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## Goodman & Gilman's *The Pharmacological Basis of Therapeutics*, 11th edition

Laurence L Brunton, PhD; John S Lazo; and Keith L Parker, editors

Reviewed by Vincent J Felitti, MD

There are few technical books that remain in a leadership position for 65 years. *The Pharmacological Basis of Therapeutics* is one. Physicians, teachers, and medical students have voted for *Goodman & Gilman* with their feet and with their pocketbooks for over six decades. The question is not whether this is an important and useful text, but *why*?

A sentence by the original authors in their 1940 preface still describes the 11th edition: "This book has also been written for the practicing physician, to whom it offers an opportunity to keep abreast of recent advances in therapeutics and to acquire the basic principles necessary for the rational use of drugs in his/her daily practice."<sup>1:xxiii</sup> The book's 65 chapters are grouped into 15 sections: General Principles, Drugs Acting at Synaptic and Neuroeffector Junctional Sites, Drugs Acting on the Central Nervous System, Drug Therapy of Inflammation, Drugs Affecting Renal and Cardiovascular Function ... Chemotherapy of Microbial Diseases, Chemotherapy of Neoplastic Diseases ... Hormones and Hormone Antagonists, Dermatology, Ophthalmology, Toxicology, plus two appendices on prescription writing and patient compliance, and on the design of dosage regimens.

Reading the sections on general principles reminds one that, with the notable exception of antimicrobial and antiparasitic therapy, pharmacology is the science of altering human physiology by chemical means. The well-written chapter on treating hypertension illustrates this concept nicely; it is a pleasure to read and a vast improvement over the *PDR* or drug company ads. So too is the chapter on principles of antimicrobial therapy. Given the large number of authors, some chapters are easier to read than others, but none can be faulted for lack of well-organized and referenced information. Comparison of the current edition with the fifth edition of only 30 years ago provides an interesting insight into changing times. Then, the great Louis Weinstein personally wrote all the chapters on antimicrobial agents. In the current edition, five experienced and specialized physicians are required for that task.

Even so, a book this size is not the end-all of pharmacology. Some uncommon drugs or drug uses are not described; fortunately, references are provided to information in earlier volumes about some once-major drugs no longer available in the US: eg, emetine, which has uses, though no market, far beyond its amebicidal activity. Unusual uses of medications are noted, eg, cimetidine as a treatment for warts because of its immunostimulant effects. At the other extreme, one imagines the current avian influenza threat will generate great interest in the section on anti-influenza agents. Surprisingly, immunizing agents are barely mentioned in a total of three pages. The ever-increasing complexities of HIV treatment are covered in an understandable fashion.

Appendix 1 deals with prescription writing, the potential for errors in drug orders, and patient compliance. The book closes with nearly 100 pages of tabular pharmacokinetic data providing nicely organized data on oral bioavailability, excretion, volume of distribution, half-life, and other information that is occasionally needed but usually difficult to locate for commonly prescribed medications.

While *Goodman & Gilman* is no quick-read, it is surprisingly clearly written, logical, and interesting. It is also an awesome realization to see how much one never knew, added to what one once knew but forgot. Nevertheless, the logical, step-wise organization of *The Pharmacological Basis of Therapeutics* provides a much greater sense of confidence in one's ability for self-development than do drug company ads or their frequently underwritten large clinical trials for me-too drugs. I once knew an older physician in Baltimore who said he read ten pages every night from the then-current second edition. While this was easier to do with earlier editions, the task is still not inconceivable. ♦

### Reference

1. Brunton LL, Lazo JS, Parker KL. Goodman & Gilman's The Pharmacological Basis of Therapeutics, 11th edition. New York: McGraw-Hill: 2006.

**Vincent J Felitti, MD**, has been with the Southern California Permanente Medical Group since its opening in San Diego in the late 1960s. E-mail: vincent.j.felitti-MD@kp.org.