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Books, Films, Tapes, & Software

Ethics and Evidence-Based Medicine: Fallibility and Responsibility in Clinical Science. Kenneth W Goodman. Cambridge, United Kingdom: Cambridge University Press. 2003. Soft cover, 168 pages, $27.

In **Ethics and Evidence-Based Medicine: Fallibility and Responsibility in Clinical Science**, Kenneth Goodman PhD, who is the director of the University of Miami's Bioethics Program, starts out to examine the link between the theory and practice of evidence-based medicine, moral theory, and clinical ethics. Given the broad scope of the task and the many interests of the author, it is not surprising that the book meanders through many aspects of the evidence-based medicine movement, from its history, to practical difficulties in implementation, to statistical considerations, to implications for clinical practice and public policy. Along the way Goodman identifies the conflicts and controversies at the heart of the evidence-based medicine movement and a large number of tangential issues as well. Unfortunately, but unapologetically, he approaches these questions and controversies as an evidence-based medicine "true believer," often giving short shrift to criticisms and cautionary words of those who view evidence-based medicine more skeptically. Despite that limitation Goodman deals with complex and nuanced concepts while writing in a casual vernacular that is at times amusing, though at other times a bit flip. Clearly, he is writing with the clinician in mind, making the book accessible to physicians, nurses, and therapists who lack formal training in the philosophy of science or ethics but who nonetheless find themselves worrying about the reasoning and rightness of clinical decisions. The book thus provides an interesting, if not completely satisfying, tour through the phenomenon that is evidence-based medicine.

The first 5 chapters read as independent essays about central and tangential aspects of the evidence-based medicine movement. Loosely woven around the theme of ignorance as moral culpability, brief discussions of everything from medical history to computer databases reveal Goodman's encompassing familiarity with the subject matter. The book is most interesting in Chapter 5, in which Goodman acknowledges the difficulties in applying clinical-research evidence to the care of individual patients. Here clinicians will recognize the daily struggles of trying to practice some version of evidence-based medicine. As a nonclinician Goodman at times appears to lack an appreciation of the complexity of clinical decision making—a weakness present in virtually all guides to the practice of evidence-based medicine. In discussing the ethical necessity of a clinician knowing the results of clinical research relevant to one's clinical practice Goodman sometimes conflates the moral culpability of ignorance of the evidence with that of not acting on the evidence. But that distinction is critically important to understanding the ethical paradox of evidence-based medicine. If one must always act in accordance with the evidence, then there is ultimately no role for independent thought and decision-making on the part of clinicians, and computers really could do our jobs. But if clinicians are allowed to deviate from the evidence (or guidelines) in individual cases—something Goodman and all thoughtful proponents of evidence-based medicine support—then we must understand the rules and reasoning that allow for such deviations to be rational and ethical. Unfortunately, neither Goodman nor any other proponents of evidence-based medicine have put much effort into that task.

Readers sympathetically inclined toward evidence-based medicine will find the book thought-provoking and ultimately comforting, as it will not induce any crisis of confidence. Those with vague, nagging doubts about evidence-based medicine will probably feel reassured. But for clinicians more deeply troubled by the epistemic or moral assumptions underlying the evidence-based medicine movement the book does not offer any new or more satisfying responses to those concerns. Such central concerns as the lack of evidence to support practicing evidence-based medicine, the moral and epistemic gap between evidence derived from clinical trials and the care of the individual patient, and the question of when a clinician can ethically deviate from guidelines are all acknowledged in the text, but too quickly bypassed as the author moves on to topics presenting less of a challenge to evidence-based medicine. Sacrificing the exhaustive survey of evidence-based medicine and instead focusing on those core issues would have presented a more vigorous defense of evidence-based medicine and a more compelling argument that the failure to adopt the evidence-based-medicine construct brings moral culpability.

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Critical Diagnostic Thinking in Respiratory Care: A Case-Based Approach. James K Stoller MD MSc FAARC, Eric D Bakow MA MPM RRT, and David L Longworth MD. Philadelphia: WB Saunders. 2002. Soft cover, 398 pages, $34.95.

Critical Diagnostic Thinking in Respiratory Care: A Case-Based Approach is divided into 4 parts. Part 1 is an introduction to the critical thinking process used by respiratory care clinicians. The authors of this section provide some background theory in what constitutes "critical diagnostic thinking," including a brief description of the process by which a clinician learns to gather data and integrate that information into what ultimately becomes the diagnosis. The process of hypotheses generation and differential diagnosis of the patient's clinical problem(s) are reviewed. Identifying the patient's clinical problem through use of patient history, physical, and laboratory examination is then described. Briefly reviewed are the major elements of physical examination, with the key findings that are often associated with pulmonary problems, as well as common laboratory tests used in differential diagnosis. Respiratory signs and symptoms are identified with their common and less common causes to assist the clinician in formulating a differential diagnosis.

Parts 2–4 constitute 90% of the book. Each of the 35 chapters in these 2 parts begins with a case study that illustrates a common pulmonary problem. The presenting signs, symptoms, and other initial data are given in the brief beginning section entitled "The Clinical Problem." The reader is then taken through the diagnostic reasoning

process, which typically includes discussion of the differential diagnosis, clinical features that suggest a specific cause, pathophysiologic basis, diagnostic testing, assessment of the effect of therapy, and pitfalls and common mistakes in the assessment and treatment of the problem in question. Not all chapters have all of those sections, and additional sections appear in certain chapters. Each chapter has several boxes and tables that summarize key information.

The cases are grouped by the clinical setting in which the case would present. Part 2 is "Common Presentations in the Out-patient Setting" (20 chapters), which describes presenting signs and symptoms frequently encountered in a pulmonary out-patient clinic. Part 3, "Common Problems in the Non-ICU Patient," (5 chapters) deals with most of the clinical problems respiratory therapists see in the acute hospital, non-intensive-care-unit (ICU) setting. Part 4, "Common Problems in the ICU Adult" (10 chapters) focuses less on presenting signs and symptoms and more on common problems encountered in managing pulmonary patients in the ICU setting that invite the use of problem solving skills.

The book was clearly intended for respiratory therapists, respiratory therapy students, physicians in training, and pulmonary nurses. The last 15 chapters (Parts 3 and 4) would be particularly useful to respiratory therapists who work more often in the acute care setting.

Not unexpectedly, this first edition does have its share of minor glitches. For example, Chapter 1 presents a substantial amount of information (on pages 28 and 29) on acid-base physiology but fails to summarize that information in a table or box. There are a few places where, when you read the text carefully—as one should when attempting to learn about such a complex topic as critical thinking— you are left with a big "Huh? What does that mean?" This confusion is sometimes related to the intensity of the subject matter, but sometimes it is the result of awkward wording. For example, on page 29, after appropriately stating, ". . . the well-prepared respiratory care clinician should have an excellent working knowledge of the chest x-ray," the authors then state, "Careful interpretation of the film enhances critical diagnostic thinking by enhancing diagnostic skills and by improving the appreciation of the response to therapy."

Another example is on page 210. The discussion of the pitfall of confusing vocal cord dysfunction and asthma ends with the statement, "A high degree of suspicion should be present if the patient has little difficulty completing full sentences, can hold his or her breath, can abolish the laryngeal-induced sounds during a panting maneuver or cough and with sedation and anesthesia despite the severe respiratory distress. Laryngeal sounds may also decrease with switching from mouth to nose breathing and during talking." Although there is certainly some factual and probably useful information in that passage, it is confusingly written.

A third example occurs on page 31, where the author begins a good summary point but ends it awkwardly: "Thus, although anemia does not generally affect the P_{aO_2}, anemia can compromise the oxygen-carrying capacity of the blood and must be considered in patients with evidence of perfusion impairment." What *does* that mean?

Factual errors are fairly rare in this book but they do crop up, such as on page 33 where the author refers to the Gram-stain and culture and sensitivity as being helpful at identifying the specific cause of pneumonias for *protozoa or viruses*? Another example is in the arterial blood gas report on page 240, where the bicarbonate value reported as 28 mEq/L is not possible with the stated ph of 7.45 and P_{aCO_2} of 30 mm Hg. The actual bicarbonate value, as determined by the Henderson-Hasselbach equation, for that combination of ph and P_{aCO_2} must be approximately 21 mEq/L. And on page 241 Box 22–1, lists "atelectasis" under the common infectious causes of fever and new pulmonary infiltrate. Atelectasis would be appropriately classified in Table 22–1 as a noninfectious cause.

Overall the book is well written and the very complex subject matter is presented in a manner that makes it digestible. The tables and boxes are for the most part very well done and help organize the material. In particular the tables in most of the chapters interpreting signs and symptoms are very handy for helping to sort through the various possible diagnoses by reviewing the possible causes and suggestive clinical features. Of concern, however, was that Table 25–1, "Interpreting Signs and Symptoms of Atelectasis," included no signs or symptoms (ie, suggestive clinical features). Was the table mislabeled?

In summary, **Critical Diagnostic Thinking in Respiratory Care: A Case-Based Approach** goes a good distance toward achieving its stated goal of "clarifying the process of clinical reasoning." The book presents problems to solve and takes the reader through the process of solving them. The reader will gain insight into the process followed by experienced clinicians as they organize and collect data, integrate it into one or more working hypotheses and then refine those plausible explanations for the clinical problem through a process of critical diagnostic reasoning into one or more diagnoses. This book should serve its purpose of aiding those who want to become more analytical in their reasoning and decision making, and ultimately, as the authors suggest, that should translate into more effective care for patients.

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Cross-Examination: The Comprehensive Guide for Experts. Steven Babitsky Esq and James J Mangraviti Jr Esq. Falmouth, Massachusetts: Seak. 2003. Hard cover, 414 pages, $99.95.

Most physicians avoid medical-legal work like the plague. The thoughts of being humiliated by a smarmy attorney or testifying against another physician are enough to make most physicians flee to the comfort and familiarity of their practices.

Over the past 20 years I have done a modest amount of medical-legal expert work—primarily because my colleagues fit the description above! This work has ranged from independent medical examinations (mostly in occupational medicine) to malpractice litigation to adventure or high-altitude accident liability. In reflection I have found the work stimulating and challenging and have also felt that it has, in part, been a responsibility to our profession.

I have always followed these rules: (1) never become involved in a case unless you do feel like an expert, (2) "call them like you see them" and never get swayed by what the attorney wants to hear, (3) don't do cases just for the plaintiff or defendant sides (don't get a reputation as a "hired gun"). Also, I have often been asked by plaintiffs' counsels to look at a case to see if it has merit, which has in numerous cases allowed me to say, "No, this is too 'gray.' I don't think there is enough here to drag a family through the cost and anguish of a prolonged proceeding." That approach is a