

CONTENTS

<i>Dedication</i>	v
<i>Acknowledgments</i>	xi
<i>About the Editors</i>	xiii
<i>Contributing Authors</i>	xv
<i>Introduction</i>	xvii
<i>Abbreviations</i>	xix

SECTION I CARDIOPULMONARY ASSESSMENT AND MANAGEMENT . . . 1

PATHOPHYSIOLOGY OF THE RESPIRATORY AND CARDIOVASCULAR SYSTEMS

Chapter 1	Anatomy and Physiology of the Respiratory and Cardiovascular Systems	3
	<i>Cristiane Yamabayashi, BSc(PT), PhD and W. Darlene Reid, BMR(PT), PhD</i>	
Chapter 2	Respiratory Conditions	25
	<i>Patricia G. Camp, PhD, PT; W. Darlene Reid, BMR(PT), PhD;</i> <i>Frank Chung, BSc(PT), MSc; and Kylie Hill, BSc(Physiotherapy), PhD</i>	
Chapter 3	Cardiovascular Conditions	53
	<i>Frank Chung, BSc(PT), MSc and Lori Roy, BSc(PT)</i>	
Chapter 4	Surgical Interventions	77
	<i>Frank Chung, BSc(PT), MSc and Lori Roy, BSc(PT)</i>	
Chapter 5	Conditions That Can Compromise the Respiratory System	87
	<i>W. Darlene Reid, BMR(PT), PhD and Frank Chung, BSc(PT), MSc</i>	

CARDIOPULMONARY ASSESSMENT

Chapter 6	Clinical Decision Making	105
	<i>Kylie Hill, BSc(Physiotherapy), PhD and W. Darlene Reid, BMR(PT), PhD</i>	
Chapter 7	Chart Review and Patient Interview	119
	<i>Kylie Hill, BSc(Physiotherapy), PhD and W. Darlene Reid, BMR(PT), PhD</i>	
Chapter 8	Arterial Blood Gas Interpretation	129
	<i>W. Darlene Reid, BMR(PT), PhD and Frank Chung, BSc(PT), MSc</i>	
Chapter 9	Chest Imaging	141
	<i>W. Darlene Reid, BMR(PT), PhD</i>	
Chapter 10	Pulmonary Function Testing	151
	<i>W. Darlene Reid, BMR(PT), PhD</i>	
Chapter 11	Laboratory Investigations	159
	<i>Frank Chung, BSc(PT), MSc</i>	
Chapter 12	Electrocardiogram Interpretation	173
	<i>Sandy Gilmour, BSc, RN and W. Darlene Reid, BMR(PT), PhD</i>	
Chapter 13	Physical Examination	187
	<i>Kylie Hill, BSc(Physiotherapy), PhD; Frank Chung, BSc(PT), MSc;</i> <i>Lori Roy, BSc(PT); and W. Darlene Reid, BMR(PT), PhD</i>	
Chapter 14	Surface Anatomy and Auscultation	203
	<i>W. Darlene Reid, BMR(PT), PhD and Mireille Landry, BSc(PT), MSc</i>	
Chapter 15	Screening and Exercise, Strength, and Functional Performance Tests	211
	<i>W. Darlene Reid, BMR(PT), PhD and Kylie Hill, BSc(Physiotherapy), PhD</i>	
Chapter 16	Oxygen Therapy, Noninvasive Ventilation, and Mechanical Ventilation	227
	<i>Shane Patman, BAppSc(Physiotherapy), MSc, PhD and</i> <i>Kylie Hill, BSc(Physiotherapy), PhD</i>	

CARDIOPULMONARY MANAGEMENT

- Chapter 17 Adult and Patient Education 243
Judy King, PhD, MHSc, BHSc(PT)
- Chapter 18 Breathing Strategies and Exercises 255
*Kylie Hill, BSc(Physiotherapy), PhD; Frank Chung, BSc(PT), MSc;
and W. Darlene Reid, BMR(PT), PhD*
- Chapter 19 Positioning 265
*Kylie Hill, BSc(Physiotherapy), PhD; Frank Chung, BSc(PT), MSc;
and W. Darlene Reid, BMR(PT), PhD*
- Chapter 20 Airway Clearance Techniques 277
*Jamie Wood, BSc(Physiotherapy); Frank Chung, BSc(PT), MSc;
and Nola Cecins, BAppSc, MSc*
- Chapter 21 Mobilization and Exercise for Hospitalized Patients 289
*Megan Harrold, BSc(Physiotherapy); Frank Chung, BSc(PT), MSc;
and Kylie Hill, BSc(Physiotherapy), PhD*
- Chapter 22 Exercise Training in Cardiac Rehabilitation 303
Mireille Landry, BSc(PT), MSc and Andrew Maiorana, BSc, MSc, PhD
- Chapter 23 Exercise Training in Pulmonary Rehabilitation 315
Sunita Mathur, BSc(PT), MSc, PhD and Dina Brooks, BSc(PT), MSc, PhD

SECTION II CARDIOPULMONARY CASES 323

Preamble to Cases 324

SURGICAL CONDITIONS

- Case 1 Atelectasis—Postoperatively in an Obese Patient—Deep Vein Thrombosis and Pulmonary Embolus 325
Frank Chung, BSc(PT), MSc and Lori Roy, BSc(PT)
- Case 2 Metabolic Syndrome 327
Kylie Hill, BSc(Physiotherapy), PhD
- Case 3 Postoperative Laparotomy in an Older Patient 328
Simone Gruenig, BSc, MSc(PT) and W. Darlene Reid, BMR(PT), PhD
- Case 4 Postoperative Thoracotomy in a Smoker 332
Simone Gruenig, BSc, MSc(PT) and W. Darlene Reid, BMR(PT), PhD
- Case 5 Acute Myocardial Infarction—Coronary Artery Bypass Graft 335
Frank Chung, BSc(PT), MSc
- Case 6 Left-Sided Congestive Heart Failure—Pulmonary Edema 337
Frank Chung, BSc(PT), MSc and W. Darlene Reid, BMR(PT), PhD
- Case 7 Atelectasis—Postoperatively in an Older Patient—Hypotensive and Atrial Fibrillation 340
Frank Chung, BSc(PT), MSc

MEDICAL CONDITIONS

- Case 8 Aspiration Pneumonia and Acute Respiratory Distress Syndrome 342
Frank Chung, BSc(PT), MSc and Lori Roy, BSc(PT)
- Case 9 Elderly Patient With a Pleural Condition 344
*Simone Gruenig, BSc, MSc(PT); Frank Chung, BSc(PT), MSc;
and W. Darlene Reid, BMR(PT), PhD*
- Case 10 Amyotrophic Lateral Sclerosis in the Intensive Care Unit 345
Frank Chung, BSc(PT), MSc and Lori Roy, BSc(PT)

TRAUMA

- Case 11 Chest Trauma—Pneumothorax/Fractured Ribs 347
Frank Chung, BSc(PT), MSc; Kylie Hill, BSc(Physiotherapy), PhD;
and W. Darlene Reid, BMR(PT), PhD
- Case 12 Acute Cervical Spinal Cord Injury 349
Kylie Hill, BSc(Physiotherapy)

CHRONIC RESPIRATORY CONDITIONS

- Case 13 Restrictive Lung Disease 351
W. Darlene Reid, BMR(PT), PhD and Frank Chung, BSc(PT), MSc
- Case 14 Stable Chronic Obstructive Pulmonary Disease 354
W. Darlene Reid, BMR(PT), PhD; Frank Chung, BSc(PT), MSc;
and Kylie Hill, BSc(Physiotherapy), PhD
- Case 15 Cystic Fibrosis and Lung Transplant 359
W. Darlene Reid, BMR(PT), PhD and Sunita Mathur, BSc(PT), MSc, PhD

CHRONIC RESPIRATORY CONDITIONS WITH AN ACUTE EXACERBATION

- Case 16 Asthma—Acute Exacerbation 364
W. Darlene Reid, BMR(PT), PhD and Frank Chung, BSc(PT), MSc
- Case 17 Acute Exacerbation of Chronic Obstructive Pulmonary Disease 366
W. Darlene Reid, BMR(PT), PhD and Frank Chung, BSc(PT), MSc

CARDIAC CONDITIONS

- Case 18 Acute Myocardial Infarction—Good Recovery 368
Frank Chung, BSc(PT), MSc
- Case 19 Chronic Heart Failure—Post-Myocardial Infarction—Class III/IV 370
Frank Chung, BSc(PT), MSc
- Case 20 Chronic Heart Failure—Cardiomyopathy—Class I/II 371
Frank Chung, BSc(PT), MSc
- Case 21 Peripheral Vascular Disease 373
Frank Chung, BSc(PT), MSc and Lori Roy, BSc(PT)
- Case 22 Exercising Outpatient—Arrhythmia and Hypotension 374
W. Darlene Reid, BMR(PT), PhD

RESPIRATORY AND CARDIAC CONDITIONS

- Case 23 Lobar Pneumonia and Angina 375
Frank Chung, BSc(PT), MSc and W. Darlene Reid, BMR(PT), PhD
- Case 24 Pleural Effusion Complicated by Cardiac Effusion and Cardiac Tamponade . . . 377
Frank Chung, BSc(PT), MSc and W. Darlene Reid, BMR(PT), PhD

SECTION III ANSWER GUIDES. 379

- Answer Guides: Chapters 381
- Answer Guides: Cases 391

- Appendix: Summary of Common Laboratory Values and Clinical Implications 449*
- Financial Disclosures 455*
- Index 457*