

CONTENTS

Letter from the ASCO-SEP™ Editor

Contributors

Disclosures

Continuing Medical Education (CME) Information

CHAPTER 1

EPIDEMIOLOGY AND PREVENTION

Risk

Patterns of Care and Outcomes Research

Cancer Prevention

Cancer Screening

CHAPTER 2

MOLECULAR BIOLOGY

Analyzing Nucleic Acids and Detecting

 Cancer-associated Mutations

Chromosome Analysis

Analysis of Proteins

Oncogenes: The Engines of Cancer

Functions of Oncogenes

Multistep Tumorigenesis

CHAPTER 3

CLINICAL PHARMACOLOGY

Principles of Chemotherapy

Pharmacokinetics

Pharmacogenetics

Pharmacodynamics

Drug Development: Clinical Trial Design

New Medicines and Novel Mechanisms of Action

CHAPTER 4

BIOLOGIC THERAPY

Immune Response

Immune Cells

Cytokines

Immune Surveillance

Tumor Antigens

Immune Escape

Immune Subversion

Biologic Therapies

Inhibiting Regulatory Responses

iii

iv

viii

xii

1

3

5

5

10

19

22

26

28

29

33

47

51

52

52

55

57

58

59

63

64

64

67

67

69

69

70

71

82

CHAPTER 5

BREAST CANCER

Risk Factors

Prevention

Screening

Diagnosis

Prognostic Markers

Stages 0 to III Disease Management

Management of Stage IV Disease

Surveillance after Primary Therapy for Stages I to III

Geriatric Considerations

Side Effects of Treatment

Survivorship

Emerging Strategies

Conclusion

CHAPTER 6

LUNG CANCER

Etiology

Pathology

Biology

Clinical Presentation

Screening

Prognostic Factors

Preoperative Evaluation for Non-small Cell Lung Cancer

Non-small Cell Lung Cancer

Treatment: Non-small Cell Lung Cancer

Small Cell Lung Cancer

Palliation

Thymomas

Malignant Mesothelioma

CHAPTER 7

HEAD AND NECK CANCER

Epidemiology and Risk Factors

Prevention and Chemoprevention

Clinical Presentation, Diagnosis, and Staging

Principles of Management

Principles of Surgery

Principles of Radiation Therapy

Principles of Chemotherapy

Nasopharyngeal Cancer

85

87

90

93

95

95

99

108

112

112

112

114

115

115

121

122

123

125

126

128

130

130

131

132

141

143

144

145

151

152

154

155

159

161

162

164

173

Cancer of Unknown Primary Site	174	CHAPTER 13	
Malignant Lesions of the Salivary Glands	175	AIDS-RELATED MALIGNANCIES: NON-HODGKIN'S LYMPHOMA AND KAPOSI'S SARCOMA	273
Thyroid Cancer	176	AIDS-related Lymphomas	274
		Kaposi's Sarcoma	281
CHAPTER 8	183	CHAPTER 14	
GASTROINTESTINAL CANCERS		CENTRAL NERVOUS SYSTEM TUMORS	291
Esophageal Cancer	184	Diagnosis and Staging	293
Gastric Cancer	186	Treatment	293
Pancreatic Cancer	188	Astrocytomas	295
Cancers of the Liver and Biliary Tree	190	Glioblastoma Multiforme	298
Colorectal Cancer	192	Oligodendrogliomas and Oligoastrocytomas	301
Anal Cancers	200	Ependymoma	302
Pancreatic Endocrine Tumors and Neuroendocrine Tumors Including Carcinoids	201	Meningioma	303
		Pituitary Tumors	305
CHAPTER 9	205	Primary CNS Lymphoma	305
GENITOURINARY CANCERS		Medulloblastoma (Primitive Neuroectodermal Tumor)	306
Germ Cell Tumors	206	Metastatic Disease to the Nervous System	307
Bladder Cancer	213		
Renal Cancer	218	CHAPTER 15	
Prostate Cancer	222	LEUKEMIAS	311
		Etiology	311
CHAPTER 10	239	Acute Leukemia	312
GYNECOLOGIC CANCERS		Treatment for AML	317
Cervical Cancer	240	Special Types of AML	323
Endometrial Cancer	241	Therapy for ALL	324
Ovarian Cancer	243	Myelodysplastic Syndromes	327
		Chronic Myeloid Leukemia (CML)	329
CHAPTER 11	251	Chronic Lymphocytic Leukemia (CLL)	333
MALIGNANT MELANOMA		Prolymphocytic Leukemia (PLL)	337
Epidemiology, Risk Factors, and Genetics of Melanoma	251	Hairy Cell Leukemia	338
Clinical Presentation and Diagnosis	253	Chronic T-cell Leukemias	339
Prognostic Factors	255		
Staging System	255	CHAPTER 16	
Treatment	256	LYMPHOMAS AND MYELOMA	345
Management of Regional Lymph Nodes	256	Hodgkin's Lymphoma	345
Adjuvant Therapy Following Surgery	257	Non-Hodgkin's Lymphomas	350
Surveillance after Primary Therapy	258	Multiple Myeloma	359
Treatment of Metastatic Melanoma	259	Systemic Amyloidosis	364
		CHAPTER 17	
CHAPTER 12	263	HEMATOPOIETIC CELL TRANSPLANTATION	367
SARCOMA		Indications	368
Epidemiology and Etiology	264	Source of Stem Cells	368
Clinical Presentation and Diagnosis	264	Preparative Regimen	370
Pathologic Features and Prognostic Factors	265	Engraftment	371
Treatment of Non-GIST Soft Tissue Sarcomas	266	Complications of Marrow Transplantation	371
Gastrointestinal Stromal Tumors (GIST)	268		
Bone Sarcomas	269		

CHAPTER 18

SYMPTOM MANAGEMENT

Cancer-related Pain	379
Nausea and Vomiting Associated with Cytotoxic Agents	385
Bowel Obstruction	388
Management of Estrogen-deprivation Symptoms	391
Oral Mucositis and Esophagitis Associated with Treatment	393
Malignant Ascites	395
Anorexia and Cachexia	397
Diarrhea Associated with Cancer or Cancer Therapy	400
Dyspnea	402
Cancer Fatigue	406
Skin Rash and Epidermal Growth Factor Receptor (EGFR) Inhibitors	407
Sexual Health	407
Osteoporosis	407
Anemia	408

CHAPTER 19

CANCER IN THE ELDERLY

Biology	416
Pharmacology	417
Clinical Geriatric Assessment	417
Treatment Approaches	419
Special Considerations in Common Malignant Diseases	421
<i>Self Evaluation — Chapter Questions and Explanatory Answers MCQ1</i>	
<i>Normal Laboratory Values</i>	1i
<i>Drug Reference List</i>	4i
<i>Index</i>	11i
<i>Participant Evaluation of ASCO-SEP™</i>	39i
<i>Request for ASCO-SEP™ CME Credit</i>	49i