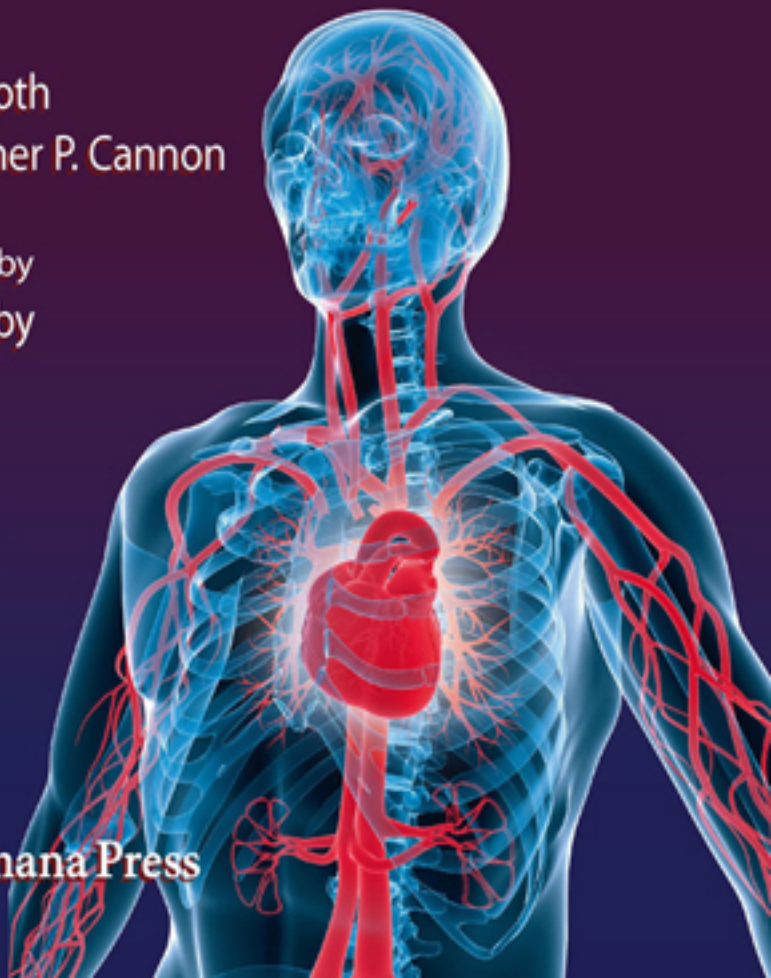


Comprehensive Cardiovascular Medicine in the Primary Care Setting

Edited by
Peter P. Toth
Christopher P. Cannon

Foreword by
Peter Libby

 Humana Press



**COMPREHENSIVE CARDIOVASCULAR MEDICINE
IN THE PRIMARY CARE SETTING**

CONTEMPORARY CARDIOLOGY

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Foreword

In *Comprehensive Cardiovascular Medicine in the Primary Care Setting*, Drs. Toth and Cannon provide a practical compendium to guide the primary practitioner through the rapidly evolving thicket of the management of patients with, or at risk for, cardiovascular disease. We practice in an environment of information overload: A relentless stream of print and electronic mail and ever-present Internet resources furnish us with a dizzying and sometimes distracting array of stimuli and overwhelming sources of medical information. Amid this cacophony, this focused volume provides a single well-organized source of authoritative information, in a highly accessible and practical form, to help practicing physicians in their care of cardiovascular patients.

The case-based approach provides a proven learning platform to help the practitioner link the complex maze of results of clinical studies and pathophysiologic discoveries with the kind of specific clinical situations they encounter on a regular basis. This pedagogical tool will certainly help physicians organize the content in their own minds and will aid their application of that information as they approach their patients in daily practice. The boxed “take-home messages” that populate this volume provide “bite-sized” summaries in a way that permits ready reference and promotes retention of information by the busy clinician. In addition to the liberal use of case studies that puts the learning into a clinical context, the practical key points at the beginnings of chapters provide an extremely useful framework for learning.

The comprehensive coverage of topics ranges from prevention through invasive management strategies. The section that features non-coronary vascular disease provides particular value and utility. This series of seven chapters will serve to bring clinicians up to date on this important aspect of cardiovascular practice, which has traditionally received less attention than coronary artery disease. The imaging section provides readily approachable summaries of some newer technologies, including cardiac computed tomographic angiography and magnetic resonance imaging. The section on risk factor management goes beyond the “usual suspects” by including chronic kidney disease and a particularly practical and useful chapter on obesity and therapeutic approaches to weight loss—which, in addition to the chapter on metabolic syndrome, reflects the changing face of cardiovascular risk in contemporary society.

While this book does not aim to provide a fundamental scientific background, Chapter 6 will no doubt prove useful for the busy clinician who strives to integrate the rapidly accumulating results of genomic studies into a broader context of cardiovascular care.

Drs. Toth and Cannon have assembled an authoritative team of experts from around the United States to provide a balanced and up-to-date compendium of the essential information that the interested internist or primary cardiologist on the front lines of clinical practice needs to bring his or her patients the fruits of the recent advances made in this fast-moving field. Their book fills an important gap in the universe of available learning tools and will no doubt elevate the practical platform from which practitioners can build the best cardiovascular care.

Peter Libby, MD

Preface

Cardiovascular disease is highly prevalent throughout the world. The American Heart Association estimates that in the year 2009, the direct and indirect costs of cardiovascular disease in the United States will approximate one-half trillion dollars. Despite a staggering series of discoveries and innovations over the last five decades, cardiovascular disease remains the leading cause of morbidity, disability, and mortality among men and women. The pace of progress in the field of cardiology is rapid and keeping up with medical, surgical, and diagnostic breakthroughs is quite challenging. Our ability to beneficially impact cardiovascular disease has grown exponentially. Clinical trials and novel insights from basic scientific and clinical investigation continually transform what, when, and how we have come to do things in cardiovascular medicine. The frequency with which national guidelines and recommendations of best practice are promulgated for a variety of cardiovascular disease states is accelerating and their complexity is growing. Unfortunately, adherence to national guidelines and levels of patient goal attainment nationwide tend to be relatively low. Many proven, highly efficacious therapies and interventions remain underutilized.

Primary care clinicians must play a larger role in the prevention, diagnosis, and management of cardiovascular diseases. A high clinical priority in contemporary medicine is the prevention of disease. It has now become routine to screen patients for such disorders as dyslipidemia, hypertension, metabolic syndrome, diabetes mellitus, heightened systemic inflammation, and albuminuria, all of which impact risk for atherosclerosis. Early identification of established disease is also critical so as to prevent progression and long-term adverse clinical sequelae, such as myocardial infarction, stroke, heart and renal failure, claudication and lower extremity amputation, and thromboembolic phenomena. In addition to laboratory measures of genetic and metabolic background, it is important to cultivate clinical skills and proficiency in using imaging modalities to characterize such anatomical abnormalities such as coronary artery and peripheral arterial disease, aortic aneurysms, and cardiac valvular disease. A critical feature of long-term care is ensuring that specific disease states remain optimally treated through lifestyle modification and pharmacologic intervention and that patients remain compliant with these therapies lifelong. Primary care clinicians play critical roles in all of these areas.

Comprehensive Cardiovascular Medicine in the Primary Care Setting was written for the busy, practicing clinician. There are numerous exceptional texts in cardiovascular medicine of encyclopedic scope, which are for the most part targeted toward specialist audiences. Given the high prevalence of cardiovascular diseases, we have developed a text in cardiovascular medicine that addresses the needs and gaps in knowledge of primary care clinicians. More and more cardiovascular diseases are being identified and managed by primary care clinicians in its subclinical, acute, and chronic stages. Our principal aim in this book is to provide comprehensive coverage of cardiovascular disease in an authoritative and easy to apply manner. Concept is intricately balanced with practical utility. The pathophysiology of specific cardiovascular diseases is explained. Algorithms, case studies, and recommendations on evidence-based best practice are presented in every chapter. There is appropriate emphasis on optimal approaches to pharmacologic management. Each chapter begins with a bulleted list of the 10–12 most important points for each disease state addressed. This volume is not intended to be encyclopedic; rather, it is designed to help the busy practitioner perform assessments, initiate and guide efficacious therapy, and know when referral to a cardiologist or cardiovascular surgeon is indicated. The book is divided into five main sections: cardiovascular disease risk factors, coronary artery disease, peripheral forms of venous and arterial disease, cardiac disease, and cardiac imaging. Improving the quality of patient care and expanding scope of practice are our ultimate goals. We sincerely

hope this book also helps foster greater cooperation and synergy between primary care clinicians, cardiologists, and cardiovascular surgeons.

Peter P. Toth, MD, PhD
Christopher P. Cannon, MD

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I

CARDIOVASCULAR DISEASE RISK FACTORS

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Cardiovascular Epidemiology and Characterization of Atherosclerotic Disease Risk Factors

Kevin C. Maki and Martyn R. Rubin

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Key Words: Cardiovascular disease; Causation; Cohort; Incidence; Relative risk; Risk factor.

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