8.4.3	Surgical Management.....	177
8.4.4	Pharmaceutical Management.....	178
8.4.5	Nutritional Management.....	179
8.5	Guidelines for Treatment of Gastrointestinal Mucositis/Radiation Enteritis	180
8.5.1	Assessment and Medical/Surgical Management	181
8.5.2	Nutritional Assessment and Therapy.....	182
8.5.3	Pharmacotherapy	184
8.5.4	Markers and Instruments for Patient Monitoring and Assessment of Response to Treatment by the Interdisciplinary Medical Team.....	185
8.5.5	Follow-up.....	187
8.6	Future Directions.....	187
	References	189
9	Neurocognitive Impairment (NI)	193
9.1	Definition.....	194
9.2	Prevalence.....	195

9.3	Etiology	196
9.3.1	Etiology of NI in All Cancers.....	196
9.3.2	Etiology of NI in Adult Cancers.....	196
9.3.3	Etiology of NI in Childhood Cancers and Adult Survivors of Childhood Cancers.....	197
9.4	Current Interventions for the Treatments for Chemotherapy-Induced Cognitive Impairment.....	199
9.4.1	Treatment of Anemia.....	199
9.4.2	Treatment of Fatigue.....	200
9.4.3	Cognitive Training (CT).....	201
9.4.4	Timing of Intervention.....	204
9.5	Guidelines.....	205
9.5.1	Neuropsychyo-Oncology Referral.....	205
9.5.2	Nutrition Screening, Assessment, and Therapy.....	206
9.5.3	Physical Activity.....	207
9.5.4	Markers and Instruments for Patient Monitoring and Assessment of Response to Treatment by the Interdisciplinary Medical Team.....	208
9.5.5	Follow-up.....	211
9.6	Future Directions.....	211
	References	212
10	Dysfunction of the Bowel/Constipation	221
10.1	Definition.....	222
10.2	Prevalence.....	223
10.3	Etiology	224
10.3.1	Medications for Cancer Treatment	224
10.3.2	Tumor or Tumor-Radiation-Induced Constipation	227
10.3.3	Psychological Factors	227
10.4	Current Treatment for Cancer or Treatment-Induced Constipation	228
10.4.1	Assessment.....	228
10.4.2	Pharmacological Interventions.....	229
10.4.3	Nonpharmacological Approaches.....	233
10.5	Guidelines.....	233
10.5.1	Comprehensive Assessment.....	233
10.5.2	Pharmacotherapy.....	234
10.5.3	Nonpharmacological Interventions.....	235
10.5.4	Markers and Instruments for Patient Monitoring and Assessment of Response to Treatment by the Interdisciplinary Medical Team	237
10.5.5	Follow-up.....	240
10.6	Future Directions.....	240
	References	242

11 Dysphagia	245
11.1 Definition/Description	246
11.2 Prevalence	247
11.3 Etiology	248
11.3.1 Tumor Location–Related Effects	248
11.3.2 Chemotherapy–Related Effects	250
11.3.3 Radiation and Chemoradiation Therapy–Related Effects	250
11.4 Current Treatment Strategies for Dysphagia	252
11.4.1 Screening and Initial Assessment	252
11.4.2 Nutritional Interventions	254
11.4.3 Physical Therapy	255
11.4.4 Pharmacotherapies	256
11.5 Guidelines	256
11.5.1 Nutrition Guidelines	257
11.5.2 Speech Pathologist/Radiologist	258
11.5.3 Nutrition Intervention	258
11.5.4 Dentist	261
11.5.5 Pharmacotherapy	261
11.5.6 Physical Activity	262
11.5.7 Markers and Instruments for Patient Monitoring and Assessment of Response to Treatment by the Interdisciplinary Medical Team	262
11.5.8 Follow-up	265
11.6 Future Directions	265
References	267
 12 Alterations in Taste and Smell	 271
12.1 Definition	272
12.2 Prevalence	273
12.3 Etiology/Common Causes	274
12.3.1 Chemotherapy Induced	275
12.3.2 Radiation Therapy Induced	277
12.3.3 Other Causes of Taste and Smell Alterations in Cancer	279
12.4 Current Treatment Strategies	279
12.4.1 Assessment	280
12.4.2 Pharmacological	281
12.4.3 Nonpharmacological	282
12.5 Guidelines for Management	283
12.5.1 Education of Patient and Family About These Symptoms	283
12.5.2 Referral to Dentist	283
12.5.3 Treatment of Infections	284
12.5.4 Screening for Alterations in Taste and Smell	284

12.5.5	Current Treatment.....	284
12.5.6	Other Causes Must Be Examined.....	284
12.5.7	Nutrition Guidelines	285
12.5.8	Pharmacotherapy	287
12.5.9	Markers and Instruments for Patient Monitoring and Assessment of Response to Treatment by the Interdisciplinary Medical Team	287
12.5.10	Follow-up	289
12.6	Future Directions.....	290
	References	291
Index		295