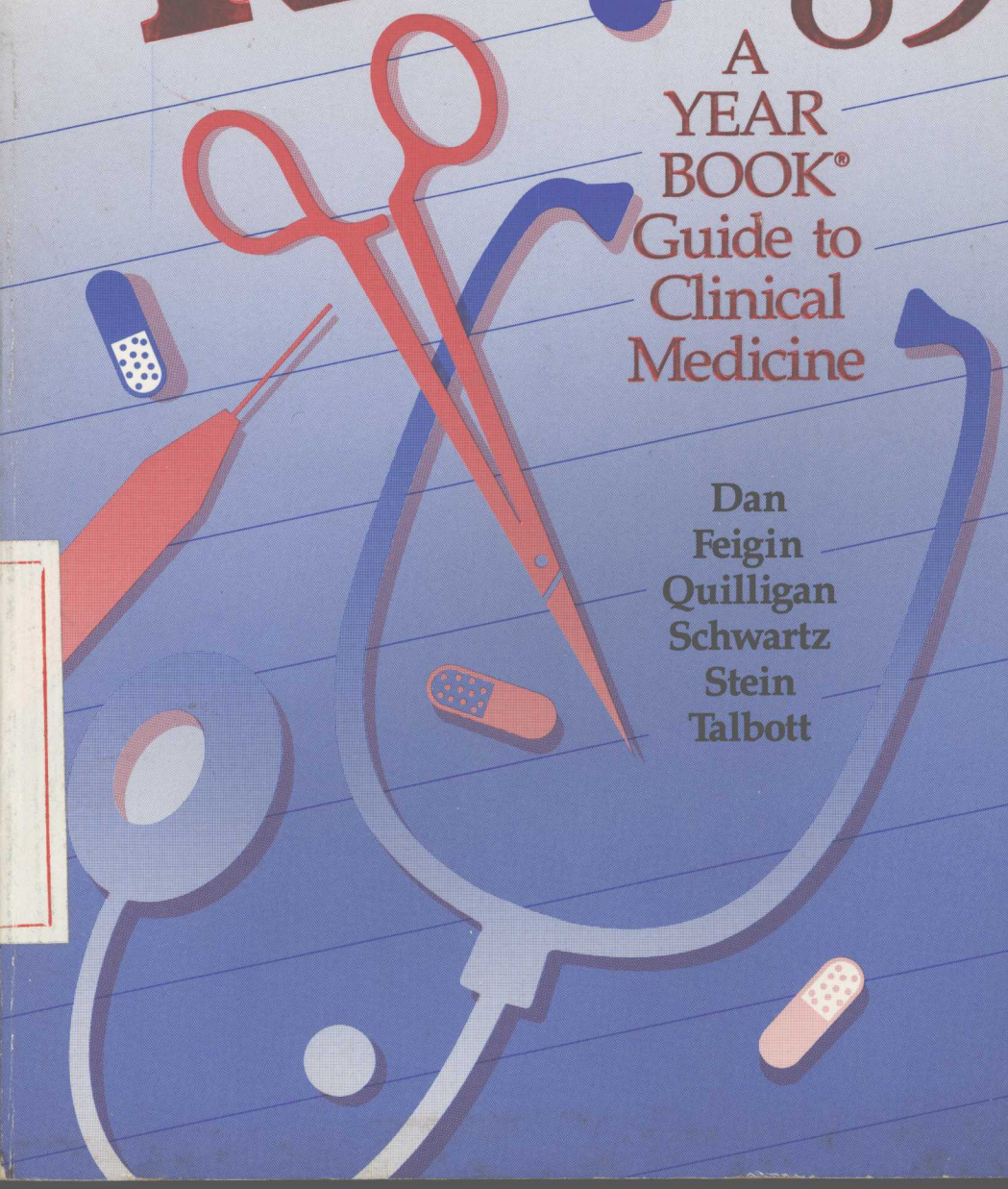
Roundsmanship '89

A YEAR BOOK® Guide to Clinical Medicine



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Roundsmanship '89:
A YEAR BOOK® Guide to Clinical Medicine

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Bruce B. Dan, M.D.

It is bad enough that a man should be ignorant, for this cuts him off from the commerce of other men's minds. It is perhaps worse that a man should be poor, for this condemns him to a life of stint and scheming, in which there is no time for dreams and no respite from weariness. But what is surely worst is that a man should be unwell, for this prevents his doing anything about either his poverty or his ignorance.

—G. H. R. Kimble

DEDICATION

This book is dedicated with the fondest of memories to Thomas E. Brittingham, M.D. (1924–1986), a teacher who may have influenced more physicians more intensely than any other person of his time. Those who had the privilege to know him still write notes on their charts in trepidation that somehow he might see them and be disappointed. Those who served under his tutelage also know that if he were to find out that we wasted our time writing a dedication to him, he would certainly disapprove.

Bruce B. Dan, M.D.

INTRODUCTION

'Round and 'round she goes,
where she stops nobody knows.

Clinical medicine seems to be a process of rounds. There are morning rounds, professor's rounds, Grand Rounds, attending rounds, work rounds, chart rounds, and plain old round rounds. The process apparently started with Hippocrates back in the 5th century B.C. as he took his acolytes around with him, walking among the sick in Greece. Rounds were where both diagnosis and treatment took place, and perhaps most importantly, teaching.

Rounds today are still the major teaching activity of clinical medicine, a chance to teach from experience and an opportunity to share new information. Rounds are sometimes serious, sometimes lighthearted, but always informative.

Roundsmanship '89 is an attempt to provide information in the same way. We have gathered together a prestigious group of clinicians to select the most important articles published in the medical literature during the past year and to provide their own thoughts on why these are so important. You will also find scattered throughout the book, Clinical Pearls. As in rounds, these little snippets of information seem to pop up unexpectedly and range from time-honored wisdom to the latest tidbit from the medical literature.

Everyone learns on rounds. They are not just for the student. Good rounds teach the teacher as well as the student. In that vein, we'd like to invite you to contribute to this book. If you have a Clinical Pearl, original or part of medical lore, just mail it in to me, %Year Book Medical Publishers, 200 North LaSalle Street, Chicago, Illinois 60601. If it's good, we'll publish it in the next possible edition, along with proper attribution to the sender.

It's also your book. We'd like feedback from you. What can we do to make it more informative? How can we make it better? The process in medical education is one of continual learning and continuous revision. As you will see, the editors are a very open-minded group, and the book will evolve into the creative entity that satisfies the readers' needs. Let us hear from you at the aforementioned address on any topic: the design, layout, length, content, or style.

Pick up the book and study it during a particular rotation, or

just open it to any random page and see what the medical literature has to offer. Our hope is that *Roundsmanship* will provide an entertaining and valuable addition to the other sources of information all around you.

Bruce B. Dan, M.D.
Editor-in-Chief

READING THE LITERATURE

The habit of reading journals should be inseparable from the practice of medicine. Good physicians continue to learn throughout their careers, mainly from a systematic and discriminating reading of the medical literature. Of course, clinical experience is the practitioner's most influential teacher, but without the knowledge gained from reading the literature, the lessons of experience are learned slowly and imperfectly, if at all. Physicians need the literature to guide and interpret their experience. They may also rely on meetings, postgraduate courses, hospital conferences and rounds, audio and videotapes, and other forms of instruction, but these are usually adjuncts to the education received from journals.

Reading is not simply a conscientious physician's obligation. It is one of the essential ingredients of professional satisfaction. Physicians who continue to read are not only better doctors, but are happier and more fulfilled in their life's work. To practice medicine without the pleasure and excitement that comes from the habit of reading is to risk boredom as well as professional obsolescence.

Medical students are usually told that their formal education is only an introduction to a lifetime of self-education, yet they receive little or no instruction on how to continue learning after they have left school and completed their residency training. Lacking such guidance and intimidated by the task, far too many practitioners abandon efforts to keep up with the literature at an early stage in their career, or else turn the responsibility over to detail men and the give-away periodicals. However, effective surveillance of the literature is not nearly as daunting as it is often made out to be. With reasonable effort, any physician should be able to stay well informed in his or her field and at least be aware of important developments in other areas.

The secret lies in knowing what and how to read. The National Library of Medicine currently indexes roughly 3,500 clinical periodicals, more than half of which are in English. These figures do not include the many additional give-aways, drug house monographs and promotional material, and other publications practitioners may receive unsolicited in their mail. When seen from a distance, the task of sorting through this vast literature seems impossible for even the most ardent reader, let alone a busy practitioner. Up close, however, it is clear that most of this material is repetitious, trivial, or irrele-

vant. Almost all a physician needs to know can be found in a relatively few properly selected journals.

In each clinical specialty there are a few journals that are recognized to be the most important and reliable. They are peer reviewed, carefully edited, and selective in their choice of content. They contain mostly original clinical research articles, but some also publish reviews, letters, and editorial comment. To keep well informed in his or her field, a specialist need only peruse regularly perhaps 2 or 3 such journals, rarely more than 5 or 6. As these journals usually appear at monthly intervals, that task is not too difficult.

In addition, there are a few general journals, usually weeklies, that publish significant original research articles in all fields, selected with the interests of a general readership in mind. They also feature reviews, current comments, and letters, as well as articles dealing with the more general aspects of medical care. Almost every development of importance in clinical medicine is touched on in the course of a year or two in the pages of a general journal, so that any physician who regularly reads at least one such journal, together with the few best journals in his or her specialty, can be certain of missing nothing significant.

However, faithful attention to even a few journals may be an unrealistic assignment for harassed practitioners unless they know how, as well as what, to read. Fortunately, it is not necessary to read everything in these journals, certainly not on a regular basis. Original research articles should be scanned as a journal is received. Most journals publish abstracts or summaries of all such articles, so just a few minutes of reading per article will suffice to take in the message. Articles of special interest can then be selected for reading in greater depth as time allows or they can be filed for future reference. The abstract or summary provides the framework for further reading. If the subject is familiar, one can proceed directly to the methods and materials, and then to the results as summarized in the tables, figures, and statistical analysis. The introduction is intended primarily for those who are unfamiliar with previous work in the field and need only be skimmed by others. The discussion, often the longest part of the paper, is supposed to give the author's interpretation of the significance of his work and put his results in perspective, but the meaning and strength of a research paper's findings depend on its methodology and data. They are the parts of the paper deserving the most careful attention, and readers should try to decide for themselves

whether the author's discussion is appropriate and his conclusions justified. This is where training in the elements of epidemiology, experimental design, and statistical analysis are useful. These subjects ought to be a required part of the medical school curriculum, because students should be taught how to read the medical literature critically.

One final word: We live in the computer age, and some observers now suggest that the use of computerized reference banks (such as "Medline" or "BRS Colleague") will render unnecessary the kind of reading I have described above. Don't believe it. Computers are marvelous machines for the rapid retrieval of vast amounts of indexed and stored information, but the information stored in a computerized system is available only on specific request and in a form not conveniently studied or retained. Computers have unmatched power to deliver on a screen or in a printout, titles, abstracts, or full texts (but not figures) of articles requested by title, author, or key words. But the user must know in advance what to request, and must be prepared to sort out the desired articles from the much greater mass of extraneous material the computer's search will produce. Scanning each issue of selected journals as they appear is a quite different kind of learning, in which the reader sees a wide range of new and unexpected information. The articles he reads contain new information he might not have known to search for in a computerized system. Such systems are a great advance of traditional indexing services and in some respects can be much more efficient than libraries as repositories and deliverers of information. However, they are not likely to replace the essential role of journals in the continuing education of physicians. Reading the literature will probably be no less important in the decades ahead than it has been to date.

Arnold S. Relman, M.D.

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Internal Medicine

Introduction

I am delighted to be a participant in this new venture, which attempts to introduce various aspects of our ever-growing literature to the student at an embryonic stage in his or her development. Our knowledge base is exploding at an exponential rate, and it is probably very helpful to have some distillation of new concepts, recent advances in therapy, and other important innovations in the field of medicine. My task is particularly complicated because internal medicine encompasses so many areas. These will obviously include cardiology, clinical immunology and rheumatology, clinical pharmacology, dermatology, endocrinology, gastroenterology and human nutrition, hematology, infectious diseases, nephrology, neurology, oncology, and pulmonary diseases. I have done my best to choose papers that do point out new principles or, at the least, would be valuable learning tools for medical students. One will also note an occasional article on a relatively exotic disease. I just couldn't help myself. Internists love the unusual, yet in most of these cases there are important principles involved.

I think this format is exciting, and I hope that you will enjoy this as much as I have enjoyed putting it together.

Jay H. Stein, M.D.

Minoxidil: Hope for the Bald?

de Groot AC, et al
Lancet *1:1019–1022, May 2, 1987* **1–1**

Favorable medical journal reports on minoxidil, an antihypertensive drug, have provoked great media enthusiasm for restoring hair growth. It appears that the drug is able to induce growth of hair follicles in some men with androgenic alopecia (male pattern baldness), but most of those who respond lose their new hair when they stop applying minoxidil. Probably fewer than 10% of men achieve cosmetically satisfactory results from this costly treatment. The use of minoxidil will most likely

be allowed because of the drug's safety, but it should require prescription.

► *Telly Savalas and I were very disappointed by this paper. One should remember anyway that bald men have more fun.*

The Morbid Anatomy of the Human Genome: A Review of Gene Mapping in Clinical Medicine

McKusick VA
Medicine *(Baltimore) 67:1–19, January 1988* **1–2**

More than 1,200 expressed genes have been mapped to their specific chromosomes and, usually, to specific regions. At least 365 of these are known to be sites of disease-producing mutations. As more DNA markers become available, more genetic disorders are mapped by linkage of the pathologic phenotype to a specific marker whose site is known. Coagulopathies, immunopathies, receptor diseases, endocrine disorders, and enzymopathies all have been mapped. Mapping studies demonstrate the heterogeneity of many genetic diseases. It is possible that some autoimmune disorders and some congenital malformations have their basis in somatic cell genetic change. In addition, the aging process may be related to the accumulation of somatic mutations.

► *This is a summary of a 4-part treatise by Victor McKusick on the human genome. It is truly amazing how this field is growing, and I would say you haven't seen anything yet. There is a tremendous push to have a complete mapping of the human genome. This would be critically important for the full understanding of the biology of man and would obviously have tremendous clinical implications.*

Statistical Problems in the Reporting of Clinical Trials: A Survey of Three Medical Journals

Pocock SJ, et al
N Engl J Med *317:426–432, Aug 13, 1987* **1–3**

The randomized controlled clinical trial has been increasingly accepted. Reports of such trials often contain a good deal of information comparing treatments and interpretive problems can

result, particularly when significance testing is used extensively. Forty-five reports of comparative trials published in the *British Medical Journal, Lancet,* and *New England Journal of Medicine* were reviewed. Failure to specify in advance the intended size of a trial or statistical stopping rules for interim analysis was a frequent finding. Trial summaries or abstracts tended to emphasize the statistically more significant end points. The reporting of trials appeared, in general, to be biased toward exaggerating treatment differences.

► *This is an important article, because it is critical that the student understand that just because something is published in the literature doesn't mean it's right. Clinical trials are the major mechanism of delineating whether a given therapy is appropriate for a specified clinical condition. There are lots of therapeutic endeavors that have never really been proven to be effective. Trials are expensive and, unfortunately, many of them aren't done well. This isn't meant to be negative—just a statement of fact. As one grows in medicine, one has to be able to delineate what to believe and what not to believe.*

Prevention of Venous Thromboembolism After General Surgery: Cost-Effectiveness Analysis of Alternative Approaches to Prophylaxis

Oster G, et al
Am J Med *82:889–899, May 1987* **1–4**

Pooled data from randomized controlled trials were used to examine the cost effectiveness of several means of preventing postoperative venous thromboembolism in general surgical patients. A decision analysis strategy was used to compare low-dose subcutaneous heparin, compression stockings, both of these methods together, heparin plus dihydroergotamine, and intermittent pneumatic compression, alone and combined with stockings. The only method that actually is cost saving is the

The top 10 causes of death in the United States are (1) heart disease, (2) cancer, (3) cerebrovascular disease, (4) injury, (5) pneumonia and influenza, (6) chronic obstructive pulmonary disease, (7) diabetes, (8) suicide, (9) cirrhosis, (10) atherosclerosis.

use of compression stockings. The use of stockings plus either heparin or pneumatic compression may substantially lower the risk of thromboembolism after surgery without unduly increasing the cost of patient care.

► *Medical care is expensive and it has become more and more appropriate to delineate a cost-benefit analysis of any diagnostic or therapeutic maneuver. Probably no area has been more avidly studied than the various therapeutic modalities to diagnose and treat venous thromboembolism. In this paper, one finds an interesting evaluation from a decision tree as to appropriate therapy for the prophylaxis of thromboembolism after general surgery.*

Asymptomatic Carotid Stenosis: Spare the Knife

Sandercock P
Br Med J *294:1368–1369, May 30, 1987* **1–5**

No randomized controlled trials of carotid endarterectomy have been reported in asymptomatic patients with carotid bruit. Data on prospective series of patients with a bruit but no history of stroke or transient ischemic attacks indicate an annual risk of stroke of about 1% to 2%. It is not clear that persons with "tight" stenosis are at an increased risk of stroke. The risks of endarterectomy itself vary widely. The balance of evidence at present is against angiography and surgery in patients with asymptomatic carotid bruit or stenosis, although different conclusions may be reached in the future when more data are available. Risks may be reduced now by replacing angiography with ultrasonographic evaluation of the carotid vessels.

► *This is an interesting problem. A lot has been written, but, as the authors point out, there are no completed control trials to evaluate whether the asymptomatic patient with carotid stenosis should have an*

There are more registered nurses in the United States than physicians, dentists, pharmacists, optometrists, osteopaths, podiatrists, and veterinarians combined! (6th Report to the President and Congress on the status of Health Personnel in the United States, June 1988.)

endarterectomy. I would also agree that ultrasonography is an excellent noninvasive technique that may be useful to delineate the severity of the stenosis. At present, though, most authorities do not believe that prophylactic surgery is indicated.

United Kingdom Transient Ischemic Attack (UK–TIA) Aspirin Trial: Interim Results

UK–TIA Study Group
Br Med J *296:316–320, Jan 30, 1988* **1–6**

Nearly 2,500 patients with transient ischemic attacks (TIAs) or minor ischemic stroke were randomized to receive aspirin, in a dose of 300 mg (1 tablet) once a day or 600 mg twice daily, or placebo. Eighty-five percent of the group complied and, after nearly 4 years, aspirin-treated patients had an 18% lower risk of death, nonfatal major stroke, or myocardial infarction (Fig 1–1). However, the risk of disabling stroke or vascular death declined by only 7%. The lower dose of aspirin was effective and caused less gastric distress. Although these findings do not stand alone, they do support an effect of antiplatelet ther-

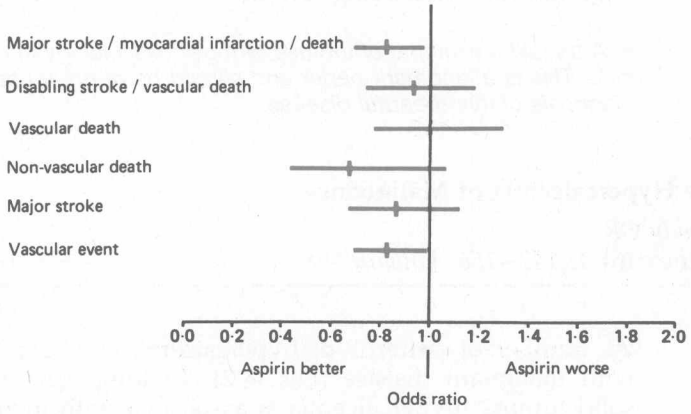

Fig 1–1
Odds ratios *(vertical bars)* and 95% confidence intervals *(horizontal bars)* for various categories of event. Results for all patients: both aspirin treatment groups vs. placebo. (Vascular deaths included those caused by stroke, myocardial infarction, sudden presumed cardiac death, cardiac failure, ruptured aortic aneurysm, and gastrointestinal hemorrhage or peptic ulceration. Vascular events included nonfatal stroke, nonfatal myocardial infarction, all cardiac deaths, deaths caused by stroke, and gastrointestinal hemorrhage.) (Courtesy of the UK–TIA Study Group: *Br Med J* 296:316–320, Jan 30, 1988.)