

英文原版

BRAUNWALD'S HEART DISEASE

A TEXTBOOK OF CARDIOVASCULAR
MEDICINE

心脏病学

——心血管内科学教科书

ZIPES

LIBBY

BONOW

BRAUNWALD

7th
EDITION



人民卫生出版社

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Braunwald's Heart Disease: A Textbook of Cardiovascular Medicine, 7th edition

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Heart Disease in Varied Populations

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Genesis of Cardiac Arrhythmias: Electrophysiological Considerations; Diagnosis of Cardiac Arrhythmias; Therapy for Cardiac Arrhythmias; Cardiac Pacemakers and Cardioverter-Defibrillators; Specific Arrhythmias: Diagnosis and Treatment; Hypotension and Syncope; Cardiovascular Disease in the Elderly; Neurological Disorders and Cardiovascular Disease

PREFACE

The preface to the previous (sixth) edition of *Heart Disease* began, "The accelerating advances in cardiology since the publication of the fifth edition of *Heart Disease* have required the most extensive changes yet made in any revision." That statement applies with even greater emphasis to this edition. The exponential growth curve of new knowledge has never been steeper, and the seventh edition of *Braunwald's Heart Disease* has been created to meet that challenge.

The appearance of the book has been changed radically: the cover shows a holographic MRI of a heart, alternating between systole and diastole, and the pages within are in full color, both to enhance reader appeal and to make figures and images more realistic and understandable. We now have an e-dition that provides electronic access to the entire book and enables the reader to download any figures or tables to his or her own computer and to use them in a PowerPoint format for lectures. The book contains 569 tables and 1503 figures, and the accompanying CD contains additional images and video clips. Finding a particular fact can be done with a flip of a finger in the e-dition, as a reader can electronically scan pages, facts, figures, and references. We recognize that books published on a four-year cycle cannot hope to keep current with the incredible pace of new observations. Therefore, by scanning and summarizing the important articles in the literature, and posting those commentaries on the e-dition site, we will update the e-dition *weekly*. Updates will be keyed to related book content. Finally, having recognized the important issues of professionalism and ethics, for the first time we have included an index listing of potential conflict of interest associations for all contributors.

The contents of this edition have also been comprehensively upgraded. As expected, all of the 51 chapters in the sixth edition that have been retained for the current edition have been thoroughly revised and updated. In addition, 36 new chapters have been included, whose topics range from clinical decision-making to cardiovascular manifestations of autonomic disorders. Fifty-seven new authors have made contributions. Thus, the state-of-the-art information serving as the foundation of the text's intellectual vitality has been retained and strengthened in this edition. Bibliographic citations have been generally limited to sources published in 1998 or later, to avoid the accretion of references that can consume valuable pages without offering the utility of fresh content. Earlier references can be obtained from the reviews cited and from previous editions. We continue to present an understanding of basic mechanisms underlying disease states, but we also emphasize the practical evaluation and treatment of patients with these problems, as well as provide a compendium of current guidelines for the reader's convenience.

Part I includes the general considerations of cardiovascular disease, with chapters on the global burden, economics, *clinical decision making*,* *assessment of quality of cardiac care*, *principles of drug therapy*, and *care of patients with end-stage heart disease*.

Part II continues the tradition of the previous edition, emphasizing history and physical examination, electrocardiography, exercise stress testing, and echocardiography. However, recognizing the increasing importance of new imaging techniques, we include new chapters on *radiology of*

the heart and great vessels, *nuclear cardiology*, *magnetic resonance imaging*, *computed tomography*, cardiac catheterization, and coronary angiography and intravascular ultrasonography, as well as a chapter that places the various imaging modalities into perspective.

Heart failure has emerged as one of the most important problems in cardiology, as is reflected in **Part III**. It comprises a chapter on understanding mechanisms of cardiac contraction, *assessment of cardiac function*, pathophysiology of heart failure and its clinical aspects, two chapters on pharmacological treatment, and chapters on *assisted circulation and transplantation*.

Almost a quarter of all deaths in the U.S. are due to sudden death, most commonly from a rhythm disturbance, and **Part IV** deals with that issue, beginning with the genesis of arrhythmias. We have a new chapter addressing the growing importance of *genetics and arrhythmias*, and then continue with diagnosis, treatment, pacemakers and defibrillators, specific arrhythmias, cardiac arrest, and syncope.

Preventive cardiology is a mainstay of the cardiologist's role, and we devote multiple chapters to this important initiative in **Part V**, including the biology of atherogenesis, risk factors, hypertension (two chapters), lipoprotein disorders, *diabetes*, *nutrition*, prevention of coronary heart disease, and *rehabilitation*. In view of the growing importance of diabetes in the practice of cardiology, the current edition now includes a new chapter devoted to the vascular complications of this common condition.

Part VI includes the section on coronary disease, which accounts for the vast majority of heart disease in developed countries. The chapters include *understanding coronary blood flow and ischemia*, *approach to the patient with chest pain*, pathophysiology, clinical features, and management of ST-segment elevation myocardial infarction (MI), *percutaneous coronary intervention in MI*, unstable angina and non-ST-elevation MI, *chronic coronary artery disease*, *diabetes and heart disease*, percutaneous coronary and valvular intervention, aortic diseases, peripheral vascular diseases, and *endovascular treatment of noncoronary obstructive vascular disease*.

The rest of the book addresses somewhat less common, but still very important, problems. **Part VII** includes chapters on *congenital heart disease*, valvular heart disease, infective endocarditis, cardiomyopathies, *myocarditis*, HIV and the heart, *toxins*, primary cardiac tumors, *pericardial diseases*, traumatic heart disease, pulmonary embolism and pulmonary hypertension, and *sleep disorders*. **Part VIII** focuses on aspects of molecular biology and genetics. The chapters include *general principles of molecular biology needed by physicians*, *genetics*, and *myocardial regeneration*.

Part IX focuses on special populations of patients with cardiovascular disease, including *elderly patients*, *women*, pregnant patients, athletes, patients undergoing cardiac and *noncardiac surgery*, and patients belonging to *varied populations*. **Part X** fills remaining gaps by including cardiovascular disease and disorders of other organs, such as *endocrine disorders*, hematologic issues, rheumatic fever and rheumatic diseases, *oncologic disorders*, behavioral issues, neurological disorders, *renal disorders*, and *autonomic dysfunction*.

Companion volumes continue to supplement the information in *Braunwald's Heart Disease*, and they now include

*New chapters indicated in italics.

xvi Heart Disease Review and Assessment, sixth edition (Lilly), Cardiovascular Therapeutics, second edition (Antman), Molecular Basis of Cardiovascular Disease, second edition (Chien), Clinical Trials in Heart Disease, second edition (Manson), Heart Failure (Mann), Marcus' Cardiac Imaging, second edition (Skorton), Acute Coronary Syndromes (Theroux), and Clinical Cardiovascular Imaging (St. John Sutton and Rutherford). Companion volumes in other areas of cardiology are planned for the near future. The seventh edition of *Braunwald's Heart Disease* continues to serve as the anchor for this collection of books, all of which help the busy scientist and clinician keep up with contemporary issues in cardiovascular diseases.

As always, the goal of this textbook is to educate, stimulate, and serve as a resource for all professionals caring for patients with cardiovascular disease. We are certain that the e-dition will add significant value to accomplishing that end. We could not have accomplished this goal without the help of our editorial associates, Janet Hutcheson, Karen Williams, Cynthia Escobedo, and Kathryn Saxon. The staff at Elsevier has been extremely supportive, and has tolerated our frequent

requests for changes to make the book even better. To our editor, Anne Lenehan, developmental editor, Deborah Thorp, and project manager, Robin Davis, we give our thanks.

On the cover is a holographic magnetic resonance image of a cross section of the heart of Dr. Saptarsi Halder in end-systole and end-diastole courtesy of Dr. Raymond Kwong, both of Brigham and Women's Hospital, reproduced with both of their permissions.

Finally, we thank you, the reader, from medical student to skilled clinician, for showing support for this textbook over the years. You, and our patients, are the driving forces to make this the kind of effort that contributes meaningfully to the education of cardiovascular specialists.

Douglas P. Zipes

Peter Libby

Robert O. Bonow

Eugene Braunwald

2004

PREFACE

Adapted from the First Edition

Cardiovascular disease is the greatest scourge affecting the industrialized nations. As with previous scourges—bubonic plague, yellow fever, and smallpox—cardiovascular disease not only strikes down a significant fraction of the population without warning but also causes prolonged suffering and disability in an even larger number. In the United States alone, despite recent encouraging declines, cardiovascular disease is still responsible for almost 1 million fatalities each year and more than half of all deaths; almost 5 million persons afflicted with cardiovascular disease are hospitalized each year. The cost of these diseases in terms of human suffering and of material resources is almost incalculable. Fortunately, research focusing on the causes, diagnosis, treatment, and prevention of heart disease is moving ahead rapidly.

In order to provide a comprehensive, authoritative text in a field that has become as broad and deep as cardiovascular medicine, I chose to enlist the aid of a number of able colleagues. However, I hoped that my personal involvement in

the writing of about half of the book would make it possible to minimize the fragmentation, gaps, inconsistencies, organizational difficulties, and impersonal tone that sometimes plague multiauthored texts.

Since the early part of the 20th century, clinical cardiology has had a particularly strong foundation in the basic sciences of physiology and pharmacology. More recently, the disciplines of molecular biology, genetics, developmental biology, biophysics, biochemistry, experimental pathology, and bioengineering have also begun to provide critically important information about cardiac function and malfunction. Although *Heart Disease: A Textbook of Cardiovascular Medicine* is primarily a clinical treatise and not a textbook of fundamental cardiovascular science, an effort has been made to explain, in some detail, the scientific bases of cardiovascular diseases.

Eugene Braunwald, 1980

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