
Pharmacy education has always contained a law requirement, whether for undergraduate or continuing education. William Hassans’ classic Pharmacy Law textbook in the 1970s was an example of where Aboud and Brushwood have progressed from in how faculty teach pharmacy law in the new 21st century. Their first edition offered improvements from earlier pharmacy law textbooks and was further improved upon in the second edition. Now the third edition offers an evolutionary step forward in a textbook on pharmacy law for interactive learning with students.

Now containing eight chapters with case studies integrated in each chapter, pharmacy faculty and student learners should find this textbook easy to use, instructive and facilitative to problem solving oriented learning. Content in each chapter has been updated and covers current regulations or changes in pharmacy law and practice regulation from a national perspective.

Chapter 1 covers the Law and Legal System including the traditional topics that must be covered in a pharmacy law textbook. Those include the nature and role of law, sources of United States law, the legislative process, distinguishing criminal, civil and administrative law, and the judicial process. As in all chapters, this first chapter contains case study examples to illustrate various points made in the text.

Chapter 2 deals with Federal regulation of medications in broad and general terms. Starting with an historical overview of Federal medication regulations, they move into drug approval and production approval processes today as well as marketing issues. For example, drug advertising and promotion has reemerged as an important issue not only to pharmaceutical manufacturers, but to pharmacists in chains, senior or managed care where direct to consumer/patient information has become an important new role for pharmacists.

Chapters 3, 4 and 5 deal with pharmacy dispensing and controlled substances distribution issues. Fundamental to medication distribution, a comprehensive understanding of the law surrounding that task is critical. Regardless of distribution setting, such as mail order, clinic and retail community pharmacy, a thorough knowledge of the law is useful for all pharmacy students or practicing pharmacists. Utilizing case studies again, the authors facilitate the application of law, which can create a better understanding that assists in avoiding legal troubles in practice.

Chapter 6 covers more contemporary issues related to the practice of Pharmacy in the United States. The Omnibus Reconciliation Act of 1990 (OBRA ’90), Medicare and Medicaid, including fraud, abuse and safe harbor regulations are examples of the important content of this chapter. Pharmacists in practice and pharmacy students alike will find this to be an important chapter to learn using the cases provided for critical thinking about the legal issues raised in the text.

Chapter 7 reviews State regulation of pharmacy practice. Always difficult to approach due to the disparity and dissimilar among state regulations, this chapter does a nice job in providing a solid underpinning towards understanding state regulation. Concepts such as State Boards of Pharmacy, licensing, standards of practice, and actions against a license are covered. Furthermore, covering topical practice setting issues for hospital, long-term and managed health care is accomplished in this chapter. Not to be left out, regulation for outcomes is covered—an area that is rapidly emerging in importance for pharmacist practitioners in all health care settings.

Chapter 8 covers the important topics of malpractice liability and risk management strategies. Cases studies again illustrate and draw out student learners on these critical issues to future or current pharmaceutical care practitioners. Students may find this chapter frustrating or incredulous at first, but it remains critically important to masters in order to be successful in modern pharmacy practice.

Pharmacy administration faculty following recent directives from the American Association of Colleges of Pharmacy and peer recommendations for increasing and improving interactive learning in the pharmacy classroom will find this textbook easy to use. Within each chapter, case studies will allow for vigorous discussion, critical thinking skills to develop, and stimulate problem solving by undergraduate or postgraduate students. It is a useful textbook for pharmacy students and pharmacists interested in law. The book is well referenced and indexed, including a listing of cases found throughout the book. I would recommend that it be included in the reference library of all colleges, and considered not only as a student textbook but also as a reference tool for use by all health care law faculties.

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One problem with developing and teaching a course on complementary/alternative therapies is finding quality evidence-based references. Only a few reliable publications can be used to make rational decisions about herbal medicines. Much of the published information is incomplete, suspect or unreliable. Still, other literature is not available in English. Varro E. Tyler of, Purdue University notes that “there is more misinformation about the safety and efficacy of herbs . . . than at any previous time, including the turn-of-the-century heyday of patient medicines.” He further states that “...the literature promoting herbs includes pamphlets, magazine articles, and books that range in quality . . . and that most of these writings make recommendations involving herbs based on hearsay, folklore and tradition. The only criterion that seems to be avoided in these publications is scientific evidence.” [in: Barrett, S.and Jarvis, W.T. (eds.). The Health Robbers. A Close Look at Quackery in American. Buffalo NY: Prometheus Books, 1993].

A step towards correcting this problem occurred in 1998 when the American Botanical Council published the long awaited English translation of The Complete German Commission E Monographs - Therapeutic Guide to Herbal Medicines. A book review of this award-winning reference was published in this Journal [Hufford, C.E., Amer. J. Pharm. Educ, 63, 114-114 (1999)]. The book contains 380 monographs of herbs commonly used in Germany. However, some have criticized the reference because the monographs are brief (one to two pages) and they do not cite the original literature sources. In addition, since the monographs were written before 1994, some information is outdated.

Herbal Medicine. Expanded Commission E Monographs is a modified version of The Complete German Commission E Monographs - Therapeutic Guide to Herbal Medicines. The book focuses on approximately 100 herbs approved by the Commission E that are commonly sold in the United States. The monographs are more detailed and correct many perceived deficiencies of The Complete German Commission E Monographs. The revised monographs include recent clinical and pharmacological studies and each monograph is well referenced. The book is divided into six parts or sections: the introduction, herb monographs, “quick-look” cross references, appendices, general references, and a cross-referenced index.

The introduction (pp. i-xii) includes a brief foreword written by Varro Tyler and a preface written by the editor Mark Blumenthal. The
preface explains the format of the monographs and provides an explanation of the Commission E. The introductory also includes editorial acknowledgments, an acknowledgment of contributors, and a general notice and disclaimer. Section two (pp. 3-432) contains 107 herbal monographs arranged in alphabetical order, beginning with angelica root and ending with yohimbe bark. Each monograph includes a full color photograph. The monographs include the common, Latin and other names of the herb, an overview of the herb, botanical description, chemistry and pharmacology, uses, contraindications, side effects, uses during pregnancy and lactation, interactions with other drugs, dosage and administration and a reference section. The reference section includes the sources cited in the monograph and additional resources which are not cited but are included for research purposes. Each monograph is followed by a notice and disclaimer that the material in the monograph was adapted from The Complete German Commission E Monographs - Therapeutic Guide to Herbal medicines.

Section three (pp. 435-472) are tables of “quick-look cross references.” This section cross-references herbals by organ systems (or categories) and by medical conditions. In addition, information on contraindications by category, contraindications as listed in the monographs, side effects by category, side effects as listed in the monographs, pharmacological actions by category, pharmacological actions as listed in the monographs, drug interactions, use during pregnancy and lactation, duration of use, and taxonomy by English name and by Latin name are also included in this section. The fourth section (pp. 475-494) is the appendices. This section includes tables and other pertinent information. Table 1 lists the retail and percentage increase in sales of the top-selling herbs in the U.S. Table 2 lists the increase in herbal sales in the U.S. by retail outlet in the 12-month period ending December 1998 as compared to 1997. Table 3 lists the top-selling herbs in Germany for 1996 and percent change since 1995. Table 4 lists the number of clinical studies of top selling European phytomedicines from 1973 to 1997. Table 5 lists the most frequently prescribed and researched phytomedicine brands in Germany and their equivalent U.S. brand counterparts. Pages 481 to 483 provide information on the current status of the Commission E. Page 484 provides information on the World Health Organization (WHO) monographs on selected medicinal plants. Table 6 lists the uses of medicinal plants supported by clinical data in the WHO monographs. Table 7 provides a listing of the WHO monographs in final stages of preparation/publication. Table 8 provides information on the European Scientific Cooperative on Phytotherapy (ESCOP) monographs. Page 491 lists the references used in the appendices. Page 492 provides an explanation of abbreviations and symbols used in the text. Page 494 includes a listing of common conversions for weights and measures. Pages 495 to 497 list the general references for the text. The cross-referenced index is found on pages 501-519.

An outstanding attribution of the book is that it provides very useful information on the efficacy and safety of commonly used herbals. The monographs provide new information from updated clinical trials and pharmacological studies. The authors include information on whether the studies were placebo-controlled, randomized or double-blind and whether the studies were statistically significant. However, they do not evaluate the scientific rigor or appropriateness of the methodology/outcomes of the studies.

Table 5 is unique and is helpful when answering questions about what brand should be used or recommended. This information could be valuable and should provide a feeling of comfort when counseling patients.

One deficiency of the book is that the monographs are primarily based on approved herbals of the German Commission E. Some commonly used herbals in the United States are not included. Examples of herbals that are not included are aloe gel, aloe vera, astragalus, bearberry, cat’s claw, cranberry, dong quai, evening primrose, feverfew, goldenseal, grape seed, mistletoe, Pau d’Arco, slippery elm, schizandra, and wild yam. In addition, adverse effects are much less extensively documented than other references such as the Review of Natural Products and the Natural Medicines - Comprehensive Database. Safety during pregnancy and lactation is less extensively documented than in Herb Contraindications and Drug Interactions.

There is no information as to why the herbal should not be used during pregnancy. There is no information on the laboratory authentication and chemical analysis of the herbals.

The book is reasonably priced and, even with the above-mentioned deficiencies, should be purchased by pharmacy and medical libraries and by individuals interested in the efficacy and safety of herbal remedies. The information in each monograph is well organized, precise and presented in a clear manner. Understanding the material is easy for the reader. I highly recommend the book for practitioners, educators, consumers and students. However, I will use the book as recommended reading for my course in alternative therapies since it does not include some common herbals used in the U.S. The book is not a complete source and it has been said that “...it is a capital mistake to theorize before one has data. Insensibly one begins to twist facts to suit theories, instead of theories to suit fact.” - Sir Arthur Conan Doyle.


This book is the newest edition of a well-established text. Although there are numerous similarities to previous editions, there are many differences as well. Chapter 1 provides an introduction to self care, which includes a brief description of the drug approval process, nonprescription drug labeling, and marketing issues that have helped fuel the tremendous growth in nonprescription product use. Chapter 2 provides an overview of patient assessment, appropriate communication techniques, and special considerations before providing pharmaceutical care to high-risk patients or other types of special groups such as pediatric and geriatric patients. Chapter 3 is the first of almost 40 chapters dealing with the management of specific disorders with nonprescription products. The remaining chapters deal with herbal remedies, homeopathic products, and home medical equipment such as home monitoring devices.

Although the chapters dealing with specific disorders appear to be somewhat similar to previous editions, in the current text the material is reviewed from the perspective of the medical condition (e.g., diabetes mellitus) rather than the product (e.g., insulin). This change makes the text more in-tune with the provision of pharmaceutical care. In response to this change in perspective, each chapter places an enhanced emphasis on the epidemiology, etiology, pathophysiology, signs and symptoms, and potential complications from the disorder before describing appropriate nonprescription therapy. The chapters offer additional new features that should be beneficial to pharmacists and pharmacy students. For example, chapters include treatment algorithms that outline the major steps in selecting therapy; patient assessment Q and A sections that point out problem-solving techniques required for patient triage; patient education sections that highlight key items that should be discussed with patients; and a section that describes facts that would confirm successful self treatment.

There are, however, some facets of this text that might be troublesome for some. Although the greater emphasis on the disease state may help pharmacists and students better understand the role of nonprescription therapy, one must remember that this is not a pathophysiology text - and as such does not provide fine detail nor is it well referenced. In addition, although many nonprescription products are described in the text and in tabular format, the long-standing approach of this text to list the active and inactive ingredients of virtually all products has been curtailed. The editors have included one section that does not deal with medications - i.e., “Home Medical Equipment” - but a description of other nonpharmacologic therapies such as canes, walkers and bandages, is lacking.
Overall, the new chapter algorithms, boxed inserts, greater use of headings, and, of course, greater emphasis on the patient rather than the product are significant improvements over previous editions. The Handbook of Nonprescription Drugs should become part of the library for every pharmacist who practices ambulatory care and a reference source for every student enrolled in a self-care/nonprescription product course or participating in a practice experience.

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RENATO V. IOZZO. Proteoglycans (Structure, Biology, and Molecular Interactions). New York, NY: Marcel Dekker, Inc., 2000, ix + 422 pp., 7 tbls., 60 figs., $185.00 (Hard cover).

This book was intended to provide a comprehensive coverage of the most recent advances in proteoglycan research with the aim of attracting new investigators to the field. It is a timely book, edited by a leader in the field of proteoglycans. The book is indeed comprehensive, generally well-written and very well-referenced. It includes a useful word index. The chapter contributions are from an international cadre of leading experts in the field. The book contains 15 chapters and the literature coverage in the various subject areas is up to 1998, with occasional 1999 references included in a very few of the chapters.

The chapters are more or less self-contained. The introductory Chapter, 1, written by the editor, gives details of the contents of the rest of the chapters. Chapter 2 provides a historical overview, as well as structural analysis and the biosynthetic studies on chondroitin and hyaluronan glycosaminoglycans. Chapter 3 treats heparan sulfate, emphasizing its role in binding and activation of growth factors and chemokines. Chapter 4 picks up again on hyaluronan highlighting its unusual properties as an “honorary proteoglycan”, and its important roles in morphogenesis, cancer and inflammation. Chapter 5 focuses on the catabolism of proteoglycans, detailing mainly proteolysis and the host of proteases involved. The degradation of perlecan and its implication in diabetic nephropathy and tumor metastasis is an interesting part of the chapter. Chapters 6 and 7 cover the structure, tissue distribution and extracellular effector functions of the syndecan family of surface proteoglycans. Their roles in signaling, involving the binding and activation of Src family tyrosine kinases, Protein Kinase C and fibroblast growth factors are pointed out, as well as their ability to bind to viruses, a host of bacteria and even protozoa, such as the malarial parasite Plasmodium falciparum.

Chapter 8 covers the structure, expression and function of glypicans and their possible involvement in pancreatic cancer, as well as in Simpson-Golabi-Behmel syndrome. Chapter 9 provides a review of sialylins, a group of protease-resistant proteoglycans that are found in secretory granules of immune cells such as mast cells and basophils. Chapter 10 provides a comprehensive description of small leucine rich protein proteoglycans (SLRPs). Their interaction with the extracellular matrix and their involvement in cellular functions such as cell cycle regulation through interaction with growth factors and cytokines are highlighted. Chapter 11 covers the involvement of proteoglycans in corneal structure and the maintenance of transparency. Chapter 12 reviews heparan sulfate proteoglycans involved in basement membrane, with an emphasis on perlec and its implication in the pathogenesis of Alzheimer’s disease, diabetes, arteriosclerosis and cancer. Chapter 13 gives an exclusive treatment of versican, a member of the hyalactan family to which aggrecan, the large aggregating proteoglycan of cartilage, belongs. Versican’s role in arteriosclerosis and cancer is pointed out. Chapter 14 covers the structure, secretion and pathological involvement of aggrecan. Chapter 15 describes chondroitin sulfate proteoglycans of the nervous system and their influence on neural growth and axonal regeneration.

The independent nature of the chapters has led to the problem of slight differences in classification that may be confusing to a reader new to the field. The proof-reading is superb, however, a very few typographical errors still remain in the text.

John K. Buolamwini
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This book consists of 56 chapters organized under six sections plus an appendix. The sections are titled I: Prediction of Drug Interactions From In Vitro Studies: Basic Principles; II: Enzymes and Transporters; III: Drugs As Substrates of Metabolic Enzymes; IV: Drugs as Inhibitors of Metabolic Enzymes; V: Drugs As Inducers of Metabolic Enzymes; and VI: Clinical Considerations. These chapters have been written by a total of 86 different authors from all over the world. The result is an encyclopedic treatment of the subject of metabolic drug interactions particularly regarding those drugs that are metabolized by the various cytochrome P450 enzymes. Of the three types of drug interactions, chemical, pharmacological, and pharmacokinetic, the most difficult to predict and understand has been the pharmacokinetic drug interactions particularly those that result from interactions with the metabolic enzymes. During the 1980s and 1990s several families of cytochrome P450 enzymes were discovered that led to a much better understanding of the basis for these metabolic drug interactions. Inductions of specific enzymes and drugs that are competitively metabolized by specific isozymes are the subject of the chapters in Sections III - V. These chapters are organized by therapeutic category of the drugs, e.g., Treatment of CNS Diseases, which groups drugs together according to use.

A better understanding of drug interactions is timely since there has been much recognition of adverse drug-related events and reporting of deaths and health care costs associated with adverse drug reactions and drug interactions. The highly publicized interaction of terfenadine with various azole antifungals or erythromycin led to the withdrawal of terfenadine from the market. The azole antifungals or erythromycin inhibit the CYP3A4 metabolism of the terfenadine which leads to an accumulation of the drug and subsequent blockade of cardiac K+ channels and prolongation of the QTc interval. CYP3A4 is one of the most abundant of the cytochrome P450 metabolic enzymes and many drugs are substrates for this enzyme, thus many interactions can result from drugs competing for metabolism by the same enzyme or that inhibit this enzyme.

Of particular interest to pharmacists and pharmacy faculty is Chapter 55 “Pharmacist Management of Drug Interactions”. This chapter deals with the practical aspects of using the large amount of information about potential metabolic drug interactions for better patient care. Even computerized systems for recognizing potential drug interactions have significant limitations that generate too many “overcalls” and too many “undercalls” which tend to lessen their practical usefulness. The chapter author lists some suggestions for improvements in these systems that hopefully will occur in the near future. The chapter author also notes that patients with multiple prescribers and/or multiple pharmacists present special challenges.

In summary, this is an important reference for clinical pharmacists and research workers in metabolism. The editors indicate in the preface that they plan to publish frequent updates in the form of subsequent
editions that will be essential in this fast moving and fast developing field. This should be considered an essential book for the libraries of colleges or schools of pharmacy and hospitals and many practitioners will want to have there own copy. Each of the chapters has an extensive list of references to reviews and the primary literature, and the book as a whole seems to be quite free of typographical errors. Many readers will find this comprehensive reference very useful.

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The U.S. Food and Drug Administration (FDA) is charged with regulating foods, drugs, medical devices, and cosmetics in the interest of the public health and safety. Its mission gives it sway over a collection of commercial products that are more pervasive (and invasive) in the daily lives of Americans than are the regulatory subjects of any other federal agency. What should be surprising is that its fundamental statutory empowerment comes from a law enacted in 1938, prior to the rise of modern pharmacotherapy and revolutionary advances in the relevant sciences. The core safety-related provisions of the Food, Drug and Cosmetic Act (FDCA) have only been substantially revised a handful of times since its enactment: the Durham-Humphrey Amendments (1951), Food Additive and Color Additive Amendments (including the Delaney Clause - 1958 and 1960), the Kefauver-Harris Amendments (1962), and the Medical Device Amendments (1976). Degnan’s book provides an enlightening review of how the FDA, armed with a somewhat dated statutory toolbox, and faced with increasing complexity and new science, has made effective and creative use of highly adaptive regulatory approaches to deal with the issues confronting it.

The opening chapter succinctly reviews the panoply of regulatory tools available to the FDA for enforcement. Succeeding chapters deal with nine major regulatory challenges the agency has faced throughout the six decades since the enactment of the FDCA. Degnan begins with the need to deal with the “Generally Recognized as Safe,” or GRAS, provisions of the Food Additive Amendments, and the changing science since the late 1950s. In this chapter, and in a later one dealing more specifically with the Delaney Clause that prohibits food additives that cause cancer in man or animals, he sees “a rich context for studying not only how a section of the Act may be creatively and flexibly applied, but also how interpretations of statutory provisions can change over time in the face of new scientific developments and shifting priorities in public health policy.” This opening sets the stage for analysis of the FDA’s creative rulemaking to deal with the following significant challenges over the years: the Drug Efficacy Study Implementation (DESI) required by the Kefauver-Harris Amendments in 1962; expanding “contamination” provisions of section 402 of the FDCA to deal with emerging microbial contamination of food sources; complex new drug approval situations exemplified by products from Laetrile to AZT; the development of “voluntary” recall regulations; implementing the Medical Device Amendments with scarce FDA resources; and expanding food labeling requirements. The final chapter deals with the agency’s only major setback in creative rule making - its efforts to regulate tobacco.

The text provides a cohesive, readable, and comprehensible account of how a federal agency has applied its statutory authority in creative ways to adapt to situations that could not have been foreseen by Congress when the agency was created. It also provides relevant details on the most significant controversies in which the FDA has been embroiled over the years. It should be valuable reading for students of agency law generally, as well as those interested in food and drug law in particular. Its major limitation to wider use as a text for students will be its price. Faculty who teach food and drug law will find this volume interesting and useful, and it should be included in the library collections of universities possessing schools of both pharmacy and law.

William E. Fassett
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As indicated in the preface to this text, the compounding of medicines for individual patients is part of our professional foundation. We note frequently the traditional mortar and pestle which has been our symbol for our profession unto this day. However, in the twentieth century we found many of our prescription items have become manufactured by large scale, commercial operations. This has replaced, in some cases, the need for a professional individual who can compound for the needs of the patient. However, as we see it, a changing role in pharmacy practice there is no lesser need for an individualized patient prescription compounding and, as seen in the literature, this need has grown. In particular, pediatric and geriatric patients whose needs are not met by the mass production of medicinal agents require individualized services. The ability of the pharmacist to compound custom tailored medications for these and other patients are an essential component in delivering an appropriate level of pharmaceutical care. Thus, the need for such an extensive text to aid practitioners involved with compounding provide them with the necessary information to accomplish this.

This reference contains 280 monographs which addresses various drug entities and is arranged alphabetically by nonproprietary name. Within the monograph, information such as properties, general stability considerations, stability reports of compounded products and commercial availability of the material are noted in the monograph. The information supplied within the stability reports is well referenced, and the compilation of references is in the back of the text.

Within the first section under Properties, such drug characteristics as solubilities, pH, pka, and osmolality are available. In the General Stability Considerations of the Drugs and Its Products, this includes packaging and storage conditions necessary for the individual items. The section entitled Stability Reports of Compounded Products summarizes information from reference articles on the subject, and this treats the various categories that these products might be formulated into such as orals, ophthalmics, and topicals. A number of the monographs also include a typical product formula and the procedures for compounding such a product. An important segment of the monograph concerns the compatibility with other drug products. This is always of concern with commercial products, and this information is extremely valuable to the individual doing either the dispensing or the compounding or both. It is emphasized that the individuals doing compounding should be adequately trained especially for some unique materials that might be requested to be put in a suitable form. In this light it may be necessary to obtain certain additional training from postgraduate courses. There is literature today that addresses compounding, and this can aid in individuals participating in such activity.

This text is very well put together. It provides a great deal of information necessary for compounding the materials noted in each monograph. This is certainly an important reference text for pharmacy operations actively engaged in compounding. This text should be in every pharmacy library and could be very helpful to faculty assisting in general pharmaceutics laboratories. It should be noted that the text also contains suppliers for the necessary items for having a well-designed facility for compounding.

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This text is the first edition of Arrhythmia Treatment and Therapy, Evaluation of Clinical Trial Evidence. The purpose of this text as alluded to in the preface, is to provide a source of information related to the scientific basis, intricacies in the design and complexities in the outcome of important trials related to the treatment of arrhythmias. The text focuses solely on the treatment of asymptomatic and symptomatic ventricular arrhythmias and as such provides information related to both drug and non-drug therapies of these arrhythmias. The intended audience of this text appears to be clinicians and scientists working in the area of cardiovascular medicine (e.g., clinical electrophysiologists, cardiologists, clinical pharmacists specializing in cardiovascular pharmacotherapy and allied health professionals, etc.).

This multi-authored text is arranged into eighteen chapters each focused on an influential clinical trial or group of associated clinical trials published in the past two decades. The format of the book is interesting in that the main body of each chapter involves the presentation of the background, significance, design, methods, results and discussion of each clinical trial. The main chapter sections are authored by an expert in the area of arrhythmia therapy and are a condensed version of the published study/studies. An independently authored critique of each study follows the main section of the chapters addressing the strengths and weaknesses of the study. The format of each chapter is not necessarily consistent, although most chapters [exception of Chapters 14 (Cardiac Arrest Study Hamburg trial) and 15 (The Canadian Implantable Defibrillator Study)] follow a format which in addition to describing the study, provides historical perspective regarding the importance of the trial and how it adds to the current literature in the area. The book includes discussions about landmark clinical trials related to ventricular arrhythmia treatment (e.g. the Cardiac Arrhythmia Suppression Trials (CAST), the Antiarrhythmics Versus Implantable Defibrillator (AVID) Trial) as well as a chapter describing ongoing studies in the area. The table of contents and chapter titles concisely describes each clinical trial being addressed. The figures and tables are derived mainly from the published clinical trials and in general are well done and add to the textual content of each chapter. There are a few areas where the text could be improved in future editions. The book is essentially restricted to the discussion of clinical trials related to asymptomatic or symptomatic ventricular arrhythmias, rather than supraventricular arrhythmias. Since the book focuses solely on the management of ventricular arrhythmias, the title that reflects this would be more appropriate. Also, a consistent style used by each author, in each chapter would add to the readability of the text. With these shortcomings in mind, this text would be a useful reference text in pharmacy and medical libraries describing the intricacies of ventricular arrhythmia clinical trials as faculty, clinicians and students will find the content useful in understanding and evaluating clinical trials in this area. However, the cost ($175) and very specialized nature of this text prevents it from being recommended as a general reference for pharmacy students (professional or graduate), postdoctoral trainees in the pharmaceutical sciences or even faculty in schools of pharmacy. The content would be most useful for an individual specializing in the area of cardiology or more specifically arrhythmia pharmacotherapy. In addition, the textbook is too specialized to be useful as a primary text in a pharmacotherapeutics course but it may be useful as a reference text in an advanced pharmacotherapeutics course or an advance clerkship in cardiovascular pharmacotherapy.

Kevin M. Sowinski
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This book provides an in depth review of the molecular origin of disease and the potential clinical strategies to replace, repair, or regulate faulty genes or their products. It is an important and timely contribution to the field with seventy-seven leading experts from industry, academia, and government agencies contributing to the text.

Each chapter is heavily referenced and cited within a detailed index. The text contains numerous tables and figures, many of which are simplified in a clear, concise manner for easy interpretation. As per the editors instructions, each chapter contains a broad introduction that provides a solid foundation for the reader, and then quickly turns into an in-depth discussion of the many specialty areas within gene therapy.

The editors organized the book into four parts: Viral Delivery and Therapeutic Strategies (Chapters 1-6), Nonviral Delivery and Therapeutic Strategies (Chapters 7-13), Other Therapeutic Strategies and Regulatory Aspects (Chapters 14-18), and Disease Targets and Therapeutic Strategies (Chapters 19-28). Each of these sections discusses widely utilized techniques and emerging clinical applications. Parts I and II are self-explanatory; Part III includes one chapter each on ribozymes and antisense, while Part IV discusses the application of gene therapy to hematopoietic disorders, cardiovascular disease, cancer, CNS disorders, HIV infection and several other disease states. I believe the editors succeeded in convincing the reader that after many years of basic research, we shall soon see the therapeutic potential of gene therapy realized in the clinic.

In the preface, the editors state their desire to provide future editions and related volumes that would address additional gene therapy topics in depth. As a scientist, I look forward to their efforts as a notable contribution to the field. Unfortunately, as a pharmacy educator, I do not feel this book is a suitable text for typical courses within pharmacy curricula. The content area, while very comprehensive within gene therapy, is much too focused to provide value in the training of pharmacy practitioners. I expect that most pharmacists will have little if any role in the gene therapy of their patients. However, I do recommend the text be acquired for pharmacy libraries as a reference for those involved teaching advanced level courses in biotechnology, molecular biology and/or gene therapy. Instructors will find invaluable information on this topic neatly organized and adaptable to the limited time available for discussion on this topic within the pharmacy classroom. The text is much more likely to be utilized in graduate programs and will also be a tremendous resource for readers interested in learning more about various multidisciplinary approaches to gene therapy.

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This is the second edition of a classic antimicrobial pharmacology text that was first published in 1986. William Pratt has been publishing similar antimicrobial books since the early 1970s. The book is divided into five parts. The first part covers the principles of antimicrobial therapy, namely the determinants of bacterial response and drug resistance. The remaining four parts of the text cover the antimicrobial drugs used to treat bacterial, fungal, parasitic, and viral infections, respectively.

This new edition of the book has more information about drug interactions, albeit not the most comprehensive information on the
topic. There are also two completely new chapters on fluoroquinolones and antiretroviral agents. As with any textbook, many very recent antimicrobial developments are not covered. For example, readers will not find any information about oxazolidinones like linezolid or newer fluoroquinolones, such as gatifloxacin or moxifloxacin.

The goal of the book’s editors was to integrate pharmacology, biochemistry, molecular biology and microbiology in a comprehensive and concise manner. The end product is a very well done text that appears to be more concise than comprehensive in many areas. Readers will find considerably more clinically relevant information in this text than they will in most standard pharmacology textbooks that dedicate a few chapters to antimicrobials. It is a drug-focused book, rather than an infectious diseases therapeutic reference. Therefore, it is not likely to serve as a required text for therapeutics courses.

The book contains numerous charts, tables and figures, including chemical structures for most antimicrobials that readers will find very useful. This book is likely to be a valuable reference for students, basic scientists, pharmacy clinicians and practicing physicians. Medical libraries and drug information centers should consider adding this reference if they serve the needs of any of these professionals.

Douglas Slain
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The first edition of this text was published over thirty years ago with Dr. Ansel as the sole author. The purpose of the text then, as now, was to introduce pharmacy students to basic pharmaceutical principles and technologies applied to the preparation of pharmaceutical dosage forms and drug delivery systems. The goal of this present edition was to integrate physical pharmacy and formulation technology with clinical pharmacy and pharmacy practice. To this end, Dr. Ansel has drawn on the respective expertise of Drs. Allen and Popovich. This Seventh Edition represents a complete rewrite of the previous edition culled from suggestions made by students and colleagues in academia and industry. Important changes include enhanced considerations of dosage form design and formulation, current good compounding practices and clinical considerations in the use of each dosage form.

This text is divided into seven divisions allowing the systematic presentation of dosage forms according to their physical form and characteristics. New with this edition is a “chapter-at-a-glance” presentation at the beginning of each chapter. The seven divisions carry the following titles: (1) Principles of Dosage Form Design and Development, (2) Solid Dosage Forms and Modified-Release Drug Delivery Systems, (3) Semi-Solid and Transdermal Systems, (4) Pharmaceutical Inserts, (5) Liquid Dosage Forms, (6) Sterile Dosage Forms and Delivery Systems, and (7) Novel and Advanced Dosage Forms, Delivery Systems, and Devices.

Some thirty years ago I taught a dosage forms course utilizing the first edition of this text. I found that text to be well written and the material contained within absolutely necessary for the first year undergraduate pharmacy student. Since that time I have taught courses later in the pharmacy curriculum and have not had a chance to follow updates to the original text. I was extremely pleased when given the opportunity to review this newest edition. Simply put, I found this seventh edition impressive, brought up to date with revisions aimed at contemporary pharmacy practice. If I was given the responsibility of developing an undergraduate curriculum in pharmacy I would want an early course offering developed around this text. Yet I have seen many programs minimize the material covered in this text. Other programs have diluted and spread this material over five or six courses. Unfortunately, considering the present direction of pharmacy education, this important work will probably be utilized as a reference rather than a “required” text.

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The theme of this text is providing evidence in support of various non-traditional pharmaceutical practices. Much of the premise revolves around “pharmacy in a new age” (PIANA) initiatives set by the Royal Pharmaceutical Society of Great Britain in an effort to “build the future” of pharmacy. One who is well versed in the British medical system and in the history of European pharmacy practice would have a better appreciation of this book, as it provides a wonderful exploration of what has been done and what should be done to mold the future of pharmaceutical care in the United Kingdom. Its utility as a text in American schools of pharmacy may be limited; however, it is a book worthy of reading.

The book’s ten chapters describe pharmacist roles from advice-giving in the community and home care pharmacy, to providing needle-exchange services to drug misusers. Chapters one and ten provide introductory and conclusive ideas about pharmacy practice research and its future, respectively. Each of the other eight chapters are formatted similarly, presenting evidence for pharmacy practice ideas or “key roles for pharmacists” identified in PIANA. Each chapter appears to be well researched and properly referenced. Chapters are formatted to first introduce the idea, provide a summary of the literature supporting each idea, then highlight, in detail, one study supporting the specific pharmacist role that serves as the theme of the chapter, and lastly, conclude with implications for the research. How the specific studies were selected is unclear. According to the editorial preface, studies were detailed to emphasize their methodology, which may be applied by other pharmacy practice researchers, rather than to present novel or unpublished ideas. Acknowledgments are documented at the end of chapters where studies presented are published elsewhere.

Some of the pharmacoeconomic examples require monetary conversion to US dollars for better comprehension and applicability to the American health system. It also became slightly difficult to follow some of the abbreviations, particularly in figures and tables. With exception of these minor critiques, overall the book nicely presents a much-needed mindset for pharmacy - to become evidence-based in all aspects of pharmaceutical care. From giving advice on OTC agents, to creation of disease-management services, Evidence-Based Pharmacy covers a wide realm of possibilities for and evidence supporting pharmacist roles to shape the future of the profession. This book truly underlines the old adage: “In God we trust. All others bring data!”

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RICHARD J. MARTIN AND MONICA KRAFT. Combination Therapy for Asthma and Chronic Obstructive Pulmonary Disease. New York, NY: Marcel Dekker, Inc., 2000. xii +346 pp., 17 tibs., 42 figs., $150.00 (Hard cover).

This book is Volume 145 of a series of publications on Lung Biology in Health and Disease. The Executive Editor of the series is Claude Lenfant, Director of the National Heart, Blood, and Lung Institute at the National Institutes of Health. Editors Martin and Kraft have presented a very extensively referenced and well-organized text on medication use in asthma and chronic obstructive pulmonary disease. Nocturnal asthma, pediatric asthma, and exacerbations are also considered in each chapter.

The book contains eight chapters, the first five dealing with individual medication classes including inhaled glucocorticoids, beta_2-_agonists, theophylline, leukotriene modifiers, and anticholinergic bronchodilators. Each of these chapters was independently written, but all have the basic sections of an introduction, historical perspective, pharmacological mechanisms, clinical efficacy, and systemic effects.

The chapters themselves are individually and extensively referenced from 73 references for the chapter on beta_2-_agonists to 251 references for the chapter on theophylline. With each chapter being independently authored, the amount of time spent discussing the various topics varies greatly. The short chapter introductions and historical perspectives lay the groundwork for the rest of the chapter. The sections on mechanism of action go into varying degrees of depth to effects noted at the cellular and molecular levels. Each chapter also presents a wealth of clinical study data, though many times conflicting information is presented, sometimes with no overall recommendation for therapy being given as a summary.

Chapter 6 deals with circadian rhythm and chronotherapy of asthma medications. I found this chapter to be well written and informative. The individual agents were discussed, with clinical studies to support their dosing schedule presented. The summary noted the need for increased research in this area.

Chapter 7, written by Kraft, discusses the variety of combination therapy regimens available to treat asthma. Each combination is presented with clinical studies cited to support or refute the use of that particular combination. Several “alternative” therapies are considered including cyclosporine, methotrexate, high-dose intramuscular triamcinolone, auranofin, and troleandomycin. My only comment on this chapter is that it would have been useful to include the current asthma treatment guidelines.

The final chapter deals with combination therapy for COPD. This chapter discusses the individual agents used and studies to support their use, and studies supporting the use of the various combinations used for COPD. Also included is a table outlining a stepwise approach to combination therapy for COPD. Nonpharmacological treatments, such as the need for smoking cessation, oxygen therapy, and pulmonary rehabilitation are included as well.

Finally, the index is arranged by both subject and author. This makes it somewhat easier to find a cited author in the text. This book would be useful to any researcher or clinical specialist who deals with respiratory diseases. The summary of clinical studies and extensive referencing makes this book a useful addition to the bookshelf. I would not however, recommend it as a primary text for undergraduate students. It is too detailed in mechanism of action and pharmacology, and does not provide enough clinical information and application for student use.

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