

## BOOK REVIEWS

**McPherson TB. *PharmDceutics: Applied Biopharmaceutics for Clinical Pharmacists*. Edwardsville, IL: PharmDceutics, Inc.; 2012, 238 pp, \$49.00 (softcover), ISBN 9780985905002.**

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*PharmDceutics: Applied Biopharmaceutics for Clinical Pharmacists* by Dr. Timothy B. McPherson is a compilation of central principles of pharmaceutics and drug delivery that underlie clinical outcomes of patient therapy. As the part of title “PharmDceutics” implies, the target audience is students in the professional pharmacy program (PharmD). However, this book can be a useful primer for practicing clinical pharmacists providing medication therapy management (MTM), educators in the fields of pharmacy and pharmaceutical sciences, and other allied clinicians involved in drug therapy.

The book is organized in a logical fashion over 7 chapters concluding with a glossary of definitions. Chapter 1, “Introduction to Biopharmaceutics,” emphasizes in what way the in-depth knowledge of biopharmaceutics can contribute to the pharmacist’s expertise in patient-centered care applications such as MTM. Chapter 2, “Overview of Drug Delivery,” explains terminology related to drug delivery and describes the patient-specific health information relevant to drug delivery. This chapter also introduces readers to various concepts presented in subsequent chapters. Chapter 3, “The One Compartment Open Model and Bioavailability,” elucidate the interpretation of pharmacokinetic and bioavailability data and their clinical applications. Chapter 4, “Transport Processes in Drug Delivery,” provides a detailed description of drug transport processes across biological membranes and various transporters involved in drug delivery. Chapter 5, “Drug Solubility and Dissolution,” presents a quantitative description of drug solubility and variables influencing oral drug dissolution. Chapter 6, “Oral Drug Absorption,” describes the concepts of gastrointestinal tract anatomy and physiology with relevance to bioavailability of orally administered drugs. Finally, Chapter 7, “Drug Product Approval and Bioequivalence,” provides an explanation of the approval process for new drugs and generic products with a description of the biopharmaceutics classification system and its applications.

One of the major challenges student pharmacists frequently encounter during pharmaceutics and/or

biopharmaceutics course is translation of basic scientific concepts of pharmaceutics to clinical practice. This book is well-constructed to bridge that gap. The example questions placed in boxes between each chapter is an important highlight of this book. In my opinion, the author did an admirable job in writing these questions as they improve critical-thinking ability of students and emphasize the clinical application of basic concepts. The book is nicely studded with examples of drugs and clinical conditions wherever applicable, thereby providing relevance to the PharmD student. The informal and conversational style of the text makes the content easy to understand and provides the reader with a feeling of listening to an actual lecture. The elaborate step-by-step explanation of calculations for concepts based on quantitative description such as pharmacokinetics, bioavailability, and solubility is helpful, particularly for students who have difficulty with mathematics.

Addition of some concepts of clinical relevance such as nonlinear pharmacokinetics, controlled release formulations, and nanotechnology would add value to the book. Furthermore, adaptation of color-based text format instead of a traditional black-and-white format and online availability of the book would likely better engage students.

Many classic pharmaceutics textbooks are focused heavily on basic science concepts at the expense of clinical application for patient-centered care. This book achieves both. The only directly comparable book available is *An Introduction to Clinical Pharmaceutics* by Alexander T. Florence. Pharmacy curriculum in most pharmacy colleges and schools is integrated and, in my opinion, *PharmDceutics* is a better choice for a textbook compared to *An Introduction to Clinical Pharmaceutics* because the content of the former encompasses a wide range of applied biopharmaceutical concepts while the content of the latter is focused more on formulations, excipients, and physico-chemical aspects.

In conclusion, *PharmDceutics: Applied Biopharmaceutics for Clinical Pharmacists* is an excellent contribution to the pedagogy of pharmaceutics in PharmD curriculum. Dr. Timothy B. McPherson’s unique blend of experience in both basic science and pharmacy practice has allowed him to develop a book which translates biopharmaceutical concepts into useful tools for clinical decision-making. I highly recommend the book to be used as a textbook for a first course in biopharmaceutics for PharmD students.

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