
Point-of-care testing (POCT) is a subject that, these days, is regularly on the lips of every clinical chemist. Although POCT is today’s reality in many hospitals and physicians’ offices, it is, however, far from being an established practice. Both clinical chemistry and the medical profession are still finding their way toward effective and, in terms of quality, responsible application. On the one hand, professional organizations such as NCCLS and IFCC have issued guidelines for applications of POCT; on the other hand, the industry is paving the way to widespread introduction by marketing new and ever more sophisticated devices. An integrated view on the subject has been lacking.

AACC Press has, just in time, taken the initiative to publish a comprehensive book on almost every possible subject in POCT to guide the laboratory professional through all new possibilities with their accompanying chances, implications, difficulties, and controversies. This multinational, multi-author book is divided into a general introduction, a section on technology, a section on management, and a large section on a variety of applications under the heading “Case Studies”.

The book’s introduction leads the reader to the main issues involved in POCT: shortening the diagnostic cycle, cost-effectiveness, and quality assurance. The technology section briefly describes the various analytical methods implemented in point-of-care devices; gives an overview of hand-held sensor systems currently on the market; pays attention to benchtop technology that is applicable either in the central laboratory, the decentralized clinical setting, or the physician’s office; and ends with the concept of the distributed laboratory. In this concept, frequently ordered tests are performed close to the patient, whereas tests with less demanding turnaround times are performed in a central facility.

The section on management starts with three chapters on the quality aspects of POCT, followed by an original and important contribution on informatics. The next chapter, on guidelines, overlaps somewhat with the earlier three chapters on quality of POCT but still contains sufficient new substance. The following two chapters concentrate on the economics of POCT, give assistance for determining cost effects of introducing POCT, and emphasize the dependence on local organization and the cost factors involved. A contribution on regulatory issues is especially informative to US readers but might still be interesting for non-US laboratory personnel.

The last and largest section, Case Studies, starts with a treatise on evidence-based laboratory medicine. This might be part of any book on clinical chemistry, but it is particularly appropriate in this one because POCT, being a new technology, should be thoroughly validated for each of the suggested applications in methodologically correct studies. One such study, referred to in this chapter, raises questions concerning the cost-effectiveness of POCT in an emergency unit. The next chapters weigh the pros and cons of POCT in primary care, diabetes care, emergency care, intensive care, perinatal care, pediatric care, chest pain unit, hematology, microbiology, drug testing, home testing, workplace testing, and wellness testing, leading to appreciation, doubt, or rejection by the respective authors. The weighing process, rather than the outcomes, helps the reader to make up his or her own mind.

As a whole, the book contains a wealth of information on POCT and all that is involved. The multi-author design makes each chapter stand alone, and each can be read without the necessity to read the book from the beginning. When you do, however, many issues appear in several chapters. The rapid technological developments in this field will oblige the authors to a regular update.


This is an easily readable text, which presents its information in a fashion that is readily accessible to both clinicians and students. The contents are set out in four parts: Basic Concepts, Consumption, Deficiency, and Toxicity; Trace Element and Mineral Nutrition in Healthy People; Trace Element and Mineral Nutrition in Disease, and an index and guide to relevant literature. This format particularly suits the nutrition practitioner in patient care. However, an extensive index also enables the researcher or student to find basic information relating to individual trace elements or minerals. Each chapter provides a review of relevant recent research and an extensive reference list, which could further assist the researcher or student. For each of the nine trace elements currently considered essential (chromium, copper, fluoride, iron, iodine, molybdenum, manganese, selenium, and zinc) and three major essential minerals (calcium, magnesium, and phosphorus), information regarding the recommended dietary intake, possible toxicity, estimated dietary intake, laboratory measurement, and role in health and disease is provided.

In Part One, the reader is made aware of the difficulties facing the scientist in the area of trace element research. Laboratory measurement of trace element status suffers not only from analytical difficulties, which result from method interferences, sample contamination, and low biological concentrations, but also from a poor understanding of the storage and metabolism of many of the elements. The dangers in recommending dietary supplementa-
tion with trace elements and minerals is emphasized by a description of the complex interactions between the dietary elements. For example, chronic supplementation with relatively high doses of zinc might produce copper-deficiency anemia, and supplementation with calcium might reduce the absorption of zinc and iron from the diet. These interactions are not well understood and compromise the accurate estimation of DRIs (dietary reference intake values). The clinician is made aware of the caution required when interpreting the results of clinical investigations. Unique features of this section are the discussion of both prehistoric and current consumption of trace elements and minerals and the epidemiology of trace element and mineral deficiencies.

Parts Two and Three discuss, within each chapter, all of the essential elements relevant to a particular condition or group of diseases. The particular needs of human pregnancy, human lactation, adolescence, and old age are provided in Part Two. Part Three discusses trace element and mineral nutrition in various disease states, including genetic, endocrine, skeletal, cardiovascular, kidney, gastrointestinal, infectious, surgical, and ophthalmologic disorders. The copper-deficiency theory of ischemic heart disease is presented as a balanced and thoughtful argument; however, it was disappointing that the argument did not extend to suggested clinical dietary intervention. From a clinician’s point of view, the one weakness with this text relates to a lack of specific dietary information. In particular, a concluding summary of major dietary implications and suggested dietary strategies at the end of each chapter would greatly enhance the usefulness of this text.

In summary, this text deserves a place in the clinical nutritionist’s library. The text provides an excellent mixture of current research and practical clinical nutrition, which can be used as a reference for patient care and for general trace element research, in an easily readable format.

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This is a useful and concise text that ideally fills a niche between large textbooks on hepatology and general clinical chemistry books. It is written by three individuals who have a wealth of experience in this area. The approach is refreshing and centered on liver disease and its investigation, rather than trying to fit a number of liver disorders into patterns of liver enzyme abnormalities.

There are nine chapters, ranging from anatomy and physiology to pregnancy and transplantation. Background liver structure, physiology, and functional heterogeneity are covered in Chapter One with the aid of clear diagrams; the classification of liver disease is clear and concise. The primary liver investigation that we all know and love as “liver function tests” are dealt with in Chapter Two.

The biochemistry of bilirubin metabolism is well described, although the accompanying diagram is rather poor and perhaps there is a little too much emphasis on biliary atresia as a rare cause of neonatal jaundice. The coverage of the enzymes is comprehensive, although no mention of biliary alkaline phosphatase is made in relation to malignancy. The welcomed inclusion of hematological abnormalities completes the overall picture.

Chapter Three deals with infectious liver disease and focuses on viral hepatitis. There is one typographical error in Table 3.1. Some of the diagrams could be of better quality, but it is nice to see the serology tied to the biochemical features. A number of other infectious diseases are mentioned and include snippets such as the association of markedly increased vitamin B12 concentrations with hepatic abscesses.

The importance of metabolic disease is stressed, especially in the young, and iron overload and copper storage disease are dealt with in some detail. The multitude of other metabolic disorders that may affect the liver are covered at a level suitable for the generalist.

The description of alcohol-related liver disease is particularly good, although that on paracetamol (acetaminophen) is somewhat brief. Given the enormous range of drugs that can be implicated in xenobiotic liver disease, it would be unreasonable to expect any further detail in a book of this size.

Autoimmune liver disease is a complex and rapidly expanding area of hepatology. The discussion of immunology, which I found up-to-date, is particularly useful for the clinical chemist.

Malignant pathology is reviewed in Chapter Seven, and it is good to remind European and North American readers that primary liver cancers are much more common in other parts of the world where hepatitis B and C are endemic. The holy grail of the ideal tumor marker is still being sought. The commonly used markers a-fetoprotein (aFP), carcinoembryonic antigen (CEA), CA19-9, and 5-hydroxyindoleacetic acid (5HIAA) are all covered.

Although liver disease is rare in pregnancy, it can cause significant problems, and a short chapter is devoted to this important subject, which in general one does not find in general chemotherapy texts. Likewise, with the increase in transplantation, there are some well-thought-out words devoted to this, as in the final chapter.

I found this an easy book to read, and it fulfills its role admirably. The quality of some of the diagrams could be improved, but I am sure this book will be welcome on the bookshelves of many clinical chemists.

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