

Introduction

Cardiovascular emergencies account for at least 30% of all medical emergencies often resulting in significant morbidity and mortality. The impact of cardiovascular disease is felt in every hospital and every community. Whether you are drawn to critical care practice (as we are) or not, you are bound to be confronted by acute cardiac events.

Responding appropriately to cardiac emergencies requires a basic familiarity with cardiac anatomy and physiology, the ability to mobilize an advanced life support team, and the skills to perform cardiopulmonary resuscitation (CPR). Critical care competencies also include ECG interpretation, advanced airway techniques, the appropriate use of electrical therapies and the ability to deliver appropriate intravenous medications.

A Practical Guide to Manage Cardiac Emergencies is a workbook and a reference tool designed to help you to effectively manage acute cardiac events. Delivered with a no-nonsense candid style, each chapter builds on previous chapters while focusing on timely and appropriate actions. This guidebook, written from 30 years of clinical and classroom experience, includes many practical insights gleaned from our students along the way.

This Book is For You

The management of cardiac emergencies crosses many health care disciplines: nursing, medicine, and respiratory therapy for example. This book is written for health care practitioners who are new to cardiac care and for those who wish to review or polish their skills. It is intended for those who are not fully satisfied with knowing how to respond - you also want to understand why actions are performed. We hope this is you.

This book was commissioned by the Fraser Health Authority (FHA) to serve as a reference tool and as a workshop manual for nurses and respiratory therapists involved in the management of cardiac emergencies. The FHA saw a need for consistent training materials for their health care professionals.

The Authors

Tracy Paul Barill BSN, M.Ed has been a critical care practitioner and educator for the past 14 years. His clinical experience spans intensive care, coronary care, emergency nursing, flight nursing and the community-based care of those with multiple disabilities. He has coordinated over 300 ACLS courses since 1990. Tracy also teaches programs in basic and advanced ECG interpretation. He is currently developing web based learning tools for health care professionals. Many of these web learning tools can be found at www.skillstat.com.

Michael N. Dare RN, BPE, EMT-P has a diverse background in both teaching and clinical practice. Michael's clinical expertise spans most areas of critical care nursing as well as prehospital advanced life support as a flight paramedic. He facilitates ACLS, PALS and trauma courses on a regular basis. He has also facilitated critical care nursing certification programs. Currently, Michael is the director of advanced training programs for Global Medical Services.

How to Use This Book

This book is designed for the busy health care professional. A general table of contents, an expanded table of contents and an index facilitates rapid location of information. Each chapter begins and ends with a chapter summary.

As well, a “quick contents” appears on the first page of each chapter to facilitate a quick and focused navigation to specific topics of interest. With a focus on both understanding and application, concepts are consistently supported with practical exercises, case studies, quizzes and memory aids.

Each chapter is independent and can stand on its own. Read the book from cover to cover or jump around concentrating on what you need. Complete the exercises and quizzes inside each chapter. By all means, make use of the suggested resources mentioned at the end of each chapter. Many of the resources are freely available on the web. The glossary is another resource for most of the terms used.

Certain conventions have been used throughout the book to draw attention to information. Important points and new terms are often placed in bold print. Terms in bold are usually also included in the glossary. As well, the following icons are used to quickly draw your attention to the need-to-know and the nice-to-know information.



The well placed arrow signifies information that is nice to know. This includes tips, trivia and short explanations.



The hand signal for 'stop' denotes vital information often related to clinical practice. This information is need-to-know.



The icon of a magnifying glass rests beside explanations on how things work. This information may be useful, but is often just nice-to-know.



String tied around the index finger serves as a reminder. This icon serves the same purpose here.



Synonymous with the Internet, this icon marks any suggested resources or references.

This book was written in a style similar to the spoken word. When medical jargon was not completely necessary, we avoided it. Our intent was a useful handbook that is easy to read and straightforward. We sincerely hope that you will find this book both useful and enjoyable.

Brief Synopsis

This guidebook is included as part of the course titled “Managing Cardiac Emergencies” (MCE) offered to nurses and respiratory therapists of the Fraser Health Authority (FHA). As such, its brevity reflects the scope of the course. Six chapters make up its contents followed with an Appendix of the ACLS algorithms.

Chapter 1: The Heart and Cardiac Output provides an introductory discussion on the parameters that determine the heart's effectiveness as a pump. Case studies examine such issues as cardiac ischemia, heart failure and cardiogenic shock as they relate to cardiac output.

Chapter 2: Electrical Interventions outlines defibrillation, cardioversion and transcutaneous pacing (TCP). The automatic external defibrillator (AED) is also introduced. The rationale behind safe and effective delivery of electrical interventions is offered prior to presentation of step-by-step procedures.

Chapter 3: Oxygenation and Airway Management explores the many modalities of basic and advanced airway control. The use of the bag-valve-mask, the oral-pharyngeal airway, endotracheal intubation, and the use of alternative airway adjuncts are addressed in this chapter.

Chapter 4: Triage and Response identifies vital steps necessary in the management of any cardiac emergency. For those who feel a little shaky around cardiac emergencies, the algorithms and tips included in this chapter may likely ease your anxiety.

Chapter 5: Managing the Pulseless Patient addresses the patient who is experiencing lethal dysrhythmias (ventricular fibrillation, pulseless ventricular tachycardia or asystole) or is in the midst of pulseless electrical activity (PEA). For the pulseless patient, a timely response is key. The chapter also includes tips and techniques useful to rapidly identify the various causes of PEA.

Chapter 6: Managing the Unstable Patient rounds out the guidebook with the rationale and procedures necessary to respond to a patient who requires urgent treatment. This chapter deals with the patient who is experiencing symptomatic bradycardias and tachycardias.

This is a guide. It provides direction, tips and insights into the management of cardiac emergencies. We hope that you grow in competence and confidence whether you are a novice or an experienced practitioner in cardiac care. If you would like to offer your impressions and suggestions about this guidebook, please e-mail us at info@nursecom.com.

Tracy Barill North Vancouver, British Columbia, Canada
Michael Dare Brackendale, British Columbia, Canada