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Cardiac Pacing and Device Therapy

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To Bernie and Pran for their patience and love.

Foreword

The first 50 years of cardiac pacing have recently been celebrated. Since the first pacemaker implant in 1958, the continuously unfolding story of cardiac stimulation has been a dramatic and fascinating one, enhanced by the more recent entry of the implantable defibrillator and cardiac resynchronization therapy onto the clinical stage. That these implantable devices have had a great impact on the management of patients with cardiac arrhythmias, saving and improving countless lives, is beyond scientific refute.

In keeping pace with the technological wizardry and the burgeoning scientific evidence base underpinning device medicine, it is sometimes difficult to appreciate the daily background to providing these benefits to individual patients. Accurately and safely the diagnosis must be made, the optimal device chosen and implanted specifically to match the clinical need, and both patient and device meticulously followed up. In this book, the authors have sought to throw open the doors of their pacing clinic and operating theater to reveal, in a plethora of fine and rare images, the 'nuts and bolts' of daily care for patients presenting for pacing and device therapy. A formal, classically structured textbook of device medicine this is not – there are many such comprehensive texts available – nor is it intended to be. This book is an invitation to join the authors, who combine long interventional experience and modern specialism in device therapy, in their daily decision making and practical application, sharing the many sights they have seen through the lavish illustrations which illuminate their own experience, and which they now share both to inform and enthrall the reader.

Physicians are only part of a network of health professionals who need increasing amounts of information about implantable devices in order to provide top class, modern care. This book can be recommended to all who are entering, already involved in, or just fascinated by, this absorbing and satisfying branch of cardiology – especially those who would like to lighten their learning through turning pages which are so easy on the eye!

Liverpool, UK — Richard Charles

Preface

This illustrated book is intended to provide an introduction to all those who have or who are developing an interest in cardiac pacing and device therapy. They include senior house officers, trainees, clinical fellows, consultant cardiologists involved in a pacemaker program, cardiac physiologists and other allied medical professionals, medical students, and colleagues in the medical device industry.

There are few well-illustrated publications which provide a practical introduction to the indications for use, technique of implantation, recognition and treatment of complications, and the organization of follow-up and surveillance of paced patients. We would have valued such a book when we were training and we hope that young doctors with an interest and passion for cardiology might find this a useful introduction to this fantastic subspecialty. Besides the above topics, we felt it would be remiss of us not to present chapters on temporary and epicardial pacing, elective generator change, explant procedures, pacing in children, implantable cardioverter defibrillators, cardiac resynchronization therapy, troubleshooting in pacing, and training guidelines/regulations for those intending to make a career in pacing/device implantation.

At a time in the UK when pacing is being devolved from specialist tertiary cardiac centers to smaller district general hospitals and in the USA where pacemaker implantation is no longer the responsibility of the surgeon and in the domain of cardiologists, there is a need for a text which offers a guide to pacing issues to be used alongside a comprehensive practical training program in an experienced pacing center. "A picture is worth a thousand words," and this book is intended to be generously illustrated with black and white and color illustrations to aid understanding in the practical aspects of pacing. Some line diagrams are used in order to simplify the teaching of technique, and where appropriate Tables are incorporated as useful aide-mémoires. The text is hopefully comprehensive enough for an "introduction" to the subject, but it is not intended to be a pacing reference book nor an exhaustive electrophysiological guide to the theoretical reasons for pacing in its various modes, nor a detailed guide to programming. Hopefully it will be a very practical guide to all those involved in the day-to-day care of paced patients, and particularly to those cardiologists planning a career in this most interesting and exciting specialty – the so-called device specialist. The products described are not intended to be a complete list and equally good alternatives may be available in the marketplace. However, it is hoped that the text and images

will give the reader a greater understanding of the type of technology and equipment that is currently available from the cardiac device industry.

Perhaps cardiac pacing is one of the best examples where the developments in technology and the microchip industry have resulted in outstanding clinical benefits to patients, and it is likely that further innovation and miniaturization will continue to make this specialty a stimulating and exciting one – if you will pardon the pun!

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Contents