Review of The Metabolic Syndrome. Christopher D. Byrne and Sarah H. Wild, eds. Chichester, West Sussex, England: John Wiley & Sons Ltd., 2005, 432 pp., $110.00, hardcover. ISBN 0-470-02511-5.

This book ambitiously reviews a subject that is undergoing shifts in popularity at a rate equaled only by the speed of identification of relevant adipocytokines and inflammatory markers. Nevertheless, the editors tackle the controversial topic with ease and competence. The collection highlights the underpinning elements of the metabolic syndrome—excess visceral adipose tissue fostering poor responses to oxidative stress and inflammation, which worsen and are worsened by insulin resistance and lead to vascular dysfunction. Although the clinician easily recognizes the phenotype of abdominal obesity with its accompanying complications, the details of the pathophysiology are exceedingly complex, and the text serves to clarify underlying themes, if not to render them simple, which they are not. Cardiovascular disease and diabetes are the tip of the iceberg of cardiometabolic disease—exemplified in the cover art—and the high and increasing prevalence of metabolic syndrome predicts the burgeoning of cardiovascular disease.

The epidemiology of metabolic syndrome is well presented in the first few chapters, including the influence of ethnicity and the global burden of metabolic syndrome, which the editors estimate at 10%–23% of adults worldwide, based on published prevalence data and informed estimations for which data are not available. Metabolic syndrome in adolescence is only tangentially referred to, despite the frightening rise in pediatric obesity. Although the definition of the metabolic syndrome and the surrounding controversy is nicely covered in the first chapter, the question of whether the syndrome exists at all (i.e., whether the collection of disorders connotes a risk greater than the sum of the individual abnormalities) receives little attention. Consideration and explanation of the pathophysiology is quite strong, and the chapters on adipocytokines and inflammation are clear and well written, including the description of the interaction between lipids and inflammation, which followed previous descriptions by Peter Libby. The fetal origins theory is well explained and the chapter on genetic predisposition is accessible to the nongeneticist. The reader may find, as I did, that the diagrams, presented in most chapters to clarify the relationships between elements of and causal factors for metabolic syndrome, do not contribute to understanding of interactions that may be too complicated to be easily summarized in a schematic.

This book will best serve researchers wishing to gain a deeper understanding of the metabolic syndrome, rather than clinicians. The chapter devoted exclusively to treatment, however, does give useful advice about pharmacotherapy, including the broad recommendation to use medications that address more than one aspect of the metabolic syndrome but do not worsen other facets (e.g., avoiding beta blockers in favor of ace inhibition). The sections addressing dietary treatment of metabolic syndrome now seem outdated because they do not include newer information, published subsequent to this book. For example, recent studies such as the Women's Health Initiative have shown that low-fat diets may not be superior to other diets in reducing cardiovascular disease. Another shortcoming of the book is the unfortunate dearth of consideration of the difficult but essential issue of implementing lifestyle changes so crucial to reversing or stabilizing the syndrome and preventing its consequences. Exercise as a therapeutic intervention is not very well covered.

Several books on the metabolic syndrome have been or will soon be published, including clinical handbooks and several edited texts (Reaven 1999, Moller 1993, Levine 2006). The Byrne and Wild collection, however, clearly summarizes the relevant research and is an excellent resource for clinical researchers and epidemiologists who are investigating the metabolic syndrome and seeking to better understand the epidemiology and pathophysiology of the syndrome that puts so many individuals at risk for cardiovascular and endocrine consequences.

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Clinical Diagnostic Technology-The Total Testing Process, Volume 3: The Postanalytical Phase. Kory M. Ward-Cook, Craig A. Lehmann, Larry E. Schoeff, and Robert H. Williams, eds. Washington, DC: AACC Press, 2006, 216 pp., $65 ($52.00 AACC members), softcover. ISBN 978-1-59425-055-2.

This book, volume 3 of a series, addresses the postanalytical phase of the testing process. Volumes 1 and 2 cover the preanalytical and analytical phases, respectively. All 8 chapters of this last volume are interesting in principle, but strictly speaking only chapters 2 and 4 and parts of chapters 1 and 3 deal with the postanalytical testing phase. Because of the focus on US laboratories found in most of the chapters, parts of the book are less relevant to readers outside of the US.

The 1st chapter provides an overview of the postanalytical phase, quality goals, and quality control. Quality systems and general management are treated in more detail. This chapter provides important references for the reader who wishes to further pursue the material. Chapter

2, one of the better chapters in the book, deals with verification and autoverification of test results, detailing the use of delta-checks in a very educational way, and ends by describing the possibilities for using middleware. Chapter 3 deals with evidence-based laboratory medicine (EBLM), of which some parts are postanalytical. In well-written short paragraphs, this chapter gives an overview of the different steps in EBLM from the preanalytical to the postanalytical phase, and it lists valuable web resources in 2 tables. I think, however, that the difficult subject of EBLM implementation should have been dealt with more extensively. Chapter 4 addresses distribution of laboratory results, discussing among other things the speed of delivery and advantages and disadvantages of printed, electronic, and telephone reports. The section on laboratory information systems is too short to give much valuable information, but this shortcoming is compensated for by the last paragraph, which lists many resources on laboratory informatics, most of them in the US. Chapter 5 deals with automated digital cell morphology. It is puzzling that the book includes a whole chapter on this topic, and that the chapter deals almost solely with CellaVision. Alternative solutions should have been discussed, such as different digital cell morphology EQA systems used in clinical pathology and hematology. Chapter 6 deals with the important topic of electronic health informatics networks. The chapter is not focused on laboratory medicine, however, and is not specific to the postanalytical phase, as would be natural in this book. Chapter 7 deals with biosensors, miniaturization, and noninvasive techniques. It starts with a short section on method comparison, including among other things Bland-Altman plots and Deming regression. This section is too short to be of much value for the reader. Thereafter, principles of biosensors are described in an educational way, and this section is well worth reading. The last chapter deals with clinical laboratories in the 21st century and "what has changed the last 3 years" (since the publication of Volume 1 of this book series). This chapter describes the major health challenges faced by the US in this century and some of their potential consequences for laboratory medicine.

In conclusion, parts of this book are very interesting. Unfortunately, however, the chapters do not fit very well together and only a few of them strictly deal with the "postanalytical phase".

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Natriuretic Peptides: The Hormones of the Heart. Aldo Clerico and Michele Emdin, eds. Trento, Italy: Springer-Verlag Italia, 2006, 184 pp., $149.00, hardcover. ISBN 978-88-470-0497-9.

This is an excellent book by one of the major groups currently involved in cardiac natriuretic peptide research. This book is directed to all readers seeking a deeper understanding of the cardiac natriuretic peptide system (physiologists, cardiologists, and clinical chemists). The backgrounds of the editors (clinical physiology, cardiology, and endocrinology) strongly influence the concept of this book; the principal aim is to demonstrate that the heart is a multifunctional and interactive organ that exchanges information with the nervous, endocrine, and immune systems. Evidence for the endocrine function of the heart revolutionized the traditional mechanical conception of this organ and unveiled new and fascinating perspectives that include the area of laboratory diagnosis. This book reviews current knowledge on the physiology and pathophysiology of cardiac endocrine function and provides updated information on diagnostic, clinical, and therapeutic aspects of cardiac and systemic diseases.

Chapter 1 summarizes the historical background of the discovery of the cardiac natriuretic peptide system. Chapter 2 summarizes current concepts regarding the physiology of the heart and may be too detailed for many laboratorians. Chapter 3 does an excellent job of presenting the complete physiology, pathophysiology, biochemistry, and molecular biology of the natriuretic peptide family, including the noncardiac family members C-type natriuretic peptide and urodilatin. Chapter 4 is of particular interest for the clinical chemist and is written very well. This chapter reflects the great experience of chapter coauthor Mauro Panteghini, who is a member of several international marker standardization committees. It reviews the methodological aspects of natriuretic peptide testing with a focus on the commercially available B-type natriuretic peptide (BNP) and N-terminal proBNP (NT-proBNP) assays. The recently described glycosylation of NT-proBNP is not mentioned, however. Chapters 5 and 6 nicely review clinical considerations and applications of natriuretic peptide testing in cardiac and noncardiac diseases, including the effects of age and sex, as well as obesity, on reference limits. The official recommendations of cardiological and clinical chemistry societies on routine natriuretic peptide testing are included. Chapter 7, aimed at clinicians, addresses the cardiac natriuretic hormone system as a target for therapy, including the fact that clinical trials on the use of natriuretic peptides to treat heart or renal failure and on drugs targeting natriuretic peptide metabolism have so far been somewhat disappointing. The book ends with "inconclusive" remarks on the past, present, and future of natriuretic peptides.

Overall the editors have succeeded in compiling an excellent book that would be an important addition to the libraries of those who wish to gain a deeper understanding of natriuretic peptides and the endocrine function of the heart. It also summa-

rizes and reviews all relevant aspects for the clinical laboratorian.

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Quick Guide to Coagulation Testing. Marisa B. Marques and George A. Fritsma, Washington, DC: AACC Press, 2006, 62 pp., $15 ($12 AACC members), softcover. ISBN 1-59425-049-9.

In the past decades, significant advances have been made in understanding coagulation disorders, including thrombophilias and bleeding diatheses. Anticoagulant therapy has advanced just as rapidly, leading to the development of several new classes of drugs that may be used to treat those coagulation disorders. Our theoretical understanding of coagulopathies has been paralleled by analytical developments to help establish accurate clinical diagnoses and to aid monitoring of new therapeutic interventions.

Clinical practitioners have recognized these coagulopathies and have been administering the new anticoagulants, thus driving the need for more complex coagulation testing in clinical laboratories. Unfortunately, the clinicians' understanding of selection and interpretation of the appropriate coagulation tests has not progressed as rapidly. The principal reason may be that diverse coagulation disorders present with only a limited number of apparently similar clinical symptoms. Often the exact diagnosis can be elucidated by test panels only, or by sequential application of multiple tests during which each subsequent test is selected based on results of the preceding analyses. The presence or absence of comorbid conditions, such as an acute illness, pregnancy, or the treatment of a coagulation disorder before the final diagnosis is established, can interfere with results of coagulation testing to the extent that correct diagnosis may not be achieved even with appropriate test selection. It is not uncommon for clinicians to be confused about ordering coagulation tests and interpreting results. At our teaching hospital we have had to resort to regularly reviewing coagulation test requisitions for appropriateness, and we routinely provide guidance in the form of consults initiated by the pathology department to guide clinicians with test selection as well as anticoagulant therapy monitoring. Cheat sheets, diagrams, and abbreviated procedures are often used in such consultations, and the need for easy access to coagulation test interpretation has become mandatory. I have been searching for a publication that can be used as a resource with such consultation, but I have been unable to find one until recently.

Quick Guide to Coagulation Testing is the right book for such a purpose. It is a spiral-bound booklet that contains only 60 small pages, and it is intended to be carried in a coat packet while making rounds or seeing patients in the clinic. It can also be used by laboratorians providing coagulation consults to clinicians. The book is divided into 7 main chapters, describing specimen collection, therapeutic ranges, reference intervals, and hemostasis and coagulation test menus as well as guidelines for thrombophilia testing, anticoagulant therapy monitoring, management of bleeding patients, and management of platelet disorders. The book has been written with a very practical purpose in mind; to provide instantaneous reference to the most commonly encountered questions in coagulation testing. Essential references are also provided at the end of the book; however, the list is not extensive. The reader should perform his or her own literature search if more in-depth references are needed.

I have found the book to fulfill its promise. It is well organized, and information is easy to locate within its covers. I was so encouraged by my initial good impressions that I decided to submit the *Quick Guide* to a limited, real-life trial. I have asked pathology residents to use the book in their daily practice and refer to it when they provide consultation for coagulation testing. This "trial by fire" revealed that the *Quick Guide to Coagulation Testing* is a convenient source of information that can expedite patient care and accelerate learning. This small volume provides information that may not be easily accessed at one place during routine clinical pathology consultations.

Even after more extended evaluations I found very few reasons to criticize this book. There are the occasional omissions such as when the text on "Hematocrit adjustment for hemostasis specimens" recommends removing sodium citrate solution from the collection tube, but does not explain how this can be done while maintaining sterility or without breaking the vacuum. Other facts that I would have liked to be included are a more detailed description of prothrombin or partial thromboplastin time mixing studies and interpretation of their results, or a table listing the various factor VIII–containing preparations that lists those also containing factor IX. These additions could have helped the reader select appropriate treatment for hemophilia A or B from a long list of similar products. On the other hand, parts of the book cover topics thoroughly, such as the short chapter on von Willebrand Disease (vWD) that includes 3 tables comparing clinical manifestations and laboratory profiles of vWD as well as expected concentrations of vWF in various ABO blood groups. Another advantage is that the book contains recommendations that are in synch with the most recent practice recommendations, such as when describing management of warfarin overdose or discussing the role of ADAMTS-13 (a disintegrin and metalloproteinase with a thrombospondin type 1 motif, member 13) testing for the diagnosis of vWD.

If I could make a wish regarding this book I would ask the authors to

include in the next edition a table describing how various anticoagulants, such as warfarin and heparin, or various clinical conditions, such as recent thrombosis and pulmonary embolism, interfere with the individual coagulation tests. Further breakdown by method (such as activity assay vs genetic analysis) could be very useful to provide alternatives in clinical situations when rapid testing may be required. In my experience it is very common for a clinician who suspects a hypercoagulation disorder to order all sorts of laboratory investigations immediately after starting anticoagulant therapy, not realizing that the acute condition and therapy may render results uninterpretable. A comprehensive list of assay interferences could be very valuable in deciding whether to perform or defer testing in these circumstances.

In conclusion, I can very highly recommend the *Quick Guide to Coagulation Testing* to practicing clinical pathologists, pathology residents, laboratory professionals, and clinicians who see patients with coagulation disorders. Even specialists in coagulation can benefit from using this book in their everyday practice when information is needed quickly. I also feel that this book is an excellent teaching aid for faculty and should be an essential resource for residents in a clinical pathology rotation.

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