

Tracheostomy: A Multiprofessional Handbook. Claudia Russell and Basil Matta, editors. London: Greenwich Medical Media Ltd. 2004. Soft cover, illustrated, 392 pages, \$32.99.

As someone who believes strongly that critical care medicine is best practiced in a multidisciplinary setting, I was intrigued by the title, **Tracheostomy: A Multiprofessional Handbook**. The practice of tracheostomy has been around a long time and yet continues to engender substantial controversy, particularly with regard to indications and timing of the procedure. This is of particular note when considering the increasing practice of percutaneous tracheostomy in the intensive care unit (ICU).

The overall practice and care of tracheostomy demands involvement from a variety of associated disciplines, which forms the basis of the initial appeal of the book's title. I was also interested to review a British title, having trained in the United Kingdom.

My initial enthusiasm was tempered, however, by substantial variation in quality of the 22 chapters that compose the book. The authorship is predominantly based around Cambridge in the United Kingdom, a well-known academic center, and includes anesthesiologists, otolaryngologists, physiotherapists (a British equivalent of respiratory therapist), speech and language therapists, tracheostomy support nurses, oncologists, nurse practitioners, nutritionists, and even a parent and caregiver of a tracheostomized child! This is both a source of strength and a weakness of the book, where diverse opinions and experiences are brought into play, offering valuable new perspectives to many, but at the expense of clarity, conciseness, and readability.

Logically enough, the first chapter presents the anatomy and physiology of the respiratory tract. This is perhaps the most disappointing chapter and makes for an initially bad impression. It is poorly structured and badly integrated, with a mixture of oversimplified anatomy and needlessly complex physiology. There was no overall conceptual illustration of how the system works. This would have been useful for readers drawn by the multi-disciplinary title but who

are less familiar with the airways than physicians or respiratory therapists. There were, instead, a loosely conglomerated collection of facts and concepts in the style of key points, including the neuronal composition of the respiratory center in the brain, lower motor neuron reflexes in the spinal cord, as well as the function of Clara and amine-precursor-uptake decarboxylase (APUD) cells in the alveolus. I seriously question the relevance of these latter elements in a text of this type. They seem to have been included for the sake of appearance rather than any contribution to the message.

Even more disappointing were a number of errors and misconceptions (eg, a statement that pulmonary stretch reflexes have a minimal role in man). The author also mistakenly uses density rather than viscosity in the Hagen-Poiseuille equation (which describes airflow in the bronchi). The terms in the equation are unexplained and it again seems to have been included purely for show. If the author really felt the need to include this latter element in a text meant for a varied readership, she could at least have gotten it right!

The description of alveolar gas exchange is better, but the depiction of chest wall mechanics is poor. The key omission is the absence of any discussion of the effect of tracheostomy upon pulmonary function. Fortunately, this is covered to some degree in later chapters, but, overall, the reader would be much better served to look at other books for a clearer concept of the anatomy and function of the respiratory system.

The next 2 chapters define and describe tracheostomy, including the history of the procedure as well as the indications for and conduct of the surgical procedure. I found it curious that my main field of practice (patients with neurological compromise, either by brain or spinal cord injury) were omitted. There is a useful discussion of alternatives to tracheostomy and, thankfully, there are some details on the physiologic effects of the procedure.

Both chapters are by the same author, which perhaps explains the degree of repetitiveness in both writing and diagrams. Nonetheless, nonsurgical readers will benefit from the clear description of the operative technique, and all readers should take

note of a reasonable description of the immediate and late complications (apart from the implausible inclusion of hypocarbia-induced apnea!). One of my major complaints about the whole book is the quality of the photographs, which are gray, grainy, and far from clear. This is especially true of the photographs in this section.

The next chapter, written by intensivists, details the history, indications, prerequisites, and performance of percutaneous tracheostomy. Exclusion factors are discussed, but in over 10 years of performing these procedures, I consider requirement for a high positive end-expiratory pressure and a fraction of inspired oxygen ($F_{I_{O_2}}$) above 0.6 as important contraindications, and consideration of these factors was disappointingly absent.

I was also disappointed by the limited discussion and comparison of the percutaneous to the surgical technique, which would have been of key interest to the ICU practitioner.

A good discussion of those factors identifying a difficult airway follows in Chapter 5, although some mention of the sensitivity and specificity of assessment tools (eg, the Mallampati scale) would have been useful.

The chapter on tracheostomy tubes is organized sensibly, although oriented toward European manufacturers. However, I was puzzled by the insistence that cuffed tubes are not useful in the pediatric population because of the narrow cricoid aperture—which is *above* the tracheostomy. Better editing might have picked up that this is relevant to orotracheal intubation rather than tracheostomy. Similarly, the photograph of a pediatric cuffed tracheostomy tube is described as an uncuffed tube in the legend below.

Tracheostomy management in the ICU is the subject of the next chapter. This tends again toward repetitiveness, and I found myself wondering if the editors of the book had tried to edit together as a whole, or merely compiled it. It is not a large enough text to encourage the isolated reading of chapters, which is perhaps the only justification for the repetition of indications, complications, and tube selection. However, the description of physiologic consequences of

tracheostomy in this chapter makes much better reading than Chapter 1.

The chapters on humidification and suctioning are written clearly and offer insight into often overlooked facets of respiratory care. They are diminished only by the inclusion of poor-quality photographs.

Wound care is again sensibly dealt with, and the discussion of materials is informative, although the detail is slightly over the top. I suspect that many practitioners do not need to be educated in how to change a Velcro tube holder.

Swallowing is a key element of normal physiology that is substantially affected by tracheostomy, and there is an excellent mechanistic analysis of this. Again, the photographs are terrible, and a good diagram would have been much more effective. The diagram illustrating that normal airflow goes down the trachea appears to be somewhat redundant to a reader with any medical background whatsoever.

This does not prevent its inclusion again in the next chapter, on communication, which, apart from the degree of repetition, enjoys a reasonably well structured and logical approach that I found useful.

Changing the tracheostomy can be a source of stress and anxiety to patients, caregivers, and practitioners, and the subject is well dealt with in the next chapter, with particular regard to the preparations required. It includes an algorithmic approach to tube displacement that is reasonably clear and structured.

More electively oriented decannulation is the subject of Chapter 14. There is, again, substantial repetition, this time on the subject of the dye test outlined in the swallowing chapter, but apart from this the approach is sensible. I found the inclusion of some of the author's own charting material somewhat superfluous. I suspect most readers do not need to see an empty chart that records how long the tracheostomy was capped.

The over-presentation of material is continued in the chapter on tracheostomy and head and neck cancer, which goes into far too much detail on the principles and complications of radiotherapy, with no particular relevance to tracheostomy. The description of the effects of radiation on the tracheostomy site are almost an afterthought at the end of the chapter, but perhaps compose the key elements of interest in radiotherapy to most practitioners involved in airway care.

The concepts of long-term tracheostomy and supportive care are dealt with next. Most of the points are sensibly made, but, again, with repetition and an excess of the chapter author's own sample charting materials. A reference to an Internet site for optional downloading may have been more useful and considerably more concise. A list of educational aids and manufacturers is oriented toward British suppliers.

Substantial mention is made in preceding chapters of some of the particular requirements and features of pediatric patients. However, there follows a dedicated chapter on pediatric tracheostomy, accompanied by successive chapters on nursing care of the child with a tracheostomy, children's tracheostomy care in the community, and "Evie's Story," an account of a parents' experience of their child's tracheostomy. While superficially interesting in a "magazine article sort of way," this latter was of questionable relevance, especially given the content of the preceding chapters. The entire section could and should have been amalgamated and massively edited, to remove what was rapidly becoming (for me) tiresome repetition. This would considerably improve readability. I am at a loss to understand the requirement to have all these separate chapters focusing on the aspects of pediatric tracheostomy care, which, as the authors state, is unusual and largely confined to specialist centers and services.

A section on infection control is necessary in any consideration of procedures undergone by ICU patients. Some of the facts and figures are irrelevant to a non-British audience, but serve to communicate the considerable cost implications of infection—a message that can never be understated. The discussion of pathogens and treatment strategies is appropriate, particularly as they confirm my own prejudices about inadequate staff hand-washing!

The book's photographs let it down again, unfortunately. I really do not see the point in including a poor-quality photograph of agar plates containing pseudomonal and streptococcal growths in a book aimed at multiple specialties. It seems to be an illustration purely to fill a space rather than to inform.

The final chapter looks at nutrition of the tracheostomy patient and is a sensible discussion of the dietary requirements of such patients, with relevance to their predisposing illness that may have induced the requirement for tracheostomy, the debilitat-

ing effects on glutition, and the common malnutrition affecting the ICU patient.

My overall impression is of a substantially uneven book. The elements that appealed to me most were those commonly overlooked in those texts oriented toward physicians (ie, swallowing, humidification, suction care, and tracheostomy materials), and I would recommend these to any practitioner. It is a worthwhile description of the surgical and percutaneous techniques, but Chapter 1 does it an immense disservice. The overall editing of the book leaves a lot to be desired in terms of content and errors, and the repetition and poor-quality illustration impair its reading. This is accentuated by the poor standard of punctuation in many chapters; many sections have to be read twice in order to establish the sense of the text. A good editor might have picked up these faults.

It is not a substantially expensive book, and perhaps that may be its most attractive feature.

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Clinical Scenarios in Thoracic Surgery.

Robert Kalimi MD and L Penfield Faber MD. (Clinical Scenarios in Surgery series). Philadelphia: Lippincott Williams & Wilkins. 2004. Hard cover, illustrated, 322 pages, \$99.

In an intellectually impacted environment such as residency, where data are absorbed and expunged on a daily basis, it is a pleasure to read and learn from a text that attempts to translate textbook information into readable and memorable case-by-case prose. As one can imagine, this is not an easy feat to accomplish, considering the scope of thoracic surgical information a text would like to impart. My desire to employ this book as a method to impress my superiors was sparked by the anxiety of having to work and learn from an experienced thoracic surgeon. During the few remaining days of my general surgery residency, I scurried to find a text that would allow me to learn "the natural flow of thoracic surgical-decision making, progressing from the patient's clinical presentation, through diagnostic findings, to follow-up tests, the surgical ap-

proach, and outcomes.” Although I must credit this book with helping me gain much initial knowledge to begin my thoracic surgical training, I think, in fairness, an objective critique praising particular aspects of the text while constructively criticizing others would allow future editions of this book to expand and prosper. This is a text that can be useful not only in the setting of thoracic surgery training but also in thoracic surgery practice, both private and academic. Considering that the text is divided into presentation, recommendations, surgical approach, outcomes, and discussion, the review will focus and comment on each segment described.

For the most part, the clinical presentation for all 58 case scenarios is straightforward, to-the-point, with pertinent positives, and clearly displayed radiographs. One of the more impressive case presentations (Case 11, page 59) depicts a 62-year-old man with the diagnosis of malignant mesothelioma. This particular presentation refers to chest radiographs and computed tomography scans rhythmically and memorably, such that the reader, the student, the surgeon, indelibly remembers and correlates the clinical presentation with the radiologic presentation. Case 13's (page 69) presentation is less impressive. The chest radiograph does not clearly stay in memory with the clinical presentation of a 46-year-old man's chest-wall tumor; however, the computed tomography scan does. Case 14 (page 75) clearly presents a 62-year-old woman with an intratracheal tumor and again provides a memorable chest radiograph that the reader will not forget and will apply to his or her practice.

In summary, the presentation text for the most part is consistent, pertinent, and memorable; however, the radiology can be inconsistent, with some cases more memorable radiologically than others. It must be noted that surgeons are visual people, and imaging may be more important than text. As well, training surgeons for the most part are competitive people, and an attempt to not reveal the radiograph results or diagnostic results in the presentation may also provide further learning experience for the reader. Future designs for an accompanying compact disc would allow for an even more interactive learning experience, the opportunity to test board-like questions, and to further expand the depth of this case-by-case dynamic learning process.

There are brief sections in the text that have great insight into the diagnostic process. The impressive aspect of these segments is their brevity and their almost “board-like” response—again, one more strong point of this text that will allow thoracic surgeons to review for their certification and recertification boards. The recommendation section goes on to reveal laboratory, radiographic, and histologic results. For the most part, the pictures and laboratory results also aid in understanding the disease process and ultimately pointing to the appropriate surgical intervention. However, one weakness is noted regarding esophageal dysmotility and the description of an esophageal manometric result. Case 12 describes a patient with achalasia, ultimately requiring esophageal myotomy. Like most thoracic texts, the description of esophageal dysmotility disorders is rather undervalued and neglected. Thoracic surgery most definitely encompasses the world of benign esophageal disorders and should expound accordingly. The depiction of manometry is downplayed and brief. Most thoracic surgeons are not familiar with esophageal manometric and pH studies. Therefore, further benign esophageal cases with detailed study results in the next edition would greatly benefit the practicing thoracic surgeon and would strengthen the generally weak understanding of the surgical treatment of esophageal dysmotility.

In between pages 114 and 115 are a series of gross specimens with respective histologic slides. These are very helpful because they strengthen the clinical/pathological correlation of the case and because thoracic surgery written boards do examine histology. The series depicted in this text is somewhat limited and biased and is sequestered to these pages because they are color plates. This is a little confusing. Although there are practical reasons for placing these gross and microscopic photographs together, for ease of reading and learning it would help to have the gross specimens and histopathologies shown in the context of the case.

The surgical approach obviously is the most important part of the text for surgeons. At times, for example page 15, the surgical approach is backed up by an operative diagram, which is truly helpful but is not consistently provided. However, the description of the operation for the disease process described is detailed and appropriate for someone learning the fundamentals of the surgi-

cal approach or reviewing basics. The descriptions are not generally tailored for an experienced surgeon to attain new ideas. Following the surgical approach is a brief discussion of outcomes following surgery. The outcomes are only touched upon and rather brief. Certainly more details regarding surgical outcomes would be encountered more appropriately in a surgical text. However, having available references at the end of the discussion can be helpful and would be appropriate for this text, especially if its strong point is to educate as a review for thoracic surgeons. In all fairness, there is a “selected readings” section that is allocated to the end of the book and is organized per case with 3–4 references per case.

Overall, the text is a wonderful way to relate textbook topics as captivating case scenarios that allow for ease of learning without confusing minute details. This book may be one way to quickly review for an exam, or perhaps gain memorable clinical experience prior to a specific new case as a thoracic surgical trainee or junior attending. It would help to have the cases organized per organ disorder, rather than arbitrarily assigned. An esophageal section, lung section, thymus section, and chest wall section would be much more helpful for the reader seeking quick board-review-type learning.

All in all, this text is valuable for its memorable and captivating way to learn about thoracic surgery and study for board exams. Case presentations take advantage of the need for more interactive teaching in the adult learner, and present the material in a practical way similar to how we see it in practice. I not only enjoyed the reading and visual experience but subsequently sought other books and interactives that offered similar experiences. I have not found a text similar to this one. However, I must admit that the rather flawed *Self-Education/Self-Assessment in Thoracic Surgery* (SESATS) mimics the similar clinical scenario learning process, with much to be improved; but that is another review.

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Evidence-Based Management of Patients with Respiratory Failure.

Andrés Esteban MD PhD, Antonio Anzueto MD, Deborah J Cook MD, editors. (Update in Intensive Care and Emergency Medicine series, volume 41, Jean-Louis Vincent MD PhD, series editor) Berlin: Springer-Verlag. 2004. Hard cover, illustrated, 171 pages, \$129.

Delivery of critical care requires both the insight-driven application of accumulated experience—"the art of medicine"—and the meticulous application of those few hard-won nuggets of data that have passed the test of scientific rigor. It is in service of the latter that **Evidence-Based Management of Patients with Respiratory Failure** is offered as an installment in the *Update in Intensive Care and Emergency Medicine* series.

This slim volume is composed of 17 chapters that cover topics both specific to the respiratory intensive care unit and of more general interest to those delivering intensive care. The respiratory intensive care chapters include those on the epidemiology of acute respiratory failure and the utility of monitoring pulmonary mechanics. The more general-interest chapters include venous thromboembolism prophylaxis and the efficacy of hand-washing for prevention of nosocomial infection. Several "bread-and-butter" respiratory critical-care topics with important evidence bases are here as well, including ventilator-weaning, lung-protective ventilation for acute respiratory distress syndrome, exacerbations of chronic obstructive pulmonary disease, ventilator-associated pneumonia, and noninvasive ventilation. The editors, who are respected researchers in evidence-based critical care, recruited contributors primarily from Europe, South America, and Canada. Drs Esteban, Anzueto, and Cook state in the introductory chapter that the intent of the book is to "critically review and discuss the clinical evidence available for the diagnosis and management of patients with respiratory failure." They do not explicitly target physicians, nurses, respiratory therapists, or technicians, although this is a text written by physicians and seems to address concerns usually within the primary purview of the doctor rather than the nurse or therapist. The editors state their intent to adhere to the usual structure of evidence-based medicine publications in describing more fully the literature-search strategies used by their contributors, the form that the reviews were

intended to take, and the methodologic grading system employed by the authors.

Strengths include an appropriate emphasis on studies examining patient-centered outcomes, the thoroughness of those chapters covering the better-studied areas, and the admirable and entirely justified brevity of chapters dealing with certain practices, both diagnostic and therapeutic, with virtually unstudied patient-centered outcomes. Additionally, the editors attempt to specifically discuss this issue of choice of end points.

Certain chapters adhere more closely than others to the usual structure of evidence-based-medicine publications. Those on the differences in use of various ventilator modes, chronic obstructive pulmonary disease exacerbation, ventilator-associated pneumonia, tracheostomy, sedation, and current trials all describe the search strategy implemented. Each of these chapters, as well as those on weaning and on noninvasive ventilation, include some type of formalized grading of the quality of evidence presented. Most chapters include a chart comparing the important studies in the field of interest—a valuable bibliographic resource for a newcomer to the topic.

The best chapters in the collection are well conceived and well organized. The chapters on chronic obstructive pulmonary disease exacerbation, weaning, noninvasive ventilation, and tracheostomy are complete, concise, and readable enough to serve as "one-stop-shopping" for readers of any discipline who wish an update on the current evidence in the field. I was excited at the inclusion of a chapter explicitly addressing the important topic of the effects of choice of outcome in clinical studies of acute respiratory distress syndrome/acute lung injury. This issue of physiologic versus patient-centered outcome is an important one to critical-care evidence-based medicine as a whole, and is wisely included in this collection.

On the negative side, the authors' execution of the editors' intent varies widely. A few sections, such as that on the general approach to respiratory failure, contain awkward phrasing that could have been readily addressed by the editorial staff. The space and effort allotted to critique of the evidence base and to placing studies into the context of daily practice varied widely among chapters.

For example, the section on tracheostomy extensively discusses the primary literature

in the field, but ultimately acknowledges the lack of definitive clinical data while still attempting to make reasonable and evidence-driven recommendations. In counterpoint is the fascinating but out-of-place chapter on new advances in diagnosis and treatment of respiratory failure. The authors explicate well the science at the frontier of the field, including neurally adjusted ventilatory assist, ventilogenomics, and the molecular biology of immunomodulation in acute lung injury, but the section has little to do with "evidence-based management of patients with respiratory failure."

Important weaknesses ultimately diluting the effectiveness of the evidence-based-medicine message include the heterogeneous application of the rigorous review standards proposed by the editors and the clear enthusiasm of some authors for certain publications at the expense of others within the field.

For example, the authors of the chapter on ventilator-associated pneumonia offer an interpretation of an important, large, well-structured, and well-executed randomized clinical trial (that of Fagon et al) and conclude that the results are "useless." They proceed to omit the study from the list of those useful in generating summary conclusions. While critical evaluation of the protocol of a clinical trial is acceptable, summary dismissal of the trial as fatally flawed should be done only with reluctance. When such a study is ruled inadmissible for consideration, but two of the author's own publications (which happen to have drawn the opposite conclusion) are included, a reviewer wonders whether a refresher in the rules of evidence-based medicine would be useful. At the very least, a novice to the field will be left unawares, with a skewed notion of what evidence exists and of the consensus as to its quality.

The inclusion of a moderate number of studies examining physiologic surrogate end points, such as those discussed in the section on monitoring of respiratory mechanics, may confuse the reader who is unaware of the usual hierarchal primacy of clinical outcomes of death and disability typically applied in critical-care evidence-based medicine.

In this same vein, the editors chose to include chapters on subjects either poorly addressed in the current evidence base, such as utility of physiologic monitoring, and on others only tangentially related to respiratory failure (a chapter on infection control

largely focuses on hand-washing). In addition to the concerns about surrogate end points raised above, one worries that these additions may distract the reader interested in the detailed understanding of what evidence does exist regarding the stated topic of the book. On the other hand, this does serve to illustrate the important point that much of what is done in the intensive care unit on a daily basis is living the life unexamined.

Structurally, the book is clearly printed and easily read. A rapid search through multiple chapters would be facilitated by standardizing both the placement of charts of references and the structure of each chapter into sections on search strategy, methodology grading, study critique, and summary recommendations. Illustrations are few and the index brief.

However, a more serious critique is whether, given current information technology, the hardback book is the appropriate repository for information in a rapidly changing field. The most recent references discussed in this text (published in 2004) are dated 2002. By definition, a book like this will be out of date as soon as any new high-quality studies are published, and for \$129 I have serious reservations as to the wisdom of the investment for either individuals or libraries. Thus, although certain sections of this text are exemplary and clearly live up to the editors' ambitions, their publication in hardback form is more important as an opportunity to contemplate the ongoing challenge of disseminating new data and placing the data in clinical context.

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Interventional Pulmonary Medicine. John F Beamis Jr MD, Praveen N Mathur MBBS, Atul C Mehta MBBS. (Lung Biology in Health and Disease series, volume 189, Claude Lenfant, executive editor) New York: Marcel Dekker. 2004. Hard cover, illustrated, 689 pages, \$195.

This book is an outstanding resource for physicians, respiratory therapists, bronchoscopy technicians, nurses—anyone who is interested in learning more about interventional pulmonary medicine! The topics range from the usual rigid bronchoscopy and flexible bronchoscopy chapters to less-addressed topics such as whole-lung lavage, medical thoracoscopy, and gene transfer. The book is easy to read, with chapters about many topics in interventional pulmonary medicine. Each chapter deals with a different mode of intervention. Some subjects got more than one chapter (eg, photodynamic therapy and medical thoracoscopy), and in those cases, each of the chapters contributes to a broader knowledge of the subject. Until now I have used several texts as references for the variety of interventional pulmonary techniques and therapies; however, this is an excellent start for a one-stop reference. The excellent index also makes it an easy reference text. Another positive attribute of this book is the outstanding international authorship. The “giants” have contributed to this book.

If one has an interest in reading the primary literature, each chapter is well referenced, so original sources can easily be determined and sought. Most of the literature in interventional pulmonary medicine has been case reports and case series of procedures done with patients who have a particular condition, such as tracheal or main-bronchus narrowing due to tumor. When possible, the chapters review the evidence base, and this aspect of the book is commendable. Examples include the chapters

on laser bronchoscopy for malignant disease, silicone airway stents, and photodynamic therapy for early lung cancer.

My criticisms of the text are few. I found very few typographical errors. Few of the photographs are of mediocre quality, though that is sometimes hard to avoid if the choice of photographs is limited (eg, Fig. 2, on page 243).

I think this text will be valuable to many types of providers, as it discusses both the basics and the more complex issues within interventional pulmonary medicine, thus helping both practitioners and their assistants to prepare for and provide these procedures. Most chapters discuss the indications, contraindications, equipment, preparation, and technique. The discussions elaborate on procedures to improve safety, and they address many of the complications, both early and late, that one might encounter. I particularly appreciated the detail with which whole-lung lavage is described. It is an example of a procedure that might be necessary if one is not able to transfer a patient to a tertiary-care hospital. The extended discussion of the physiology of whole-lung lavage, during and after, is outstanding.

The breadth of the topics reviewed is extensive. Chapters discuss topics from rigid bronchoscopy, which many pulmonary books address, to gene transfer and quality of life after interventional pulmonary procedures. The price of this book is typical for this class of books. It is a good value for the quality with which topics are discussed and referenced. I appreciated the effort to touch succinctly and thoughtfully on a variety of subjects. Without any reservation, I recommend this text to readers interested in interventional pulmonary medicine.

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