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**How to Write, Publish, and Present in the Health Sciences: A Guide for Clinicians and Laboratory Researchers.**

Thomas A Lang MA. Philadelphia: ACP [American College of Physicians] Press. 2010. Soft cover, 389 pages, \$59.95.

When I received the invitation to review this book, I noticed that it was written by Thomas Lang. He coauthored, with Michelle Secic, an earlier book that I admire, "How to Report Statistics in Medicine" (first edition 1997, second edition 2006), which was also published by the ACP [American College of Physicians] Press. I use that book as a reference myself and cite it as a resource for others. So I jumped at the chance to read another book by him, and this new book exceeded my expectations.

Given the new book's title, it is not surprising that most chapter headings start with "How to" (eg, how to write effectively; how to write efficiently; how to display data in tables and graphs; how to write an abstract; how to write a grant proposal; how to write a journal article reporting original research; how to prepare drawings and photographs for publication; how to document biomedical images for publication; how to publish in a scientific journal; how to prepare and present a scientific poster; and how to prepare and present slides). The book also includes an overview of writing and publishing in the health sciences and a chapter on ethics in research and publishing.

Only one chapter overlaps between the old and new books. In this more recent book Lang gives a paragraph-by-paragraph description of how to write a report of original research, but refers to his earlier book for similar descriptions of "randomized controlled trials, cohort and longitudinal studies, case-control studies, surveys and cross-sectional studies, systematic reviews and meta-analyses, diagnostic test characteris-

tics, time-to-event (survival) analyses, economic evaluations (eg, cost-effectiveness analyses), decision analyses, and clinical practice guidelines" (page 158).

Lang addresses both clinicians and laboratory researchers who need to write, publish, or present to advance their careers. He uses examples and cites journals from both fields. His chapter on documenting biomedical images for publication has separate sections for clinical images and laboratory images. He also contrasts the conventions between the fields. He explains that most checklists for abstracts apply to clinical research, but not laboratory research; basic science journals are more likely than clinical journals to allow titles with declarative sentences giving results; and life science journals use different citation formats than social science, nursing, or basic science journals.

Lang's diverse experience shows in his sound advice, practical tips, and range of knowledge. He has edited and written about medicine and science and also taught scientific editing and writing. He advises young academics that books or book chapters rarely count as scholarly activity, and advises author groups to appoint a writing coordinator. He warns that journals may require authors to convert software field codes; posters made up of panels are easier to handle on a plane than posters in a mailing tube; and slides in portrait format may run off the screen when projected. Lang helped develop standards for reporting medical research, and so knows the consensus guidelines. He has taught medical writing internationally, so is familiar with United States, European, and Japanese policies on submitting nucleotide or amino acid sequence data, and with the Chinese Editology Society of Science Periodicals.

Lang disagrees with the medical writing establishment very gently. Checklists of requirements for reporting abstracts try to assess "the quality or validity of the research, rather than the adequacy of the abstract in communicating the relevance of the research to the intended readers" (page 102). "Journals using the AMA [American Medical Association] Manual of Style usually specify that conclusions not be indicated in the introduction, but a case can be made that they should be ..." (page 149).

Lang gives his opinions subtly. "[Investigators] found that trials with structured abstracts were no more completely reported

than were trials with unstructured abstracts. Oh well..." (page 107). "Some journals require industry-conducted statistical analysis to be verified by an independent statistician as a condition of publication. Curiously, no such condition is made for analyses by university-based statisticians" (page 155). After describing criticisms of medical communication companies, he merely says, "These practices are unethical, of course, but still common enough to be of concern" (page 200).

I wish Lang expressed his views more strongly and editorialized more. For instance, he could give strong warnings to authors about journals with publication charges and pay-for-publication journals. Since case reports are the fall-back for trainees fulfilling a requirement to publish, Lang's list of 4 journals that publish only case reports would seem to be very helpful. However, he does not mention that one of those journals requires an annual fellowship fee of \$185 for submitting a report, or that another has an article processing charge of \$790 for articles accepted for publication.

Lang illustrates concepts with examples, but he could have given more. He describes cases of suppressed research findings and early release of information critical to public health. However, he also could have described cases of publishing manipulated images and of failure to disclose conflicts of interest.

Lang describes some background research, but he could have told more. He cites investigations on how the Health Insurance Portability and Accountability Act affects research, how trial registries affect publication, and the prevalence of guest authors. However, he also could have cited investigations on the role of the last author in different specialties, how redundant publication affects meta-analyses, and the prevalence of ghost authorship. He applies "lessons from ... evidence-based writing and editing" (page 29), but does not tell us how that evidence was obtained or what it showed.

Since the book was written almost entirely by a single author, there is little overlap between chapters, and that overlap is cross-referenced. (Kevin DaSilva provided information and images for the section on documenting laboratory images.) Lang refers the reader to <http://www.PhDposters.com> for illustrations of posters. In fact, 5 of the 9 poster examples in this book also appear on that web site. While Lang cites each

investigator as the poster's source, he might have explained the relationship between him and <http://www.PhDposters.com> better.

An appendix contains "The Value of Systematic Reviews as Research Activities in Medical Education," based on an article Lang published previously. While the topic is interesting, it seems irrelevant to the scope of this book.

A book titled "How to Write, Publish and Present" should do those things exceptionally well, and Lang and the ACP Press met the challenge. The book is printed on clean white matte paper. The table of contents is listed twice, first in an abbreviated version, then in an expanded version. Switching between the 2 is like clicking on a web link. Plenty of white space allows wide margins, with quotations from Confucius, Socrates, Abe Lincoln, Edward Tufte, Ansel Adams, James Thurber, and others.

The reference numbers, bullets, and subheads are in a subdued contrasting color. The typefaces and type sizes being described are used to illustrate the point. The colors in photographs, posters, and slides reproduced well. The index is complete, with helpful cross-references between initialisms and expanded terms. For instance, the index includes both GIF and Graphic Interchange Format. The only errors I noticed were the outlining in Table 4-6; misaligned hanging indents in references numbered above 9; arrows possibly left out of a Program Evaluation and Review Technique (PERT) chart (Figure 6-2); and a few journal names not being italicized.

Published in 2010, the book is up to date, with references and web site accession dates through 2009. Lang's advice suits the current mode of writing. He suggests that "if a paragraph takes up more than one computer screen, consider breaking it into 2 or more paragraphs" (page 45) and notes that dot charts and box plots can be created in word processing programs. He includes discussions of electronic publications, submitting a manuscript online, and digital imaging.

This book is comprehensive and useful to a wide audience. Unlike many books on scientific writing and publishing, this one includes chapters on preparing posters and slides. Its advice and examples apply to both clinicians and basic scientists. If I had to

choose one book on this topic, this is the one I would pick.

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**Critical Care Medicine: The Essentials**, 4th edition. John J Marini MD and Arthur P Wheeler MD. Philadelphia: Wolters Kluwer Health/Lippincott Williams & Wilkins. 2010. Soft cover, 720 pages, 138 illustrations, \$69.95.

**Critical Care Medicine: The Essentials** is brought to us again by Drs Marini and Wheeler. This is the fourth edition of the book. The first edition was published in 1989, and since then the book has assumed its place as one of the core textbooks of critical care medicine. The authors describe the book as an in-depth overview of critical care medicine. While attempting to remain clear and concise, their goal was not to create a quick-look reference book to be carried on rounds; rather they wished to present a comprehensive overview of critical care medicine. I would argue they largely accomplished this goal.

**Critical Care Medicine: The Essentials** is divided into 2 sections. Section 1, entitled "Techniques and Methods in Critical Care," comprises 19 chapters. The initial chapters describe in detail cardiopulmonary physiology, both the normal and abnormal, and how to measure cardiac and pulmonary function. This is an important starting place, as good practitioners of critical care must be good physiologists. Our field requires a solid understanding of normal physiology and of how to manage the body's responses when things go awry. For example, Chapter 2 provides a detailed description of hemodynamic monitoring, including use of the pulmonary artery catheter. This is an excellent discussion of the pulmonary artery catheter. The use of this tool has dropped dramatically over the last several years, and many clinicians are losing the ability (or not even learning) to understand and interpret pulmonary artery catheter measurements. The authors provide a good review of this information. Perhaps as important, they discuss insertion techniques, troubleshooting, and how to ver-

ifying the accuracy of measurements. Section 1 continues with chapters ranging from mechanical ventilation to disorders of acid-base and electrolytes. The chapters on mechanical ventilation are well organized. The depth of material covered will be of use to both the student who has not yet had an introduction to mechanical ventilation and the practicing clinician trying to understand the ever increasing number of new ventilation modes.

General supportive care and quality improvement are discussed at the end of Section 1. Chapters focusing on these topics are welcome, as our understanding of the value of an interdisciplinary critical care team and effective communication within the intensive care unit continues to grow. Furthermore, discussions of cost-containment are becoming extremely important as we enter into a new era of health-care reform.

Section 2, entitled "Medical and Surgical Crises," has 19 chapters and focuses more on specific medical events commonly seen within the intensive care unit. When I first picked up the book I began reading from the beginning. While this provided a good review of cardiopulmonary physiology, I soon found myself jumping around from chapter to chapter, depending on the particular clinical questions I had. For example, upon taking care of a patient with potential non-convulsive seizures following a cardiopulmonary arrest I turned to chapter 34, on neurological emergencies. Later, I opened to chapter 26 to review infections in the immunocompromised host. I think most readers will utilize the book in a similar fashion. Fortunately the book is well organized and the reader can easily open it to relevant sections. Chapters are generally organized by organ system. Within each chapter there are easily identified sections dedicated to the illnesses one might expect to see in the intensive care unit. Chapters build upon each other and flow well, but are also thorough enough to stand alone. Each chapter also begins with a list of numbered key points. These numbers can also be found in the margins throughout the same chapter. I found this particularly useful. I could scan the key points at the beginning of each chapter and if I had questions about one of the key points I could rapidly search the chapter to find the associated number in the margin.

The primary audience for this book is medical students and residents. However, I believe the book provides more than enough