

Noninvasive Mechanical Ventilation. John R Bach MD. Philadelphia: Hanley & Belfus. 2002. Soft cover, illustrated, 348 pages, \$39.

Until 15 years ago mechanical ventilation was limited to the intensive care unit because mechanically ventilated patients needed to be paralyzed and sedated. Over the last decade the great interest in noninvasive mechanical ventilation (NIMV) has opened new horizons in the field of mechanical ventilation and ways to apply it. Indeed, as the consequence of various clinical and physiological evidence, NIMV has become a first-line intervention in the management of severe exacerbations of chronic obstructive pulmonary disease (COPD). Moreover, it has been shown that NIMV can be applied at an earlier stage of ventilatory failure than would be usual when a patient is intubated and that NIMV can be administered outside the ICU.¹ NIMV is increasingly used to treat chronic hypercapnic respiratory failure.² Its use in patients affected by chronic obstructive pulmonary disorders is still controversial, whereas most of the studies of NIMV for restrictive thoracic disorders (in particular with neuromuscular patients) have suggested that NIMV alleviates the symptoms of chronic hypoventilation in the short term,³ and in 2 small studies survival was prolonged.^{4,5} A recent Cochrane review stated that "long-term mechanical ventilation should be offered as a therapeutic option to patients with chronic respiratory failure due to neuromuscular diseases."⁶

Despite the above-mentioned clinical and scientific evidence about NIMV and the hundreds of studies published in major medical journals, very few books have been published on NIMV, so it is very difficult for non-experts to find a comprehensive and exhaustive review on this subject. A new book on NIMV is therefore most welcome, and I read with great interest **Noninvasive Mechanical Ventilation** (primary author Dr John R Bach, with contributions by others). This book is a physiological and clinical guide for physicians, respiratory therapists, nurses, and other health care professionals. It is divided into 15 chapters and includes illustrative case studies of respiratory man-

agement (Chapter 15). The book begins with an epidemiological profile of the diseases treated with NIMV, followed by several chapters dealing with NIMV's mechanisms of action and mainly dedicated to long-term NIMV. The middle part of the book is dedicated to the application of NIMV during acute respiratory failure, with pediatric patients and in the home-care setting. Chapters 13 and 14 deal with chest physical therapy and nutrition.

Dr Bach should be congratulated for the effort and energy he had put into approaching this difficult task. However, unfortunately, this book is not always easily comprehensible or easy to follow, and in places seems not logically organized. Moreover, the book is sometimes anecdotal and paternalistic rather than evidence-based. I do not like the tendency to consider only data from randomized, controlled studies as being true and scientifically worthy; that belief has been recently questioned by editorials in leading medical journals. Nevertheless, I also think that statements we make (especially in a book that consists primarily of a series of logical sequences) about an "almost exact science" such as medicine should be supported by a solid rationale, clear clinical evidence, and especially by data reproducible on a large scale.

For example, **Noninvasive Mechanical Ventilation** seems to trace most of the mechanisms of NIMV's actions back to "respiratory muscle aid," and this is really reductive. In this respect Chapter 4, "Noninvasive Ventilation: Mechanisms of Action," is very well written. The chapter's author, Dr Mark W Elliott, highlights the point that the load/capacity balance of the respiratory system is not the only physiological mechanism involved; we should also take into account the effects of NIMV on respiratory drive, sleep, respiratory mechanics, and eventually also in correcting ventilation-perfusion abnormalities. Unfortunately, the remaining chapters seem to deny any active role for the above-mentioned mechanisms (despite that they are mentioned), if not for the muscles. Indeed, in this respect clear definitions of "fatigue" and "weakness", according to the National Heart, Lung, and Blood Institute's workshop summary,⁷ are lacking. The reader may be confused by the definition

that fatigue is simply "the failure to maintain the required or expected force," since this does not clearly highlight the concept that, generally, fatigue is acute and weakness is chronic. This difference may be very important when we want to explain the different roles of mechanical ventilation in (1) helping to reverse an acute condition or (2) sustaining weakened muscles for chronic conditions such as respiratory failure due to a neuromuscular disease. For example, on pages 242–245 it is stated that alleviating COPD patients' chronic respiratory muscle fatigue may be the leading reason for long-term NIMV. The theory of long-term resting, quite popular in the 1980s, was challenged by the demonstration that the diaphragm of a patient with stable COPD was as good as that of a normal subject in generating pressure in response to bilateral phrenic nerve stimulation, at similar lung volume. This led to the conclusion that the absence of central inhibition and the absence of evidence of chronic fatigue cast doubt on the need to treat such patients with interventions intended to improve the contractility of the diaphragm by resting. More recently other researchers added support to this theory when they showed, with diaphragm biopsy specimens from patients with severe COPD, that the disease increases the slow-twitch characteristics of the muscle fibers, as an adaptive mechanism that increases resistance to fatigue.

Another weakness of this book, in my opinion, is the lack of clarity in describing the various ventilation modalities. Specifically, there is confusion in the description of pressure-controlled ventilation and CPAP, which was invented much earlier than is stated (actually by Dr Barach, in the 1930s), and the functioning of the various ventilators (eg, on page 105 it claims that bi-level positive airway pressure [BiPAP] has a pressure trigger). It would have been very helpful in this respect to highlight some of the classical problems and typical features of NIMV, such as the importance of staff training, how to prevent and correct air leaks, what to monitor, and which variables are the best predictors of NIMV failure or success.

One final minor problem with the book is that the copy-editing was inadequate in

one glaring instance: on page 69 the surname of name Michelangelo Buonarroti is misspelled "Buonarrotte."

Despite my overall rather negative review of this book, I have to admit that it also has several strengths. The more practically oriented chapters (eg, Chapter 1, with its clear divisions and explanations of the diseases that lead to chronic respiratory failure) may be very useful both for experienced medical and paramedical personnel or those who are approaching NIMV for the first time. Moreover Chapter 7, which includes an extensive table about face masks, as well as nice, clear illustrations, is an excellent review of the state of the art of the NIMV-patient interface. Also, the idea of having a chapter (Chapter 15) dedicated to illustrative case studies is brilliant and will stimulate many readers' interest.

Keeping in mind that **Noninvasive Mechanical Ventilation** should not be considered a physiology text or a recommendations/guidelines text on which clinical practice should be based, the book may be useful as a reference for those who want an overview of NIMV.

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Lung Cancer: Myths, Facts, Choices – and Hope. Claudia I Henschke PhD MD and Peggy McCarthy, with Sarah Wernick. New York: WW Norton. 2002. Hard cover, illustrated, 389 pages, \$27.95.

Lung Cancer: Myths, Facts, Choices – and Hope is the collaborative effort of 2 health professionals with very different backgrounds: Dr Claudia Henschke is a professor of radiology and chief of the Division of Chest Imaging at Cornell University, and Peggy McCarthy is a medical educator and founder of the Alliance for Lung Cancer Advocacy, Support, and Education, an international advocacy group for lung cancer patients and their supporters. The authors were assisted by Sarah Wernick, a freelance health writer. The book's contents reflect the interests of Henschke and McCarthy, and the result is an excellent resource for patients who are at risk for lung cancer, who have the disease, or who have a family member or friend with lung cancer.

Dr Henschke's father, Dr Ulrich Henschke, was a physicist and a pioneer in radiation oncology; his career began in Berlin in the 1930s. Dr Claudia Henschke was active in her father's practice; she monitored the radiation exposure badges at his office. Prior to his death in an airplane crash in 1980, she had planned to enter practice with him. In July of 1992 she began a research project in which she used serial computed tomography (CT) chest scans to screen for early lung cancer in high-risk patients. The results of that study were published in *Lancet* in 1999 and resulted in a medical debate that persists today.¹ Prior studies of lung cancer screening at the Mayo Clinic, Johns Hopkins University, and Memorial Sloan-Kettering Institute using chest radiographs and/or sputum cytology yielded negative re-

sults, and the major chest physicians' organizations advise against lung cancer screening as a recommended policy. Dr Henschke argues that the availability of CT scans has made the prior studies obsolete.

This book is not written for physicians, therapists, or nurses, but for patients at risk for lung cancer, who have or have had lung cancer, and for friends, relatives, and supporters. The central message is that there is hope for lung cancer victims, even if their caretakers tell them that "there is nothing more to be done." This valuable message is repeated throughout the book. The authors recommend second, third, or even more opinions and urge the reader to seek the most renowned and experienced clinicians, even if it takes a long time to get to see them. They emphasize the roles of chest radiation therapists, chest oncologists, and chest surgeons (but not chest physicians!) in making decisions. The most useful aspect of the book is the extensive referencing of books, articles, telephone numbers, and especially the Internet. Telephone numbers and Web sites are referred to frequently, as are support groups and patient advocacy organizations. There are many references to the resources and policies of the Alliance for Lung Cancer Advocacy, Support, and Education.

The first 2 chapters introduce the subject of lung cancer and its detection. The authors explain that lung cancer is a common illness and that the cigarette smoker should not let guilt dictate his/her actions. Chapter 3 provides basic information about the lungs and how they work, and Chapter 4 discusses the development and spread of lung cancer. In Chapter 5 Dr Henschke reviews early detection, with a strong emphasis on serial spiral CT lung scans for patients at risk. Smoking and its grim rewards are the subject of Chapter 6. The authors point out that women are highly at risk and that smoking filtered or mentholated cigarettes or a pipe or cigar does not decrease the risk. Chapter 7 is devoted to helping the smoker kick the habit and, in our opinion, is one of the more useful chapters. It reflects the experience of the authors in this subject.

Chapter 8 addresses detection of lung cancer, pointing out some of the less recognized but common symptoms of early lung cancer and emphasizing the fact that when complaints such as chest pain or hemoptysis appear, the opportunity for a cure has probably already passed. The staging of lung cancer is explained simply and understand-

ably. In Chapter 9 the authors discuss the stages of emotional response that most patients experience when told they have lung cancer, from denial through hostility and from dependence to acceptance. Resources, including friends, family, support groups, and church members, are reviewed.

The treatment of lung cancer is discussed beginning in Chapter 10. The authors advise getting the best possible advice and participating in decisions regarding treatment. Resources for getting second opinions are provided, and special problems are reviewed, such as pregnancy, the patient's job, and whether to accept experimental treatment. Medical record keeping is discussed, and a 3-page form for recording medical data is included.

Chapter 11 is devoted to lung cancer surgery. There is advice about choosing an experienced surgeon with proper credentials. The preoperative workup and postoperative recovery period are reviewed. This is the only place in the book where we found a specific reference to respiratory therapists (though referred to with the misnomer "respiration therapists"), with regard to spirometry instructions. There are 2 references to physical therapists, but none to pulmonologists, critical care physicians, or critical care nurses, even during postoperative recovery.

Chemotherapy is covered in appropriate detail in Chapter 12. The authors discuss how chemotherapy is administered, as well as the adverse effects and how to deal with them. They include such practical matters as how to buy a wig, how to deal with oral and digestive problems, and loss of appetite. Chapter 13 is on radiation therapy, and since this is Dr Henschke's field of practice, it is covered expertly and completely. In Chapter 14, "Getting Access to the Latest Treatments," the authors discuss the advantages and disadvantages of clinical drug trials and how to participate in them. Resources for further information are included.

Chapter 15 discusses alternative and complementary therapy. Some controversial remedies are covered, and hypnosis, acupuncture, and other pain relief methods are reviewed. The wrist pressure method for relieving nausea is described in detail. Though the authors are sympathetic to alternative approaches, they do advise the patient using those therapies to tell his or her physician.

Chapters 16 and 17 are devoted to the post-treatment period. Follow-up care is discussed in detail from the patient's viewpoint. The authors advise chest CT scans at least annually. In Chapter 17 the patient is instructed on how to deal with fatigue, pain, breathlessness, anxiety, depression, and sexual problems. Chapter 18 is a brief message to caretakers; it discusses such common issues as anger at nonparticipating family members, caretaker burnout, and use of support groups. Here again an extensive and specific list of resources is provided. Chapter 19 is probably the most useful chapter in the book. It discusses such practical issues as financial problems, legal issues, estate planning, and end-of-life decisions, including advance directives to physicians (living will) and assigning durable power of attorney. Finally, Chapter 20 is titled "It's Never Too Late to Hope." It discusses the last days of life, hospice care, saying goodbye, and funeral arrangements. An extensive glossary defines the many medical terms related to lung cancer diagnosis and care, and a thorough and helpful index is provided.

In general this book achieves its goal of providing a resource manual for lung cancer patients and their caretakers. One of the present reviewers (JSA) has had close personal experience with lung cancer (her mother, sister, and husband all died of lung cancer; all were heavy cigarette smokers). She strongly recommends the book as a resource for anyone involved with the disease and believes that the book would have been valuable to her. In her words, "This book should be required reading for all smokers." We think Chapters 8, 13, 15, and 19 and the glossary are the most useful. We recommend that respiratory therapists suggest this book as a resource for their lung cancer patients. The book is somewhat expensive, but the extensive list of resources is probably worth the cost.

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Physician's Guide to End-of-Life Care.

Lois Snyder JD and Timothy E Quill MD, editors (American College of Physicians-American Society of Internal Medicine End-of-Life Care Consensus Panel). Philadelphia: American College of Physicians. 2001. Soft cover, 267 pages, \$35.

Physician's Guide to End-of-Life Care

is a collection of 13 articles on various topics involving end-of-life care. It was conceived and developed by the End-of-Life Care Consensus Panel of the American College of Physicians-American Society of Internal Medicine (ACP-ASIM), supported with outside funding, and approved by the ACP-ASIM Ethics Committees. Most of the authors are members of the consensus panel and are nationally known for their work in end-of-life care. Seven of the articles were previously published in shorter versions (6 articles in the *Annals of Internal Medicine* and 1 in *The Journal of the American Medical Association*) in 1999-2000, the citations for which are in the book's acknowledgements. As the title suggests, the book is for physicians, although the information is useful to other caregivers as well.

Considering that the majority of the chapters were previously published, probably without this particular book in mind, the articles do not necessarily follow a logical pattern. The editors grouped the chapters into 3 sections: "I. Interview and Relationship Building", "II. Pain, Depression, Delirium, and Intractable Problems", and "III. Legal, Financial and Quality Issues." In general the book appears to be an effort to give a greater distribution to and awareness of the 7 previously published articles, with the 6 other chapters assigned to various authors to fill gaps in the content. The mechanism for the choice of topics is not clear, as these are just selected subjects, and in this format the book is not expected to be a textbook on palliative care medicine. Certain topics are not addressed, including spirituality and hospice care. It is therefore not really a "physician's guide." Nonetheless, the book provides a handy resource tool for the topics that are included.

The editors describe the intent of the book in the introduction, pointing out problems

and gaps in end-of-life care in the United States and emphasizing the recent increase in attempts to improve the quality of that care. The charge to the consensus panel was to identify challenges in and opportunities for improvement of end-of-life care and to offer consensus recommendations on how to better address these problems. Their instructions to the authors were to include at least one clinical case study to demonstrate the practical impact of the recommendations on a physician's practice routines. Other than that common structure, the writing styles and formats differ.

Section I deals with the physician-patient relationship, devoting nearly a third of the book's chapters to that topic, which emphasizes how the strength of this relationship or lack of it can impact care delivery. Scripted phrases are offered, using a case presentation as an example. In contrast to other publications, there are no specific recommended schema or general applications on how to discuss palliative care with patients, or when to do it, particularly when the physician might still be giving curative treatment. Nonetheless, there is an attempt throughout the book to expand the physician's focus beyond the dying patient to those who are seriously ill, asking the physician-reader to say whether he or she would be surprised if a particular patient died in the next 6 months. Identifying such patients serves to increase the physician's awareness of the need to address the various topics in this book. Addressing cultural differences is well described in Section I, as well as the physician's roles and responsibilities in palliative care.

Section II addresses management of the symptoms often seen in the seriously ill, such as pain, depression, and delirium. Section II also covers the common experience of addressing the needs of patients who die in a critical care unit, where caregivers often must switch from rescue efforts to providing comfort care only. The authors do a good job of discussing these issues, including responding to intractable suffering and the ethical dilemmas associated with terminal sedation and a patient's voluntary refusal of food and fluids. The section ends with a practical approach to grief and bereavement following the patient's death.

Section III addresses the legal barriers to end-of-life care, describing the myths and realities, and expanding on previously published material on this important topic. This section also addresses the financial obsta-

cles to providing quality end-of-life care. Two of the chapters were written by Dr Joanne Lynn (a leader in addressing this problem) and her colleagues at the Center to Improve Care of the Dying, at George Washington University. They conclude the book with a chapter on methods by which individual physicians and health care systems can utilize techniques of quality improvement to improve care near the end of life.

This book is well written, its strengths coming from the expertise of the authors and the case examples provided in each chapter. Although it is not intended to cover all aspects of end-of-life care, it is a useful resource for physicians and other health care providers. Although more than half of the articles can be obtained in their previously published form from the local medical library, the book's cost of \$35 is worth the price to have them readily available in one bound version, further enhanced by the additional chapters. Despite its limitations, this book is a good introduction to end-of-life care and should be read by all who are involved in the care of seriously ill and/or dying patients.

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Medical Law, Ethics, and Bioethics for Ambulatory Care, 5th edition. Marcia A Lewis EdD RN CMA-AC and Carol D Tamparo PhD CMA-A. Philadelphia: FA Davis. 2002. Soft cover, illustrated, 259 pages, \$24.95.

Medical Law, Ethics, and Bioethics for Ambulatory Care, 5th edition, is a useful resource guide for health care staff in both ambulatory and hospital settings. Each chapter has identified learning objectives and discussion questions, and most chapters also include a list of definitions, vignettes, and critical thinking exercises. The material should be understandable to health care staff in various disciplines and could be used in training new employees as well as for professional development discussions with experienced staff. The "quick reviews" included throughout the chapters pose ethical and legal questions that challenge the reader.

The book incorporates a large amount of thought-provoking material into each chapter and covers it thoroughly. The book is clearly written and well organized. The table of contents provides detailed headings that are carried over into each chapter. The graphs, charts, and figures are easy to read. I found the charts in Chapter 4 especially helpful in illustrating the trial, misdemeanor felony, and probate case processes. Appendix I provides a variety of codes of ethics specific to physicians, medical assistants, and medical research involving human subjects. Appendix II includes examples of a Washington State health care directive, durable power of attorney, and donor forms.

The book does a good job of describing a durable power of attorney but could have gone a step further to point out that a health care power of attorney can be combined with a general power of attorney form (which focuses primarily on finances). Since not all medical staff are familiar with these documents, it would have been worthwhile for the editors to bring this to the reader's attention and encourage health care staff to review these documents carefully or to have experienced staff available who can review the documents when they are presented by patients and families. One of the most common mistakes made by medical staff is to accept these documents without reviewing them, only to find out later that the document is invalid because the patient never signed it or the document did not include a health care clause. Frequently, patients believe their document includes a health care clause, but medical staff may discover that the document relates only to finances. Such a scenario is problematic, especially if the patient is now incapable of completing a new document. The book accurately points out that each state has established rules governing the use of a durable power of attorney. It would have been helpful to point out that although some states (eg, Washington State) do not require a power of attorney to be notarized, several institutions recommend notarization because the document may not be acknowledged in another state if the patient travels.

I was glad to see a chapter devoted to consent issues. The book identifies some of the problems that arise, especially when dealing with minors and issues of emancipation. The authors also discuss how language can be a barrier to informed consent if an appropriate interpreter is not present. I was hoping to see a broader discussion about

the hierarchy of legal next-of-kin and how the various state laws differ regarding that hierarchy. It is of utmost importance that medical staff in ambulatory and hospital settings understand their state's hierarchy when confronted with a patient who is incapable of making his or her own decisions and no durable power of attorney has been appointed. The medical staff may need consent for a procedure and should not assume that a person who came to the clinic with the patient is the legal next-of-kin. There are instances in which knowledge of the hierarchy of legal next-of-kin is crucial. If the medical staff does not have the hierarchy memorized, an identified person on staff should be consulted.

The chapter on consent briefly mentions guardians. I would have liked to see this chapter further discuss the process of appointing guardians, which is a topic frequently misunderstood and at times frustrating for medical staff. Appointing a guardian can be a time-consuming process and may involve the interim appointment of a guardian ad litem (GAL). GAL duties may differ, as may the extent to which the GAL gets involved in decision-making on the patient's behalf. This becomes extremely im-

portant when the health care team is trying to get consent issues resolved. The health care team should meet with the GAL to gain an understanding of what its role will be and what expectations the GAL has for the medical staff. It has been my experience that not all medical staff understand that GAL is an interim appointment until the legal guardian has been appointed. In addition, medical staff should be aware of the cost of obtaining a guardian, as that can be a deterrent for families. When patients have no family involved, medical staff should know their institution's protocol for seeking a guardianship or identifying other means for addressing this issue.

The strength of **Medical Law, Ethics, and Bioethics for Ambulatory Care** lies in its broad spectrum of topics and reader-friendly quality. The book is to be credited for encompassing such diverse topics as public duties (Chapter 6), medical records (Chapter 8), and reimbursement and collection practices (Chapter 9). Chapter 13, "Genetic Engineering," contains a thought-provoking discussion on advancements in that technology. I was impressed with Chapter 11, "A Cultural Perspective for Ambulatory Health Care," and its recognition of health

care workers who facilitate cross-cultural communication. The chapter presents a thoughtful discussion of the basic components of cultural diversity, including age, gender, sexual orientation, and ethnicity. Chapter 16, "Dying and Death," is to be commended for its focus on the psychological aspects of dying and pointing out that those aspects, although frequently less tangible, may be difficult not only for the patient and family but for medical staff as well.

The book achieves its goal of serving as an exceptional resource guide for understanding the basic concepts of medical law, ethics, and bioethics. It can be used to grasp basic concepts and offers a heightened awareness through case examples. The audience is wider than just ambulatory care staff; the book could be used by clinicians across many disciplines and various levels of experience. It is an excellent reference guide that I will use often when training interdisciplinary staff.

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