

A Textbook of  
**Clinical Pharmacology  
and Therapeutics**

FIFTH  
EDITION

**James M Ritter  
Lionel D Lewis  
Timothy GK Mant  
Albert Ferro**



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FIFTH EDITION

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*This fifth edition is dedicated to the memory of Professors Howard Rogers and John Trounce,  
two of the three authors of this textbook's first edition.*

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# FOREWORD

John Trounce, who was the senior author of the first edition of this textbook, died on the 16 April 2007.

He considered a text in clinical pharmacology suitable for his undergraduate and postgraduate students to be an important part of the programme he developed in his department at Guy's Hospital Medical School, London. It is difficult to imagine today how much resistance from the medical and pharmacological establishments Trounce had to overcome in order to set up an academic department, a focussed course in the medical curriculum and a separate exam in final MB in clinical pharmacology. In other words, he helped to change a 'non-subject' into one of the most important areas of study for medical students. He was also aware of the need for a high quality textbook in clinical pharmacology that could also be used by nurses, pharmacists, pharmacology science students and doctors preparing for higher qualifications. (For example, it has been said that nobody knows more about acute pharmacology than an anaesthetist.)

The present edition of the textbook reflects the advances in therapeutics since the publication of the fourth edition. It is interesting to follow in all the editions of the book, for example, how the treatment of tumours has progressed. It was about the time of the first edition that Trounce set up the first oncology clinic at Guy's Hospital in which he investigated the value of combined radiation and chemotherapy and drug cocktails in the treatment of lymphomas. John Trounce was pleased to see his textbook (and his subject) in the expert hands of Professor Ritter and his colleagues.

Roy Spector  
Professor Emeritus in Applied Pharmacology, University of London

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# PREFACE

Clinical pharmacology is the science of drug use in humans. Clinicians of all specialties prescribe drugs on a daily basis, and this is both one of the most useful but also one of the most dangerous activities of our professional lives. Understanding the principles of clinical pharmacology is the basis of safe and effective therapeutic practice, which is why this subject forms an increasingly important part of the medical curriculum.

This textbook is addressed primarily to medical students and junior doctors of all specialties, but also to other professionals who increasingly prescribe medicines (including pharmacists, nurses and some other allied professionals). Clinical pharmacology is a fast moving subject and the present edition has been completely revised and updated. It differs from the fourth edition in that it concentrates exclusively on aspects that students should know and understand, rather than including a lot of reference material. This has enabled us to keep its length down. Another feature has been to include many new illustrations to aid in grasping mechanisms and principles.

The first section deals with general principles including pharmacodynamics, pharmacokinetics and the various factors that modify drug disposition and drug interaction. We have kept algebraic formulations to a minimum. Drug metabolism is approached from a practical viewpoint, with discussion of the exciting new concept of personalized medicine. Adverse drug reactions and the use of drugs at the extremes of age and in pregnancy are covered, and the introduction of new drugs is discussed from the viewpoint of students who will see many new treatments introduced during their professional careers. Many patients use herbal or other alternative medicines and there is a new chapter on this important topic. There is a chapter on gene and cell-based therapies, which are just beginning to enter clinical practice. The remaining sections of the book deal comprehensively with major systems (nervous, musculoskeletal, cardiovascular, respiratory, alimentary, renal, endocrine, blood, skin and eye) and with multi-system issues including treatment of infections, malignancies, immune disease, addiction and poisoning.

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