

C O N T E N T

P A R T I Principles

A: Palliative Medicine 2

- CHAPTER **1** Palliative Medicine—The Global Perspective:
Closing the Know-Do Gap 2
Jan Stjernswärd and Xavier Gómez-Batiste

- CHAPTER **2** Death in Modern Society 8
Donna M. Wilson and Beryl E. Cable-Williams

- CHAPTER **3** Illness Trajectories and Stages 13
Scott A. Murray

- CHAPTER **4** The History of Hospice 18
Katri Elina Clemens, Birgit Jaspers, and Eberhard Klaschik

- CHAPTER **5** Palliative Medicine: Models of
Organization 23
Xavier Gómez-Batiste, Josep Porta-Sales, Silvia Paz, and Jan Stjernswärd

- CHAPTER **6** The Specialty of Palliative Medicine 29
S. Lawrence Librach

- CHAPTER **7** Principles of Palliative Medicine 33
Ira Byock

B: Psychosocial Care 42

- CHAPTER **8** The Human Experience of Illness 42
J. Norelle Lickiss

- CHAPTER **9** Suffering 46
Eric J. Cassell

- CHAPTER **10** Culture, Ethnicity, and Illness 51
Cynthia R. Goh

- CHAPTER **11** The Desire for Death 55
Wendy G. Lichtenthal, Megan Olden, Hayley Pessin, and William Breitbart

- CHAPTER **12** Spiritual Distress 59
Pam Firth

- CHAPTER **13** Families in Distress 63
Matthew Farrelly

- CHAPTER **14** Grief and Bereavement 69
Wendy G. Lichtenthal and David W. Kissane

CHAPTER	15	Stress and Burnout	75
Mary L. S. Vachon			
CHAPTER	16	Body Image and Sexuality	83
Lena Dergham			
		<i>C: Bioethics</i>	88
CHAPTER	17	Principles of Bioethics	88
Darren P. Mareiniss and David Casarett			
CHAPTER	18	Ethics and Clinical Practice	94
Azucena Couceiro			
CHAPTER	19	Advanced Directives	98
Angelo E. Volandes and Mildred Z. Solomon			
CHAPTER	20	Withholding and Withdrawing Treatment	104
Elizabeth Weinstein, Wendy G. Anderson, and Robert M. Arnold			
CHAPTER	21	Euthanasia and Physician-Assisted Suicide	110
Bert Broeckaert			
CHAPTER	22	Research Bioethics	115
Carmen Paradis and Kathryn L. Weise			
		<i>D: Education</i>	119
CHAPTER	23	Curriculum Development	119
Catherine Deamant, Martha L. Twaddle, and Pamela Dalinis			
CHAPTER	24	Adult Learning	125
José Pereira and Michael Aherne			
CHAPTER	25	Web-Based Learning	131
José Pereira and Moné Palacios			
		<i>E: Research</i>	136
CHAPTER	26	Principles of Palliative Medicine Research	136
Clare White, Janet R. Hardy, and Paul Glare			
CHAPTER	27	Developing a Research Group	144
Katherine Hauser			

CHAPTER 28	Design and Conduct of Research and Clinical Trials	148
Anthony Byrne, Kerry Hood, Gareth Griffiths, and Timothy S. Maughan		
CHAPTER 29	Biostatistics and Epidemiology	156
Matthew T. Karafa and Lisa A. Rybicki		
CHAPTER 30	Symptom Research	161
Badi El Osta and Eduardo Bruera		
CHAPTER 31	Health Services Research	165
Massimo Costantini and Irene J. Higginson		
CHAPTER 32	Psychosocial Research	170
John G. Hughes and Mari Lloyd-Williams		
CHAPTER 33	Qualitative Methodology	175
Sheila Payne		
CHAPTER 34	Priorities for the Future: The Research Agenda	181
Katherine Hauser, Nabila Bennani-Baiti, Jordanka Kirkova, Wael Lasheen, Ruth D. Powazki, and Dilara Seyidova Khoshknabi		
<i>F: Administration</i>		189
CHAPTER 35	Program Development: An International Perspective	189
Liliana de Lima		
CHAPTER 36	Program Development: National Planning	192
Tony O'Brien		
CHAPTER 37	Program Development: Palliative Medicine and Public Health Services	198
Xavier Gómez-Batiste, Josep Porta-Sales, Silvia Paz, Javier Rocafort, and Jan Stjernswärd		
CHAPTER 38	Consultation Services	203
Paul Glare, John Hunt, Peter Selwyn, and K. Allsopp		
CHAPTER 39	Acute Palliative Medicine Units	208
Josep Porta-Sales, Xavier Gómez-Batiste, and Antonio Pascual-López		
CHAPTER 40	Inpatient Hospice and Palliative Care Units	212
Denise Wells Spencer		
CHAPTER 41	Palliative Medicine in Institutions	216
Stephen R. Connor		
CHAPTER 42	Home Care and Hospice Home Care	219
Keri Thomas		
CHAPTER 43	The Business of Palliative Medicine: Quality Care in a Challenging Environment	225
Ruth L. Lagman		
<i>G: Quality</i>		230
CHAPTER 44	Development of National and International Standards	230
Carlos Centeno and Antonio Noguera		

CHAPTER	45	Clinical Practice Guidelines	239
Helen M. Morrison and John Welsh			
CHAPTER	46	Evidence-Based Economic Evaluation	245
Konrad Fassbender			
<i>H: Health Professions, Family, and Volunteers</i>			253
CHAPTER	47	The Interdisciplinary Team	253
Malcolm Payne and David Oliviere			
CHAPTER	48	The Physician	259
J. Norelle Lickiss			
CHAPTER	49	Nurses and Nurse Practitioners	265
Philip J. Larkin			
CHAPTER	50	The Social Worker	269
Ruth D. Powazki			
CHAPTER	51	The Nutrition Support Team	273
Leah Gramlich			
CHAPTER	52	Occupational and Physical Therapy	277
Denise L. Schilling and Pamela Dixon			
CHAPTER	53	The Speech-Language Pathologist	279
Dona Leskusi			
CHAPTER	54	Psychiatrists and Clinical Psychologists	282
Ursula Bates and Kevin Malone			
CHAPTER	55	Spiritual Care	289
Christina M. Puchalski			
CHAPTER	56	The Role of the Clinical Pharmacist	293
Andrew Dickman and Phyllis A. Grauer			
CHAPTER	57	Palliative Medicine and the Ethics Consultant	297
Paul J. Ford			
CHAPTER	58	Music and Art Therapists	299
Lisa M. Gallagher, Deforia Lane, and Darlene Foth			
CHAPTER	59	Wound and Stoma Therapists	303
Mary Ann Sammon			
CHAPTER	60	The Volunteer	305
Monica Muller			
CHAPTER	61	History and Physical Examination	308
Katherine Hauser, Sik Kim Ang, and Terence L. Gutgsell			

P A R T I I The Patient

A: Patient Evaluation 320

CHAPTER	62	Assessing the Family and Caregivers	320
Sheila Payne and Peter Hudson			
CHAPTER	63	Clinical Symptom Assessment	325
Katherine Hauser			

CHAPTER	64	Qualitative and Quantitative Symptom Assessment	333
Victor T. Chang			
CHAPTER	65	Measuring Quality of Life	341
Jordanka Kirkova			
CHAPTER	66	The Neuropsychological Examination	352
Bushra Malik			
CHAPTER	67	Sexuality and Intimacy in the Critically Ill	355
Martina Kern			
CHAPTER	68	Assessment of Mobility	359
Sarah E. Callin and Michael I. Bennett			
<i>B: Investigations</i>			364
CHAPTER	69	Nuclear Medicine	364
Dirk Sandrock and Petra Feyer			
CHAPTER	70	Computed Tomography Scanning and Magnetic Resonance Imaging in Palliative Care	367
Carmen Fernandez Alvarez, Isabel Barreiro-Meiro Sáenz-Diez, Julia Romero Martinez, and Isabel Martínez de Ubago			
CHAPTER	71	Positron Emission Tomography	371
Michael J. Fulham and Armin Mohamed			
CHAPTER	72	Cardiac Function Testing	378
David F. J. Raes, Bart Van den Eynden, and Viviane Conraads			
CHAPTER	73	Pulmonary Function	385
Stephen McNamara			
CHAPTER	74	Laboratory Hematology	390
Karl S. Theil			
CHAPTER	75	The Role of Pathology	404
Lisa M. Yerian			
<i>C: Co-morbidities</i>			409
CHAPTER	76	Common Medical and Surgical Disorders	409
John Loughnane			
CHAPTER	77	Common Musculoskeletal Co-morbidities	413
Neil McGill			
CHAPTER	78	Diabetes Mellitus	417
Mary Lynn McPherson			
CHAPTER	79	Heart Failure	426
Frances Mair, Lynda Blue, and Yvonne Millerick			
CHAPTER	80	Arrhythmias	431
William R. Lewis and Jennifer E. Cummings			
CHAPTER	81	Hypertension	435
Michael A. Weber			

CHAPTER 82 Kidney Failure 443

Sara N. Davison

CHAPTER 83 Alcohol and Drug Abuse 451

Paul S. Haber and Katherine Neasham

D: Complications of Advanced Disease 459**CHAPTER 84 Liver Failure 459**

Edna Strauss

CHAPTER 85 Deep Vein Thrombosis 465

Simon Noble

CHAPTER 86 Persistent or Repeated Hemorrhage 470

Bassam Estfan

CHAPTER 87 Lymphedema 474

Anna Towers

CHAPTER 88 Pressure Ulcers and Wound Care 478

Valerie Nocent Schulz, Kathryn M. Kozell, and Lina M. Martins

CHAPTER 89 Stomas and Fistulas 484

Michael F. McGee and Conor P. Delaney

CHAPTER 90 Emergencies in Palliative Medicine 492

Katherine Clark and David C. Currow

E: Infections 505**CHAPTER 91 Infections in Palliative Medicine 505**

Ruth L. Lagman and Susan J. Rehm

CHAPTER 92 Prevention and Control of Infections 509

Susan F. Fitzgerald and Lynda E. Fenelon

CHAPTER 93 Urinary Tract Infections 516

Nabin K. Shrestha

CHAPTER 94 Health Care–Acquired Infections 519

Jennie Johnstone and A. Mark Joffe

CHAPTER 95 Fatal and Fulminant Infections 527

Erika Vlieghe, Karen Frame, and Robert Colebunders

CHAPTER 96 Antimicrobial Use in the Dying 532

Thomas G. Fraser

F: Procedures and Devices 535**CHAPTER 97 Palliative Surgery 535**

Geoffrey P. Dunn

CHAPTER 98 Gastrointestinal Endoscopy 541

Garret Cullen and Hugh E. Mulcahy

CHAPTER 99 Palliative Management of Airway Obstruction: Tracheostomy and Airway Stents 544

Rajeev Dhupar and Peter F. Ferson

CHAPTER 100 Pleural and Peritoneal Catheters 550

Timothy M. Pawlik and J. Timothy Sherwood

CHAPTER	101	Interventional Radiology	555
		Meghna Chadha and Mark Sands	

CHAPTER	102	Durable Medical Equipment	565
		Juliet Y. Hou, Steven I. Reger, and Vinod Sahgal	

CHAPTER	103	Communication Devices	573
		Dona Leskusi	

G: Nutrition 577

CHAPTER	104	Physiology of Nutrition and Aging	577
		James T. D'Olimpio	

CHAPTER	105	Determination of Nutrition and Hydration	582
		Mellar P. Davis	

CHAPTER	106	The Anorexia-Cachexia Syndrome	587
		Grant D. Stewart, Richard J. E. Skipworth, and Kenneth C. H. Fearon	

CHAPTER	107	Clinical Nutrition	595
		Jane Read and Stephen Clarke	

CHAPTER	108	Principles and Management of Nutritional Support in Cancer	602
		Federico Bozzetti and Valentina Bozzetti	

CHAPTER	109	Nutrition in Palliative Medicine	607
		Bart Van den Eynden, Noël Derycke, and Lucas Ceulemans	

H: Communication 613

CHAPTER	110	Good Communication: Patients, Families, and Professionals	613
		Cathy Heaven and Claire Green	

CHAPTER	111	Telling the Truth: Bad News	620
		Josephine M. Clayton, Phyllis N. Butow, and Martin H. N. Tattersall	

CHAPTER	112	Problems in Communication	625
		Katja Elbert-Avila and James A. Tulskey	

CHAPTER	113	Counseling	630
		David Spiegel	

CHAPTER	114	Public Advocacy and Community Outreach	634
		Francesca Crippa Floriani and Elena Zucchetti	

CHAPTER	115	Telemedicine	637
		José Pereira and Ron Spice	

I: Decision Making 643

CHAPTER	116	Making Good Decisions	643
		Rogelio Altisent, Jacinto Bádiz, and María P. Torrubia	

CHAPTER	117	Denial and Decision-Making Capacity	647
		Pilar Arranz and Pilar Barreto	

CHAPTER 118 Evidence-Based Decision Making: Challenges and Opportunities 651

Amy P. Abernethy and David C. Currow

CHAPTER 119 Determining Prognosis 657

Paul Glare and Antonio Vigano

CHAPTER 120 The Plan of Care 662

Lucille R. Marchand

PART III Drugs and Symptoms

***A: Drugs* 668**

CHAPTER 121 Principles of Pharmacology 668

Achiel Haemers and Koen Augustyns

CHAPTER 122 Neuropharmacology and Psychopharmacology 675

Mellar P. Davis and Leopoldo Pozuelo

CHAPTER 123 Prescribing 687

Susan Poole and Michael Dooley

CHAPTER 124 Interactions, Side Effects, and Management 692

Randy D. Miller, Kirk V. Shepard, and Edwin D. Dickerson

CHAPTER 125 Drug Use in Special Populations 696

Paola Sacerdote

CHAPTER 126 Kidney and Liver Disease 700

Wael Lasheen

CHAPTER 127 Routes of Administration 706

Marie Twomey

CHAPTER 128 Development and Use of a Formulary 711

Arthur G. Lipman

CHAPTER 129 Antacids 715

Bassam Estfan

CHAPTER 130 Antidepressants and Psychostimulants 719

Stephen Higgins

CHAPTER 131 Antibiotics 723

Lukas Radbruch

CHAPTER 132 Antiepileptic Drugs 726

K. Mitchell Russell

CHAPTER 133 Cancer-Related Weight Loss 732

Faith D. Ottery

CHAPTER 134 Anxiolytics, Sedatives, and Hypnotics 736

Susan B. LeGrand

CHAPTER	135	Nonsteroidal Anti-inflammatory Drugs	740
		Kay Brune and Burkhard Hinz	
CHAPTER	136	Diuretics	745
		Mazen A. Hanna and Randall Starling	
CHAPTER	137	Bronchodilators and Cough Suppressants	749
		Susan B. LeGrand and Bassam Estfan	
CHAPTER	138	Opioids	754
		Friedemann Nauck and Janet R. Hardy	
CHAPTER	139	Psychotropic Drugs	759
		Luigi Grassi and Tiziana Antonelli	
CHAPTER	140	Laxatives	767
		Paul J. Daeninck and Garnet Crawford	
CHAPTER	141	Cardiac Drugs	771
		Simon Noble and Claire Turner	
CHAPTER	142	Local and General Anesthetics	777
		Eric Prommer	
CHAPTER	143	Drugs for Hypercalcemia	781
		Jean-Jacques Body	
CHAPTER	144	Antiemetic Drugs	785
		David Dunwoodie and Paul Glare	
CHAPTER	145	Corticosteroids	797
		Louise Exton	
CHAPTER	146	Drugs for Myoclonus and Tremors	801
		Dilara Seyidova Khoshknabi	
CHAPTER	147	Drugs for Diarrhea	806
		Catherine McVearry Kelso	
		<i>B: Symptom Control</i>	813
CHAPTER	148	Principles of Symptom Control	813
		Terence L. Gutzsell	
CHAPTER	149	Symptom Epidemiology and Clusters	821
		Jade Homsí	
CHAPTER	150	Anorexia and Weight Loss	826
		Aurelius G. Omlin and Florian Strasser	
CHAPTER	151	Anxiety	833
		Susan B. LeGrand	
CHAPTER	152	Syncope and Blackouts	837
		Diarmuid O'Shea and Graham Sutton	
CHAPTER	153	Airway Obstruction	842
		Bruce H. Chamberlain	

- CHAPTER 154 Constipation and Diarrhea 846**
Nigel P. Sykes
- CHAPTER 155 Cough, Hemoptysis, and Bronchorrhea 854**
Sharon Watanabe, Yoko Tarumi, and Pablo Amigo
- CHAPTER 156 Delirium and Psychosis 860**
Pierre R. Gagnon and Michel Ouellette
- CHAPTER 157 Depression 865**
Susan E. McClement and Harvey Max Chochinov
- CHAPTER 158 Dysphagia 871**
Robin Pollens, Kathryn L. Hillenbrand, and Helen M. Sharp
- CHAPTER 159 Dyspnea 877**
Joshua Shadd and Deborah Dudgeon
- CHAPTER 160 Edema 881**
Lawrence J. Clein
- CHAPTER 161 Fatigue 886**
Susan B. LeGrand
- CHAPTER 162 Fever and Sweats 890**
Barton Bobb, Laurie Lyckholm, and Patrick Coyne
- CHAPTER 163 Hiccups 894**
Howard S. Smith
- CHAPTER 164 Incontinence: Urine and Stool 898**
Subhasis K. Giri and Hugh D. Flood
- CHAPTER 165 Indigestion 905**
Bassam Estfan
- CHAPTER 166 Pruritus 910**
Brett Taylor Summey
- CHAPTER 167 Memory Problems 913**
Adam Rosenblatt
- CHAPTER 168 Muscle Spasms 916**
Dilara Seyidova Khoshknabi
- CHAPTER 169 Nausea, Vomiting, and Early Satiety 921**
Janet L. Abrahm and Bridget Fowler
- CHAPTER 170 Nonmalignant Pain 931**
Sharon M. Weinstein
- CHAPTER 171 Oral Symptoms 937**
Rajesh V. Lalla and Douglas E. Peterson
- CHAPTER 172 Tenesmus, Strangury, and Malodor 946**
Sik Kim Ang
- CHAPTER 173 Premature Menopause 950**
Charles L. Loprinzi and Debra Barton
- CHAPTER 174 Death Rattle 956**
H. Christof Müller-Busch and Thomas Jehser

CHAPTER	175	Seizures and Movement Disorders	961
		Hunter Groninger and J. Cameron Muir	

CHAPTER	176	Sleep Problems and Nightmares	965
		Dilara Seyidova Khoshknabi	

C: Care of the Imminently Dying 973

CHAPTER	177	Diagnosis of Death and Dying	973
		Norma O'Leary	

CHAPTER	178	Standards of Care	978
		John Ellershaw, Maureen Gambles, and Catriona Mayland	

CHAPTER	179	Palliative Sedation	983
		John D. Cowan, Teresa Palmer, and Libby Clemens	

CHAPTER	180	Care of the Dying: Hospitals and Intensive Care Units	988
		Pamela Levack and Carol Macmillan	

Dying in the Hospital 988

Dying in the Intensive Care Unit 993

CHAPTER	181	Comfort Care: Symptom Control in the Dying	997
		Lesley Bicanovsky	

D: Complementary and Alternative Medicines 1001

CHAPTER	182	Integrative Medicine: Complementary Therapies	1001
		Barrie Cassileth and Jyothirmai Gubili	

PART IV Palliative Care and General Medicine

A: Complex Illnesses 1008

CHAPTER	183	Organ Transplantation	1008
		Michael Herman and Andrew P. Keaveny	

CHAPTER	184	Cardiovascular Disorders	1012
		Rodney O. Tucker	

CHAPTER	185	Respiratory Failure	1016
		Bassam Estfan	

CHAPTER	186	Respiratory Equipment	1021
		Robert E. McQuown	

B: Nervous System and Musculoskeletal Disorders 1027

CHAPTER	187	Congenital Intellectual Disability	1027
		Karen Ryan, Regina McQuillan, and Philip C. Dodd	

CHAPTER	188	Musculoskeletal Disorders	1033
		Eliza Pontifex and Barry Bresnihan	

CHAPTER	189	Stroke	1040
		Fred Frost	

CHAPTER	190	Parkinson's Disease	1044
		Stephen G. Reich	

CHAPTER	191	Multiple Sclerosis	1055
David A. Gruenewald and Jodie Haselkorn			
CHAPTER	192	Amyotrophic Lateral Sclerosis	1062
Gian Domenico Borasio			
CHAPTER	193	Quadriplegia and Paraplegia	1067
Walter Ceranski, Bradley Buckhout, and David Oliver			
<i>C: Pediatrics</i>			1071
CHAPTER	194	Neonates, Children, and Adolescents	1071
Craig A. Hurwitz, Jeanne G. Lewandowski, and Joanne M. Hilden			
CHAPTER	195	Cancer in Children	1079
Roberto Miniero, Emanuele Castagno, and Stefano Lijoi			
CHAPTER	196	Psychological Adaptation of the Dying Child	1085
Lisa N. Schum and Javier R. Kane			
CHAPTER	197	Family Adjustment and Support	1093
Elaine C. Meyer and Rachel A. Tunick			
CHAPTER	198	Pediatric Pain and Symptom Control	1097
Christina Ullrich and Joanne Wolfe			
CHAPTER	199	Hospice and Special Services	1105
Kevin Berger and Marcia Levetown			
CHAPTER	200	Pediatric Palliative Care: Interdisciplinary Support	1110
Cynda Hylton Rushton			
CHAPTER	201	Parent and Child Bereavement	1115
Grace Christ and Sherri Weisenfluh			
<i>D: Geriatrics</i>			1120
CHAPTER	202	Demographics of Aging	1120
Armida G. Parala			
CHAPTER	203	Biology and Physiology of Aging	1123
Hilary Cronin and Rose Anne Kenny			
CHAPTER	204	The Aging Brain and Dementia	1130
Colm Cooney and Diarmuid O'Shea			
CHAPTER	205	The Frail Elderly	1132
Mamta Bhatnagar and Robert Palmer			
CHAPTER	206	Caregiver Burden	1140
Claudia Borreani and Marcello Tamburini			
CHAPTER	207	Community Services	1143
Manish Srivastava			
<i>E: Acquired Immunodeficiency Syndrome</i>			1147
CHAPTER	208	Acquired Immunodeficiency Syndrome: A Global Perspective	1147
Alan J. Taege and Wendy S. Armstrong			

- CHAPTER 209** Biology and Natural History of Acquired Immunodeficiency Syndrome 1151
Karen Frame, Laurence John, and Robert Colebunders
- CHAPTER 210** Acquired Immunodeficiency Syndrome in Adults 1157
Busi Mooka and Fiona Mulcahy
- CHAPTER 211** Palliative Care for Children and Adolescents with Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome 1163
Elizabeth Gwyther, Michelle Meiring, Joan Marston, and Busisiwe Nkosi
- CHAPTER 212** Complications of Acquired Immunodeficiency Syndrome 1172
Jason Faulhaber and Judith A. Aberg
- CHAPTER 213** Treatment of Persons Infected with the Human Immunodeficiency Virus 1183
William Powderly and Edgar Turner Overton
- CHAPTER 214** Symptom Management 1191
- Symptom Management in Acquired Immunodeficiency Syndrome 1191**
Jean-Michel Livrozet, Peter Selwyn, and Marilene Filbet
- Symptom Management in Human Immunodeficiency Virus in Sub-Saharan Africa 1198**
Karen Laurence, Jean-Michel Livrozet, Peter Selwyn, and Marilene Filbet

P A R T V Palliative Medicine in Cancer

***A: Cancer* 1204**

- CHAPTER 215** Biology of Cancer 1204
Tugba Yavuzsen and Seref Komurcu
- CHAPTER 216** Epidemiology of Cancer 1207
Kaci Osenga and James F. Cleary
- CHAPTER 217** Natural History of Cancer 1214
Francisco López-Lara Martín and Diego Soto de Prado Otero
- CHAPTER 218** Principles of Medical Oncology 1223
Imke Strohscheer

***B: Complications* 1231**

- CHAPTER 219** Patterns of Metastatic Cancer 1231
Clare Byrne and Graeme Poston
- CHAPTER 220** Neurological Complications 1237
Yvona Griffo and Eugenie A. M. T. Obbens
- CHAPTER 221** Brain Metastases 1240
Christophe Ostgathe and Raymond Voltz
- CHAPTER 222** Bone Metastases 1244
Aruna Mani and Charles L. Shapiro

CHAPTER 223 Vertebral Metastases and Spinal Cord Compression 1247

Nora Janjan, Edward Lin, Ian McCutcheon, George Perkins, Prajnan Das, Sunil Krishnan, Deborah Kuban, and Eric L. Chang

CHAPTER 224 Malignant Ascites 1260

Peter Demeulenaere and Bart Van den Eynden

CHAPTER 225 Pleural and Pericardial Effusions 1263

Susan B. LeGrand

CHAPTER 226 Intestinal Dysfunction and Obstruction 1267

Sebastiano Mercadante

CHAPTER 227 Genitourinary Complications in Palliative Oncology 1276

J. Stephen Jones

C: Cancer-Related Syndromes 1282

CHAPTER 228 Hypercalcemia 1282

Paul W. Walker

CHAPTER 229 Bone Marrow Failure 1286

Stephen N. Makoni and Damian A. Laber

CHAPTER 230 Bleeding and Clotting Disorders in Cancer 1293

Nabila Bennani-Baiti and Kandice Kottke-Marchant

CHAPTER 231 The Vena Cava Syndrome 1305

Mario Dicato and Vincent Lens

CHAPTER 232 Oral Complications of Cancer and Its Treatment 1307

Dorothy M. K. Keefe and Richard M. Logan

CHAPTER 233 Paraneoplastic Syndromes 1311

Davide Tassinari and Marco Maltoni

CHAPTER 234 Autonomic Dysfunction 1319

Maria Dietrich and Anna L. Marsland

D: Antitumor Therapy 1324

CHAPTER 235 Radiation Principles and Techniques 1324

John Armstrong and Aktham Sharif

CHAPTER 236 Complications of Radiation Therapy 1327

John N. Staffurth

CHAPTER 237 Palliative Radiation Therapy 1337

Alysa Fairchild and Edward Chow

CHAPTER 238 Principles of Modern Chemotherapy and Endocrine Therapy 1345

Daphne Tsoi and Anna K. Nowak

CHAPTER 239 Complications of Chemotherapy 1353

Karin Peschardt, Per Dombrowsky, and Jørn Herrstedt

CHAPTER	240	Palliative Chemotherapy and Corticosteroids	1360
Davide Tassinari and Marco Maltoni			
CHAPTER	241	Principles and Practice of Surgical Oncology	1363
Guy Hubens			
CHAPTER	242	Palliative Orthopedic Surgery	1367
Jason Braybrooke, Albert J. M. Yee, and Edward Chow			
CHAPTER	243	Modern Supportive Care in Oncology	1373
Barry Fortner and Amy P. Abernethy			
		<i>E: Cancer Pain</i>	1378
CHAPTER	244	Pathophysiology of Cancer Pain	1378
Catherine E. Urch			
CHAPTER	245	Psychological and Psychiatric Approaches	1384
Holly Covington			
CHAPTER	246	Rehabilitation Approaches	1389
Adrian Tookman and Jane Eades			
CHAPTER	247	Cancer Pain: Anesthetic and Neurosurgical Interventions	1394
Costantino Benedetti, James Ibinson, and Michael Adolph			

CHAPTER	248	Acupuncture, Transcutaneous Electrical Nerve Stimulation, and Topical Analgesics	1398
Vinod K. Podichetty and Anantha Reddy			
CHAPTER	249	Opioids for Cancer Pain	1404
Janet R. Hardy and Friedemann Nauck			
CHAPTER	250	Opioid Side Effects and Overdose	1411
Peter Lawlor, Michael Lucey, and Brian Creedon			
CHAPTER	251	Opioid Use in Drug and Alcohol Abuse	1416
Kenneth L. Kirsh, David Casper, Mindi C. Haley, and Steven D. Passik			
CHAPTER	252	Nonopioid and Adjuvant Analgesics	1421
Henry McQuay			
CHAPTER	253	Challenging Pain Problems	1425
Sebastiano Mercadante			
CHAPTER	254	Pain in Cancer Survivors	1430
Lukas Radbruch			
Index	1437		