

Book Review

Transdermal Drug Delivery: Development Issues and Research Initiatives. Edited by Jonathan Hadgraft and Richard H. Guy. Marcel Dekker, New York, 1989, x + 324 pages.

The publication of this book by Marcel Dekker provides a welcome addition to the literature of transdermal drug delivery. At a time when it seems that there is a plethora of books on transdermal delivery of drugs, this book is different and focuses mainly on the early stages of the development of transdermal systems. These early stages deal primarily with biological aspects of transdermal delivery and the editors have compiled chapters which appropriately discuss some of the issues. Five of the 12 chapters in this book deal directly with the skin and thoroughly update our current state of knowledge about skin. The book is also successful in addressing the importance of further basic research on skin if transdermal delivery of drugs is to become more widespread and clinically useful. This book contains the most comprehensive discussion on three topics, *viz.*, physical characterization of the stratum corneum using thermal, IR, and X-ray diffraction techniques, penetration enhancers, and iontophoresis, that this reviewer has so far come across.

This book is also different from other books on transdermal drug delivery because it focuses on topics such as microbial metabolism, cutaneous side effects, and drug metabolism in the skin. All these chapters are well written and adequately referenced. A chapter on selection of drugs for transdermal drug delivery is a good review summarizing sev-

eral publications by the same authors over a period of years. There are chapters on *in vitro* evaluation and pharmacokinetics, clinical efficacy, and tolerance development to drug delivery through transdermal systems. These chapters do not offer anything new. A review on delivery to newborn infants is interesting and presents information that can be used to design further studies needed to develop any practical applications.

In an otherwise good book, the chapter on materials selection for transdermal systems is an utter disappointment. The title of the chapter offers too much hope but nothing substantial in text. It fails to provide readers with either a critical review or some guidelines for proper selection of device components. Although one cannot expect a detailed, comprehensive analysis of the complex job of materials selection, this chapter does not contain anything that has not been published before in similar books on transdermal delivery and, hence, seems repetitive and out of place. In summary, the editors have been successful in putting together a good book, which I recommend to graduate students and scientists active in the area. This book would also be an excellent addition to institutional or industrial libraries for those involved in dermatopharmaceutics research.

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