
This curiously titled book tries to address several important topics in the application of artificial intelligence methods to medical decision making. It succeeds only where it presents a knowledge representation model and derived system that are highly technical, clearly the area of expertise of the authors.

The volume contains three sections. The first, “Cognitive Science to Cognitive Engineering”, begins with a general review of computer applications in medicine, mentions classic work in passing, and illustrates the role of uncertainty in medical decision making. This section ends with a description of the authors’ method for knowledge-based system construction, PROforma. The historical review offers weak motivation for the methodology, and on its own does not offer anything new relative to standard current texts and reviews in medical artificial intelligence.

The second section, “A Duty of Care”, introduces the topic of safety in systems development. Fox and Das are very interested in the risks of agent technologies, in which expert systems are built that act autonomously (that is, by the use of computerized agents). Several prominent medical systems feature unassisted decision making, something that concerns leaders in the field. The authors describe agents well and develop a conceptually pleasing logical model of a “safety agent” that can be built within a decision-making system to assess the risks of decisions and alert users to the possibility of adverse events.

In the third section, “Rigorously Engineered Decisions”, the authors develop their knowledge representation language (RED) and apply it to two examples drawn from the diagnosis of suspected gastric cancer and the management of asthma. RED and its implementation R2L are hybrid rule- and knowledge-based languages that explicitly represent evidence for assertions and use classic logic to form rules. RED seems to descend from the PROLOG family of languages and is well adapted to the creation of expert systems for medicine. It handles time naturally, as descriptors and properties. The concept of safety is explicitly encoded by terms in the language that define risk, the notion of a “safe” action, and actions such as obligation, permission, and review. A well-designed graphical user interface is presented for system implementation. The examples are rudimentary and designed to show the system concepts rather than mastery of a complete problem space.

Safe and Sound is not a book for the casual reader or the beginning student of knowledge-based systems in medicine. System developers and medical computer scientists will find some ideas of interest here, particularly the way the authors address safety in agent systems directly. Further development of the representation language and a comprehensive application will be necessary to broaden the appeal of this text.

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Robbins Review of Pathology consists of >1000 multiple-choice questions, which provide an excellent review of the very broad subject of human disease. This book is best used as a companion to Robbins Pathologic Basis of Disease, the reference textbook on pathology that has been used by medical and other healthcare students for several decades. The book intentionally adheres to the same order of topics as the main text. Thus, the book begins with several chapters on general pathology topics (tissue injury, inflammation, neoplasia, and so forth) followed by the specific diseases of all the organ systems.

The authors wisely format the questions in accordance to the current recommendations of the National Board of Medical Examiners. Specifically, all questions are either single-best-answer multiple-choice items or extended matching questions. Thankfully absent are negative A-type questions (“All of the following are true except . . .”). Although such questions are relatively easy to write, they are in fact poor questions, in part because they require students to identify each answer choice as either totally true or totally false, an oftentimes impossible task.

The use of clinical vignettes in most of the questions has several advantages. It requires that the student use a substantial body of learned information to successfully answer the question (as opposed to answering the question by simply recalling a single isolated fact). Patient care vignettes emphasize the clinical relevance of the study of pathology, as well as make for more interesting questions.

Every chapter ends with an expanded answer key. For each question, there is a well-written, concise explanation as to why the right answer is correct and why the incorrect choices are not. For those students who wish for more information, each answer includes a reference to the Robbins textbook. (Also referenced is Robbins: Basic Pathology, the “smaller” version of Robbins Pathologic Basis of Disease.)

Because pathology is a visually oriented science, it is welcome to see beautifully reproduced color photographs located throughout this book. The photos, which include diseased organs, histology specimens, and images of patients with various lesions, are well-chosen, classic representations of disease processes. They undoubtedly aid the student in answering the questions.

The most obvious use for this text is to help students in studying for upcoming pathology exams. It is ideally suited to prepare the medical student for the step 1 United States Medical Licensing Exam. However,
this book also provides a useful review for those who have already finished taking their pathology exams. I, having been a pathologist for quite some years, had a great time testing myself through the use of this book (and I am pleased to say that I did quite well!).

This book is an excellent resource for any student of pathology, past or present. My only regret is that it was not available when I was a second-year medical student. This resource is highly recommended.

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Evidence-Based Medicine. How to Practice and Teach EBM, 2nd ed.

During the first 3 years of its existence, this book has been read, debated, and used by many thousands of clinicians and acclaimed as the guide to the summits of evidence-based medicine (EBM). Now David Sackett and his enthusiastic team of coauthors have produced a second, completely revised edition. What does this book contain and why is it of importance, not only to clinicians but also to the practitioners of laboratory medicine?

The ideas imbedded in EBM have a long history. The authors could appropriately add to their brief note on epistemology the individualistic, antiauthoritarian, critical quest for truth practiced by Socrates. What is new is that converting EBM concepts into daily clinical practice is now feasible because of important recent developments: efficient strategies for tracking down and appraising evidence; the creation of systematic reviews; the advent of evidence-based databases (e.g., the Cochrane Library) and journals (e.g., ACP Journal Club); the increasing availability of information systems; and the application of effective strategies for life-long learning.

EBM—and this book—provides a strategy for effective clinicians based on five skills related to or depending on the progress noted above: (a) how to ask answerable clinical questions; (b) how to translate them into effective searches for the best evidence; (c) how to critically appraise that evidence for its validity and importance; (d) how to integrate it with their patients’ values and preferences; and (e) how to evaluate and improve performance in practicing and teaching EBM. In seven chapters, these items are illustrated by examples encouraging the reader to use the tactics and tools provided. Thus, 26 succinctly written pages on diagnosis and screening prepare the reader—mostly by means of epidemiologic tools—to determine whether evidence on the accuracy of a given diagnostic test is valid, whether the test has been demonstrated to accurately distinguish patients with and without the disorder, and whether that test should be applied to a specific patient. Other similarly structured chapters are found under the headings Prognosis, Therapy, Harm, Guidelines, Teaching Methods, and Evaluation.

The authors’ criticism of textbooks as sources of valid, up-to-date evidence is severe: “Burn your (traditional) textbooks”. In an effort to circumvent common textbook shortcomings, a CD is included with their book. An associated website (http://www.library.utoronto.ca/medicine/ebm/) also presents new information and a means for contacting the authors. The CD contains clinical examples, critical appraisals, and background papers from 14 health disciplines. It also contains descriptions of recommended evidence sources accessible through the web.

For laboratory medicine—the provider of a solid fraction of the medical evidence base—EBM is an eminent source of inspiration. This book offers essential insight to medical laboratory practitioners with an interest in the clinic-laboratory interface.

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Addendum
In the article by N. Bizzaro, G. Mazzanti, E. Tonutti, D. Villalta, and R. Tozzoli, entitled “Diagnostic Accuracy of the Anti-Citrulline Antibody for Rheumatoid Arthritis” (Clin Chem 2001;47:1089–93), the authors did not include a statement concerning human subjects/informed consent. The authors wish to add the following statement:
All patients attending the rheumatology and oncology outpatient clinics were fully informed of the purposes of the study, and all gave their written consent. Moreover, all patients were informed of the results of their tests. Healthy controls, who were selected from blood donors attending the local blood transfusion service, also gave informed, oral consent.

Addendum
The authors of the article entitled “Disappearance Rate of Catecholamines, Total Metanephrines, and Neuropeptide Y from the Plasma of Patients after Resection of Pheochromocytoma” (Clin Chem 2001;47:1075–82), E. Grouzmann, M. Fathi, M. Gillet, A. de Torrente, C. Cavadas, H. Brunner, and T. Buclin, wish to add the following statement on informed consent.

We received authorization from the ethics committee of the internal medicine department from our hospital to draw blood from the patients who participated in the study. The patients received oral information on the protocol and gave oral consent.

Correction

Correction
An author wishes to clarify a sentence in “Electrospray Tandem Mass Spectrometry for Analysis of Acylcarnitines in Dried Postmortem Blood Specimens Collected at Autopsy from Infants with Unexplained Cause of Death”, by D.H. Chace, J.C. DiPierna, B.L. Mitchell, B. Sgroi, L.F. Hofman, and E.W. Naylor (Clin Chem 2001;47:1166–82). The sentence at the bottom of the first column on page 1167, which reads “Using statistics from the CDC that 3 880 894 infants were born in the US in 1997, we can approximate that 465 infants will be born per year with a metabolic disorder detectable by MS/MS”, should read “Using statistics from the CDC that 3 880 894 infants were born in the US in 1997, we can approximate that 465 infants will be born per year with a metabolic disorder detectable by an acylcarnitine profile obtained by MS/MS”. The authors apologize for any confusion this may have caused.