Basic Pharmacokinetics


Basic Pharmacokinetics is a first edition textbook aimed primarily at the entry-level pharmacy student in the United States and Canada. In their foreword, the authors also state that the book would be useful for pharmaceutical scientists, medical students, and graduate students in the pharmaceutical sciences. This textbook covers the following topics: intravascular and extravascular drug administration, single and multicompartmental models, first-order and zero-order pharmacokinetics, noncompartmental pharmacokinetics, drug interactions, biopharmaceutics, and pharmodynamics.

Each of the 18 chapters includes clear objectives and a comprehensive introduction. The textbook chapters are visually appealing and well written. The authors make good use of equations, diagrams, and graphs to illustrate important pharmacokinetic concepts. The use of problem sets following major sections or chapters, which include detailed work-through answers, makes the textbook very useful as a course reference.

Unfortunately, the book is not as well organized as it could be, both within and between chapters. For example, the single IV bolus one-compartment model is covered in chapter 3, but continuous IV infusion, multiple-dose IV bolus infusion, and intermittent IV infusions are not covered until chapters 10, 11, and 14, respectively. Important concepts such as area under the concentration–time curve, clearance, and bioavailability are introduced relatively late in the textbook, although the authors do devote an entire chapter to clearance concepts. The organization of the book would make it difficult for someone just starting out in pharmacokinetics to follow from start to finish.

This book devotes 2 chapters to physicochemical factors affecting drug absorption and the role of the dosage form in drug absorption, both of which might otherwise be covered in a pharmaceutics textbook. A better use of space might have been to dedicate chapters to other important pharmacokinetics concepts, such as hepatic clearance (e.g., the well-stirred model) and urinary excretion data, which are covered in less detail elsewhere in the book.

Although primarily a basic pharmacokinetics book, this volume does include many clinical examples. Many of the concepts are first illustrated using a simple nonphysiologic example, followed by a clinical or physiologic example. However, some of the clinical concepts are not covered in enough depth to form a good reference for clinical pharmacokinetics courses, such as those offered in some Canadian undergraduate and graduate pharmacy programs. For example, vancomycin and aminoglycosides are used to illustrate the first-order intermittent IV infusion model; however, the worked-through examples do not include the determination of a new dosing regimen, although they do describe how to calculate volume of distribution and elimination rate constant. The topic of non-steady-state pharmacokinetics is not mentioned at all.

Overall, Basic Pharmacokinetics is well written and accurate, and it clearly states the assumptions for various pharmacokinetic concepts. The layout, which appropriately includes the use of lists, bullets, figures, and tables in addition to the text, makes the individual sections easy to follow. This would be a good textbook for an introductory or basic pharmacokinetics course and may be especially useful for instructors who wish to use certain chapters and problems as homework assignments.

Jennifer Kendrick, BSc, BSc(Pharm), ACPR
PharmD student
Faculty of Pharmaceutical Sciences
University of British Columbia
Vancouver, British Columbia

Textbook of Palliative Medicine


More than 170 palliative care experts from around the world joined forces in composing this textbook. It is indeed magnificent to have a concentrated pool of experts, from diverse geographic locations, providing a global perspective on the topic of palliative care. Most of the contributors are physicians, with a few representatives from nursing, social work, rehabilitation, epidemiology, and administration. Unfortunately, there is no representation from pharmacy, respiratory therapy, or nutrition.

The book has 16 sections covering a wide spectrum of topics, including the development of palliative medicine, bioethics, pain and other symptoms, emergencies in palliative medicine, and interdisciplinary issues. Each chapter is further divided into short sections. The book has some helpful features, such as a summary of key learning points and a complete list of references at the end of each chapter. For those who would like to further immerse themselves in a certain topic, symbols in the reference section identify seminal primary articles, key review papers, and management guidelines. Evidence scores on 3 levels are also provided: systematic review or meta-analysis, well-designed randomized controlled trial (RCT), and non-RCT or cohort study. Of special interest to pharmacists are the 14 chapters gathered under the topic of pain, with discussions on special populations such as pediatric patients, elderly patients, and patients with challenges related to addiction.

The downside of having numerous writers for a book such as this is that readers must switch among a collage of writing styles, which makes the book challenging to read at times. For
instance, the chapter on spiritual care is the only one that uses case studies. Keeping the chapters brief and therefore easy to read has its advantages, but the resulting text sometimes lacks the comprehensive detail that readers may require. A couple of section headings are ambiguous: the section entitled “Assessment and Management of ‘Other’ Problems” discusses topics such as hydration, wound care, hope, and counselling, and “Specific Conditions and Situations” covers 13 topics that are mostly unrelated. This makes it difficult for the reader to retrieve the desired information without frequently consulting the index. Another disadvantage of having many contributors is that related information may be scattered and repeated in different chapters. Examples include physical medicine, which is covered in both chapters 15 and 16; episodic pain, which is embedded in a couple chapters within the section on pain; and pediatric concerns, which appear in the sections on pain and interdisciplinary issues. As well, the book could certainly have benefited from sections on psychosocial care, spirituality, and medication management; poor medication adherence in particular is a common problem in palliative care.

In summary, this textbook represents an effort to provide a vast amount of information on palliative medicine. It is successful in offering a global perspective, but for those looking for a “how to” text, this will not be the answer.

Ayesha Hassan, BScPharm, MSc
Pharmacy
Royal Inland Hospital
Kamloops, British Columbia

Palliative Pharmacy Care

By providing a “blending of published literature, unpublished data, and expertise”, the editor intends this book to be “a practical approach to palliative care and the unique role of the pharmacist”. It is a resource for pharmacists who are new to palliative care, as well as those who wish to improve their knowledge and skills in this specialized area of practice.

The first section of the book, “The Palliative Care Spectrum: Providing Care across Settings”, addresses care for patients with a diagnosis of cancer, as well as those with a variety of other disease states that are sometimes overlooked. It also discusses palliation in various settings, including the pediatric and intensive care areas.

Other sections focus on individual symptoms such as anorexia and cachexia, anxiety and depression, agitation and delirium, dyspnea, fatigue, nausea and vomiting, constipation and diarrhea, secretion management, nutrition and hydration issues, and, of course, pain management. The chapters on pain and symptom management are set up in a format whereby the symptoms and pathophysiology are discussed first, followed by discussions of assessment and management. Often included are tables or charts summarizing causes or exacerbators of a particular symptom and treatment options, with recommended dosing. Both pharmacologic and nonpharmacologic treatments are discussed. “Key points” and “clinical pearls” are provided throughout the book; the chapters relating to pain and symptom management include case studies as well.

The final section of the book, “Beyond Drug Therapy: Key Issues for Pharmacists in Palliative Care”, deals with ethical issues, communication, research, establishing a palliative care service, and education.

Although this reviewer did find the book to be a valuable resource, it was somewhat less informative in certain aspects than other references that are now available. The recommendations for the management of symptoms and dosing charts are helpful, but not as comprehensive as those in some other references. In addition, the clinical pearls were a little disappointing: they were not really “clinical pearls” but often were more like an introduction to a specific topic. However, the suggestions for networking and listings of other palliative care resources, available trainee ships, and further education are definitely valuable, and this information is often not readily available from other sources. Other interesting topics discussed were the ethical issues and advance directives. Also, I appreciated the focus on the role of the pharmacist as going beyond that which applies to the pharmaceutical realm. The book continually stresses that in the palliative care setting, the pharmacist has a role that encompasses several capacities, including supporting the family and caregivers, ensuring continuity of care, ensuring informed decision-making, attending to spiritual well-being, and supporting function. These roles are often overlooked by pharmacists but are very important, particularly in the palliative care setting. It should also be mentioned that because this is a US publication, there are some differences in medications, laboratory values, and possibly screening tools.

Gerri Scott, BScPharm, FASCP
Pharmacy
Brandon Regional Health Centre
Brandon, Manitoba

Introduction to Statistics in Pharmaceutical Clinical Trials

Introduction to Statistics in Pharmaceutical Clinical Trials is an introductory statistics textbook intended to teach basic statistical concepts to students in pharmacy, allied health professions, and clinical research. In contrast to the usual format of introductory textbooks on this topic, the authors have presented the basic concepts in the context of clinical trials conducted during devel-