
Multichapter books that focus on methodology often turn out not to be fully satisfying in that most readers will find that only small parts of the books are pertinent to their interests. Although describing the methodology behind genomic and proteomic analysis is an important aspect of this book, it is nicely integrated with the pathophysiology of cardiovascular disease; thus, many readers should find this book to be useful and interesting to read in its entirety. This book is also unique in that a lot of effort has been focused on the use of genomic and proteomic analysis for studying cancer, but this is the first book that comprehensively describes the application of these techniques to cardiovascular disease.

The book is composed of 21 chapters, and each is written by a leader in this field of cardiovascular research. The first section is about the gene expression analysis of cardiovascular disease and contains nine chapters: the first provides a nice description of the methodology behind various types of microarray analysis and is followed by a well-written chapter on the interpretation of gene expression data. There are several chapters on the genomic analysis of congestive heart failure, using various animal models, a chapter on gene profiling of cardioprotective genes, and a chapter on genes involved in the pathogenesis of atherosclerotic plaques. There is also a chapter on the subtractive hybridization approach for studying genes involved in myocardial ischemia. Most importantly, there are two chapters that discuss possible pitfalls in gene expression analysis and in the interpretation of gene expression data.

The proteomic section contains 10 chapters, which describe two-dimensional gel electrophoresis, mass spectrometry of proteins, isotope-coded affinity tags of proteins, and protein chip arrays. There is a chapter that focuses specifically on the proteomic analysis of smooth muscle cells, as well as chapters on the subproteomic analysis of mitochondria, myofilaments, stress-induced factors, and the protein kinase C signaling pathway in the heart. The third and final section of the book contains two chapters on the use of genomic and proteomic analysis for identifying potential new drug targets and for characterizing the mechanism of action and possible toxicity of new drugs.

In summary, this book provides a strong foundation in genomic and proteomic methodology and will bring the reader to the forefront in the use of these tools in cardiovascular disease research. Because of the infancy of the field, there is not a lot of information about new biomarkers for routine clinical laboratory testing of cardiovascular diseases, but this is clearly an important goal for this field; hence the book will also be useful for clinical chemists working on developing new diagnostic tests based on genomic and proteomic analysis.

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Ever-growing reliance is placed on biochemical markers as indicators of cardiovascular disease. However, well-chosen diagnostic markers require an understanding of not only their strengths but also the limitations of their diagnostic power. Moreover, being aware of possible imperfect standardization of the assays and well informed about the precision of the measurements is mandatory.

These important elements of laboratory medicine today are elucidated to the full in this new, comprehensive second edition of Cardiac Markers. An outstanding contributor team of international experts brings up-to-date coverage of a complete range of cardiac markers. Topics are arranged into six sections, corresponding to the major clinical and laboratory practices, and then broken down into subsections comprising 28 chapters,
supplemented with an extensive reference list after each chapter.

The book covers a wide spectrum of analytical and clinical topics related to the pathophysiology and detection of myocardial ischemia and necrosis. The ability to trace ischemia and to intervene is pivotal to protect against early ischemic complications, to prevent progression to irreversible cell injury, and ultimately to prevent necrosis and the related complications. Methods to document ischemia and to evaluate markers for ischemia and necrosis are listed. The section on cardiac markers in clinical practice deals further with their application in the setting of acute cardiac care. Moreover, characteristics of biomarkers and their suitability for evaluating reperfusion are well described, but the authors emphasize that the ideal marker for assessment of reperfusion has not yet been discovered.

The concept “one analyte = one disease = one assay” raises the crucial question of whether a single diagnostic assay is adequate to diagnose all forms of cardiac disease that involve the release of a given marker or whether it is necessary to design specific assays for different patient cohorts to ensure precise diagnosis. This issue is discussed in depth not only in regard to ischemic heart disease, but also in relation to nonischemic conditions such as chest trauma, pulmonary embolism, and septic syndromes. Standardization, analytical issues, and cutoff values for cardiac markers are major problems in clinical laboratory medicine. Although the lack of standardization for widely used cardiac markers is being addressed by standardization committees of the IFCC and AACC, it remains to be established what constitutes an analytically and clinically significant increase in any marker.

A major part of the book is devoted to cardiac markers for heart failure, of which B-type natriuretic peptide has taken the cardiology world by storm. Although natriuretic peptides are sensitive but nonspecific markers of ventricular dysfunction, they should not be regarded as a surrogate for a single cardiac index. Rather, circulating peptides are increased in a variety of cardiac conditions characterized by increased myocardial wall stress and increased intracardiac pressure.

This clinically focused book on cardiac markers is a pleasure to read. It addresses a broad audience of cardiologists, laboratory specialists, and emergency physicians as well as clinical and basic researchers. The book may have fundamental implications for the establishment of future clinical and laboratory guidelines, and it is highly recommended to become a core constituent of educational programs on cardiac markers.

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A Pair of Medical Terminology Primers


The fourth edition of Quick & Easy Medical Terminology sports an updated full-color format and new sections focusing on the Integumentary System, Psychological Disorders, and the Endocrine System. This spiral-bound text can serve as a handy accompaniment for allied health professionals or as a stand-alone text for those wishing to focus on independent study.

Each chapter begins with a list of objectives followed by a brief discussion of the system, key terms, practice exercises, a programmed learning section, and surgical terms. The systems of human anatomy are discussed in detail, with accompanying photographs and illustrations depicting key anatomical features, diseases, and diagnostic tests. There is a brief description of the most important diseases and disorders associated with each system. With each chapter, the text offers a side-by-side English/Spanish Communication Section—a handy tool for healthcare providers wishing to enhance communication with their clients. Comprehensive review exercises, found in the text and the CD-ROM, consist of matching, fill-in-the-blanks, and multiple-choice questions; word classifications; and spelling assessments.

The final element of the text is dedicated to self-testing. This section assesses the reader’s knowledge of each chapter by use of a multiple-choice and fill-in-the-blank format. As an added bonus, there are several appendices, including Physician Specialties; Medical Abbreviations; Pharmacologic Terms, Drugs, and Use; Spanish Pronunciation; a Glossary of Word Parts; and Answers to Practice Exercises.

Pronunciation of all terms is made simpler with the accompanying CD-ROM and audiocassette. The CD-ROM offers the reader the opportunity to practice several activities, including a fast-paced anatomy exercise. This user-friendly package offers the essentials for those students who wish to further their knowledge of medical terminology.