Goodman & Gilman's

The Pharmacological Basis of THERAPEUTICS

eleventh edition

Laurence L. Brunton
John S. Lazo • Keith L. Parker

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PREFACE

Upon learning that I was assuming the editorship of this book, a senior colleague warned, "Be careful. Don't tamper lightly with the bible." This reputation of "G & G" as the "bible of pharmacology" is a tribute to the ideals and writing of the original authors, Alfred Gilman and Louis Goodman. In 1941, they set forth the principles that have guided this book through ten prior editions and that the associate editors and I have continued to use: to correlate pharmacology with related medical sciences, to reinterpret the actions and uses of drugs in light of advances in medicine and the basic biomedical sciences, to emphasize the applications of pharmacodynamics to therapeutics, and to create a book that will be useful to students of pharmacology and physicians alike.

As with all editions since the second, expert scholars have written the individual chapters, a number of which are new to this edition. We have emphasized basic principles, adding chapters on drug transporters and drug metabolism; the material covered in these chapters explains many prominent drug-drug interactions and adverse drug responses. We have also added a chapter on the emerging field of pharmacogenetics, looking toward the individualization of therapy and an understanding of how our genetic make-up influences our responses to drugs. A chapter entitled "The Science of Drug Therapy" describes how basic principles of pharmacology apply to the care of the individual patient. Most other chapters have been extensively revised; a few have been condensed or eliminated.

Assembling a multi-author pharmacology book challenges contributors and editors in different ways. Among the apparently irresistible and understandable temptations in writing a chapter are the desire to cover everything, the urge to explain G-protein coupled signaling, and the inclination to describe in detail the history of the field in which one is an expert, citing all relevant papers from Claude Bernard to the present. These hazards, plus the continuing advance of knowledge, produce considerable pressure to increase the length of the book. As an antidote, the associate editors and I have worked to eliminate repetition and extraneous text. We have pressed contributors hard, using the communicative rapidity and ease of e-mail to interact with them, to clarify and condense, and to re-write while adhering to the principles of the original authors and retaining the completeness for which the book is known. We have tried to standardize the organization of chapters; thus, students should easily find the physiology and basic pharmacology set forth in regular type in each chapter, and the clinician and expert will find details in extract type under identifiable headings. We have also tried to improve the clarity of tables and figures to provide summaries of concepts and large amounts of information. Although this 11th edition is slightly shorter than its predecessor, we believe that it is every bit as thorough.

Many deserve thanks for their contributions to the preparation of this edition. Professors Keith Parker (UT Southwestern) and John Lazo (U. Pittsburgh) have lent their considerable energy and expertise as associate editors. Professor Nelda Murri (U. Washington) has read each chapter with her keen pharmacist's eye. Two Nashville novelists played essential roles: Lynne Hutchison again served ably as managing editor, coordinating the activities of contributors, editors, and word processors; and, for the second time, Chris Bell checked references and assembled the master copy. Each chapter has been read by an expert in addition to the editors, and the editors thank those readers. We also express our appreciation to former contributors, who will, no doubt, recognize some of their best words from previous editions. We are grateful to our editors at McGraw-Hill, Janet Foltin and James Shanahan, who have shepherded the edited text into print, and to our wives, whose support and forbearance are gifts beyond reckoning.

Lastly, I would like to pay tribute to my friend, Alfred G. Gilman. As a teacher, mentor, researcher, editor of several editions of this book, Nobel laureate, chair of a distinguished pharmacology department, and now dean of a medical school, he has enriched every aspect of our field.

Laurence Brunton

SAN DIEGO, CALIFORNIA
JULY 1, 2005

PREFACE TO THE FIRST EDITION

Three objectives have guided the writing of this book—the correlation of pharmacology with related medical sciences, the reinterpretation of the actions and uses of drugs from the viewpoint of important advances in medicine, and the placing of emphasis on the applications of pharmacodynamics to therapeutics.

Although pharmacology is a basic medical science in its own right, it borrows freely from and contributes generously to the subject matter and technics of many medical disciplines, clinical as well as preclinical. Therefore, the correlation of strictly pharmacological information with medicine as a whole is essential for a proper presentation of pharmacology to students and physicians. Furthermore, the reinterpretation of the actions and uses of well-established therapeutic agents in the light of recent advances in the medical sciences is as important a function of a modern textbook of pharmacology as is the description of new drugs. In many instances these new interpretations necessitate radical departures from accepted but outworn concepts of the actions of drugs. Lastly, the emphasis throughout the book, as indicated in its title, has been clinical. This is mandatory because medical students must be taught pharmacology from the standpoint of the actions and uses of drugs in the prevention and treatment of disease. To the student, pharmacological data per se are valueless unless he/she is able to apply this information in the practice of medicine. 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.

The criteria for the selection of bibliographic references require comment. It is obviously unwise, if not impossible, to document every fact included in the text. Preference has therefore been given to articles of a review nature, to the literature on new drugs, and to original contributions in controversial fields. In most instances, only the more recent investigations have been cited. In order to encourage free use of the bibliography, references are chiefly to the available literature in the English language.

The authors are greatly indebted to their many colleagues at the Yale University School of Medicine for their generous help and criticism. In particular they are deeply grateful to Professor Henry Gray Barbour, whose constant encouragement and advice have been invaluable.

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