Contents

Contributors, vii
Preface, xi
Foreword, xiii

1 Integrated Heart Failure Management, 1
   Marco Metra, Valerio Zacca, Savina Nodari, and Livio Dei Cas

2 Pathobiology of Left Ventricular Dyssynchrony and Resynchronization, 31
   Robert H. Helm, David D. Spragg, Khalid Chakir, and David A. Kass

3 Electrical Assessment of the Failing Heart, 57
   Dan Blendea and Jagmeet P. Singh

4 Mechanical Assessment of the Failing Heart, 92
   Przemyslaw P. Borek and Richard A. Grimm

Color Plate Section, 114

5 Clinical Trials and Response to CRT, 130
   Kenneth M. Stein

6 Implantation of a CRT Device, 156
   Christian Sticherling

7 Programming CRT Devices, 180
   Bengt Herweg, Arzu Ilercil, and S. Serge Barold

8 Troubleshooting CRT Devices and Clinical Outcomes, 220
   Dusan Kocovic

9 Non-CRT Pacing in the Failing Heart: Limiting Ventricular Pacing and
   Searching for Alternate Pacing Sites, 248
   C. W. Israel
Contents

10 Non-CRT Pacing in the Failing Heart: Cardiac Contractility Modulation (CCM), 284
   Daniel Burkhoff, Martin Borggrefe, and Christian Butter

11 Clinical Outcomes and Chronic Management of Device Patients, 297
   Patrick W. Fisher, A. G. Kfoury, and Dale G. Renlund

12 Future Directions in Pacing to Support the Failing Heart, 319
   Angelo Auricchio and Kenneth A. Ellenbogen

Index, 337
COI table, 349