

Preface to the Fourth Edition

It has been 4 years since the third edition was completed. The third edition retained the major pedagogic tools of the first and second editions, whereas the text had been completely revised, and certain features updated from the first edition. The fourth edition has, based on extensive reviews by both faculty and students, enhanced the features of the third edition in the following ways:

1. A major effort for this edition has been to update the patient histories to better reflect changes in treatment options for the disorders presented in this text. Every patient history has been reviewed and updated, if needed, to reflect the standard of care in 2011.
2. The “methods” notes of the third edition have been expanded such that there is at least one such note per chapter. These notes allow students to understand how biochemistry is used as a foundation for many of the laboratory tests ordered during the diagnosis of a patient.
3. Biochemical comments in several chapters have been updated to reflect recent research, particularly as it applies to signaling, type 2 diabetes, and metabolic syndrome.
4. Every chapter now contains a Table, at the end of the chapter, summarizing the diseases discussed in the chapter.
5. All chapters were reviewed and updated, where appropriate. Errors found, or pointed out by observant readers, were corrected.
6. The online question bank has been expanded by 5 questions per chapter, bringing the total number of questions (and explanations) in that bank to 468. The text itself contains 245 questions and explanations for student review.
7. Chapter references are now only available as an online supplement to the text. The references, where appropriate, are linked to the original research article in PubMed.

In revising a text geared primarily toward medical students, the authors always struggle with new advances in biochemistry and whether such advances should be included in the text. In this text, the authors include only advances that will enable the student to better relate biochemistry to medicine, and future diagnostic tools. Although providing incomplete, but exciting, advances to graduate students is best for their education, medical students require a more directed approach, one that emphasizes how biochemistry is useful for the practice of medicine. This is a major goal of this book.

Any errors are the responsibility of the authors, and we would like to be notified when such errors are found.

We have retained the interesting names of the patients in this edition. The use of such names is meant as an educational tool and is not meant to be disrespectful to the patients or their conditions.

The accompanying website for this edition of *Marks' Basic Medical Biochemistry: A Clinical Approach* contains the aforementioned additional questions for review, patient summaries (complete stories of all the patients discussed in the text), and the references for each chapter.

HOW TO USE THIS BOOK

Icons identify the various components of the book: the patients who are presented at the start of each chapter; the clinical notes, methods notes, questions, and answers that appear in the margins; and the key concepts, clinical comments, and biochemical comments that are found at the end of each chapter.

Each chapter starts with an abstract that summarizes the information so that students can recognize the key words and concepts they are expected to learn. The next component of each chapter is "The Waiting Room," describing patients with complaints and detailing the events that led them to seek medical help.



indicates a female patient



indicates a male patient



indicates a patient who is an infant or young child

As each chapter unfolds, icons appear in the margin, identifying information related to the material presented in the text:



indicates a clinical note, usually related to the patients in "The Waiting Room" for that chapter. These notes explain signs or symptoms of a patient or give some other clinical information relevant to the text.



indicates a methods note, which elaborates on how biochemistry is required to perform, and interpret, common laboratory tests.

Questions and answers also appear in the margin and should help to keep students thinking as they read the text:



indicates a question



indicates the answer to the question. The answer to a question is always located on the next page. If two questions appear on one page, the answers are given in order on the next page.

Each chapter ends with "Key Concepts," "Clinical Comments," and "Biochemical Comments":

The "Key Concepts" summarize the important take-home messages from the chapter.



The "Clinical Comments" give additional clinical information, often describing the treatment plan and the outcome.



The "Biochemical Comments" add biochemical information that is not covered in the text or explore some facet of biochemistry in more detail or from another angle.

Finally, "Review Questions" are presented. These questions are written in a USMLE-like format and many of them have a clinical slant. Answers to the review questions, along with detailed explanations, are provided in the Appendix.