Preface

As early as the late 1700s, Physicians speculated that electrical current could be used to stimulate the heart. In 1882, von Ziemssen used electrical current to directly stimulate the heart of a woman whose anterior chest wall had been removed after resection of a chest tumor. In 1952, Zoll used transthoracic current to pace the heart, and in 1958 the first implantable pacemaker was placed by Ake Senning and Rune Elmquist. At the same time, Furman and Robinson demonstrated the feasibility of transvenous cardiac pacing. In the late 1960s, Mirowski and colleagues pioneered the concept of an implantable device that could be used to defibrillate the heart. Over the last 50 years, implantable cardiac devices have become the primary treatment for bradyarrhythmias and ventricular tachyarrhythmias and have emerged as an important adjunctive therapy for patients with heart failure. It is currently estimated that almost 400,000 pacemakers and defibrillators are implanted annually in the United States.

With exponential expansion of the use of implanted cardiac devices, it has become critical for all physicians to become knowledgeable about them, as they continue to increase in complexity. The second edition of Cardiac Pacing for the Clinician has the same goal as the first edition: To provide a succinct yet comprehensive reference for the implantation and follow-up of implantable cardiac rhythm devices. The book is intended to be a practical guide for the day-to-day management of these increasingly complex devices, and is intended for all physicians caring for patients with devices. We also hope that the emphasis on clinical care will be useful for implanting surgeons, nonphysician medical associates, and clinical members of industry.

The book is divided into four sections. The first section describes pacing leads and pacemaker function. The second section focuses on device implantation. New to this edition is a chapter on implantation of left ventricular leads, used in the biventricular pacing systems intended to treat patients with heart failure. Purposely we have asked two experienced implanters to discuss their personal methods for placing leads in the cardiac venous systems to illustrate the diversity of techniques and "tricks of the trade." The third section reviews the use of implantable cardiac devices in particular clinical situations. All of the chapters from the first edition have been extensively revised; new to this edition are chapters on device use for patients with atrial fibrillation, heart failure, and syncope, providing further evidence for the expanding indications

for implantable devices. The final section is devoted to device follow-up. It is our belief that the greatest impact for device therapy on patient outcomes is in follow-up. Important topics such as avoiding inappropriate therapies in patients with defibrillators, ensuring optimal and individualized device function for patients, and techniques for minimizing the risks of environmental electromagnetic interference are extensively reviewed.

The last 6 years have shown rapid evolution of cardiac implanted devices that can provide not only therapy but also information on the clinical status of a patient. While beneficial, this increasing complexity also means that all clinicians must be knowledgeable about device function, indications for device use, and device follow-up. We believe that the second edition of Cardiac Pacing for the Clinician will provide the essential clinical information necessary for treating patients with implanted cardiac devices.

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