

# *The Textbook of* Emergency Cardiovascular *Care and CPR*

**EDITOR-IN-CHIEF**

John M. Field

**AHA EDITORS**

Peter J. Kudenchuk  
Robert E. O'Connor  
Terry L. Vanden Hoek

**ACEP EDITORS**

Michael J. Bresler  
Amal Mattu  
Scott M. Silvers

*Contributors xi*  
*Foreword xv*  
*Preface xvii*

## Part One: Acute Coronary Syndromes

---

- 1 **Pathophysiology and Initial Triage of Acute Coronary Syndromes** 1  
*John M. Field*
- 2 **Sudden Cardiac Death: Epidemiology, Pathophysiology, and Future Directions** 11  
*Steven H. Mitchell and Graham Nichol*
- 3 **Evaluation, Differential Diagnosis, and Approach to the Patient with Possible Acute Coronary Syndrome** 25  
*Judd E. Hollander*
- 4 **Community and Prehospital Strategies for Managing Patients with Acute Coronary Syndromes** 43  
*Joseph P. Ornato*
- 5 **Emergency Department Management of Acute Coronary Syndromes** 63  
*Charles V. Pollack Jr. and Richard L. Summers*
- 6 **Heart Failure and Acute Pulmonary Edema in the Emergency Department** 96  
*W. Frank Peacock*
- 7 **Cardiogenic Shock Complicating Acute Coronary Syndromes** 115  
*John M. Field*
- 8 **Ultrasonography in Emergency Cardiovascular Care** 129  
*Anthony J. Dean and Sarah A. Stabmer*

## Part Two: Basic Life Support

---

- 9 **Pathophysiology of Cardiac Arrest** 149  
*Karl B. Kern*

- 10 **Circulatory Adjuncts to Improve Coronary Perfusion Pressure** 161  
*Karl B. Kern*
- 11 **Basic Life Support: Science to Survival** 169  
*Michael R. Sayre and Diana M. Cave*

## Part Three: Defibrillation

---

- 12 **Restoring Life: The Story of Human Defibrillation and Modern CPR** 193  
*Mark E. Silverman*
- 13 **Defibrillation: Practice** 201  
*Vincent N. Mosesso Jr. and Cheryl Rickens*
- 14 **Ventricular Fibrillation and Defibrillation: Experimental and Clinical Experience with Waveforms and Energy** 222  
*Roger D. White and Richard E. Kerber*

## Part Four: Airway Management in Basic and Advanced Life Support

---

- 15 **Respiratory Physiology in ECC: Principles of Oxygenation and Ventilation** 233  
*Elizabeth H. Sinz and Kane High*
- 16 **Monitoring and Maintaining a Patent Airway** 242  
*Elizabeth H. Sinz and Kane High*
- 17 **Oxygen Administration and Supraglottic Airways** 253  
*Michael Shuster*
- 18 **Endotracheal Intubation and Management of the Difficult Airway** 273  
*Kane High*

## Part Five: Arrhythmias

---

- 19 **Life-Threatening Arrhythmias: Evaluation, Identification, and Assessment** 295  
*Peter J. Kudenchuk*
- 20 **The Electrophysiology of Arrhythmias** 300  
*Peter J. Kudenchuk*
- 21 **Pulseless Cardiac Arrest** 309  
*Peter J. Kudenchuk*

- 22 **Tachycardia with Pulses: Narrow and Wide** 313  
*Peter J. Kudenchuk*
- 23 **Bradycardia** 341  
*Peter J. Kudenchuk*
- 24 **Electrical Therapies** 362  
*Peter J. Kudenchuk*

## Part Six: Pharmacology in Emergency Cardiovascular Care

---

- 25 **Drugs for Control of Rhythm** 379  
*Peter J. Kudenchuk*
- 26 **Cardiovascular Function and Vascular Tone: Physiology for ECC** 395  
*Raúl J. Gazmuri and Beatrice M. Correa*
- 27 **Nonadrenergic Vasopressors in ECC** 410  
*Helmut Raab, Martin Dünser, and Volker Wenzel*

## Part Seven: Post-Cardiac Arrest Syndrome and Management

---

- 28 **Post-Cardiac Arrest Syndrome and Management** 427  
*Robert W. Neumar and Jerry Nolan*

## Part Eight: Special Resuscitation Situations

---

- 29 **Toxicology in Emergency Cardiovascular Care** 443  
*Allan R. Mottram and Timothy B. Erickson*
- 30 **Drowning** 477  
*David Szpilman, Anthony J. Handley, Joost Bierens, Linda Quan, and Rafael Vasconcellos*
- 31 **Hypothermia** 490  
*Eric A. Weiss*
- 32 **Electrical Current and Lightning Injury** 498  
*Mary Ann Cooper, Christopher J. Andrews, and Ronald L. Holle*
- 33 **Severe, Life-Threatening Asthma** 512  
*Fill M. Baren*
- 34 **Anaphylaxis** 530  
*Michael E. Winters*

**35 Cardiopulmonary Resuscitation in Pregnancy 538**

*Carolyn M. Zelop and Edward P. Grimes*

**Part Nine: Stroke**

---

**36 Stroke 544**

*Edward C. Jauch and Todd J. Crocco*

**Part Ten: Ethics**

---

**37 Ethics in Emergency Cardiovascular Care 567**

*Kenneth V. Iserson*

**Part Eleven: Education and Research**

---

**38 Careers in Resuscitation Medicine 587**

*Benjamin S. Abella and Lance B. Becker*

*Index 593*