

Book Review

Encyclopedia of Pharmaceutical Technology, Volume 1. Edited by James Swarbrick and James C. Boylan. Marcel Dekker, New York and Basel, 1988, ISBN 0-8247-2800-9, 502 pp., \$180.

This first of 12 volumes of an *Encyclopedia of Pharmaceutical Technology* presents diverse subject titles arranged alphabetically. Topics in this volume range from absorption of drugs to bioavailability of drugs and bioequivalence (A to B).

The encyclopedia format for this series provides a practical summary of the topic written by an author having expertise in the content area, with the depth and scope being necessarily limited. Each chapter is supported with up-to-date references. This volume includes timely topics such as the analysis of recombinant biologicals.

A statement in the Preface by the editors notes that the scope for this encyclopedia includes subjects pertaining to the discovery, development, regulations, manufacturing, and commercialization of drugs and dosage forms. The range of topics covered in this first volume meets with this expectation.

Chapter One, entitled "Absorption of Drugs," reviews routes of parenteral and enteral absorption and includes sections on clinically relevant factors affecting drug absorption. Abuse of drugs is the subject of Chapter Two, which includes a comprehensive table of drugs of abuse (active ingredient, common name, source, pharmacologic action, medical use if any, abuse dosage form, route of administration, effects sought, and dependence potential). This chapter covers both the behavioral and the pharmacological information related to drugs of abuse. The author makes the point that current treatment programs using a pharmacological approach can be improved by developing better drug delivery systems.

An excellent review of absorption at solid surfaces is covered in Chapter Three. Both the physiochemical mechanisms and information relevant to pharmaceutical application are given. A brief coverage of drug and drug product adulteration is provided in Chapter Four, with an emphasis on regulatory aspects. Adverse drug reactions is reviewed in Chapter Five, where consideration is given to reporting systems and factors predisposing to adverse drug reactions (the drug and the dosage form, the patient, and extrinsic factors). Discussed in Chapter Six is advertising and promotion of prescription drug products. Given the importance of promotional practices for drug products, this chapter provides a

scholarly and comprehensive review of the subject. Major headings discussed are the history of laws relating to advertising regulations, advertising regulations, and the future of advertising.

Chapter Seven provides fundamental information about air suspension coating. Fluidized bed equipment types, fundamentals of film coating, process variables, product variables, top spray coating, Wurster bottom spray coating, tangential spray coating, and scale-up are topics covered in this useful chapter. Chapters Eight through Ten cover analytical chemistry topics including analysis and assay of drugs, analysis of biologic fluids, and analysis of recombinant biologicals, respectively. There is some overlap between Chapter Eight and Chapter Nine since Chapter Eight has a section covering assay of drug in biologic fluids. Analysis of recombinant biologicals is given comprehensive coverage in a 60-page chapter supported by over 140 references.

A discussion of animals in drug development is provided in Chapter Eleven, covering such topics as animal models in drug discovery, animals in drug safety testing, and care of laboratory animals. This chapter provides only a small section relating to governmental guidelines for animal welfare.

The remaining chapters of this volume cover aqueous film coating, aseptic process operations (validation of), atomic absorption spectrometry, auditing of pharmaceutical processing, autoclaves and autoclaving, autoxidation and antioxidants, binders, bioabsorbable polymers, and bioavailability of drugs and bioequivalence.

Critical comments about this volume include variation in depth of coverage of subject matter between chapters. The chapter devoted to adulteration of drugs and drug products is brief and includes only four references. Other chapters are comprehensive and well supported with references. Autoxidation and antioxidants is a useful chapter falling into the latter category. An inconvenient feature is the lack of a subject index for this volume.

This volume is recommended as a library acquisition, with the idea that a complete encyclopedia will be purchased over time. With the availability of a subject index, this series should be useful as a reference for an overview or an introduction to subjects related to pharmaceutical technology.

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