
Cardiac Pacing and Electrophysiology

THIRD EDITION

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In memory of my wife
Laila,
and what she gave me,
many years of happiness
and Tarek, Yasir, Khalid,
and Mona.

NABIL EL-SHERIF

In memory of Phyllis, my wife,
confidante, and friend
and all that she gave me—
many years of happiness
and Nettie, Joan, and Jerry.
And to Carole, my new source
of inspiration and strength.

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Cardioversion and Defibrillation: Clinical Aspects

PREFACE

The objectives of the present edition diverge somewhat from those of the previous one. In 1980, the second edition of *Cardiac Pacing* dealt primarily with pacemaker devices, although some aspects of basic and clinical electrophysiology were also included. During the past decade, steady progress has occurred in the field of cardiac electrophysiology, including spectacular advances in the physiology and molecular biology of ion channels. This provides a more rational basis for the management of cardiac arrhythmias. Besides prevention, the three current approaches to the management of cardiac arrhythmias are pharmacologic therapy, surgical and ablative procedures, and the use of electrical devices. Starting with the title of the third edition, which was appropriately changed to *Cardiac Pacing and Electrophysiology*, the overall organization of the book reflects the significant changes in the field. The first four chapters discuss cellular mechanisms and biochemical, metabolic, and neurogenic aspects of cardiac arrhythmias. Clinical and electrocardiographic manifestations of various cardiac arrhythmias and diagnostic procedures such as programmed electrical stimulation and noninvasive techniques, including high resolution electrocardiography, are discussed in detail in the following chapters. Because of the paramount significance of sudden cardiac death, the current progress in this area is outlined in more than one chapter. The second half of the book is devoted to the management of cardiac arrhythmias. Pharmacologic therapy, surgical approaches, and the relatively new technique of catheter ablation are presented. Finally, the role of electrical devices is presented in great detail, commensurate with the rapid expansion that has occurred in this area. Standard topics in cardiac pacing have been updated to reflect the state of the art. In addition, recent advances in such areas as rate-responsive and physiologic pacing, multiprogrammability, electrophysiologic basis, clinical indications, and future directions of implantable automatic antitachycardia and defibrillator devices have been amply reviewed.

This book was made possible because of collaborative efforts of a large number of basic and clinical scientists who have particular interests and extensive experience in their respective subjects. It is intended to provide an authoritative up-to-date reference on cardiac pacing and electrophysiology. Although certain aspects of this broad field may be underrepresented, it is hoped that what is included here is of interest and will prove valuable to medical students, primary care physicians, and cardiovascular specialists.

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