

pharmaceutic and pharmacokinetic parameters associated with a drug. The process needs to be better understood to allow reasonable interpretation of the pharmacokinetic data obtained for drugs that are recycled. The data presented here reflect the simplest case; discontinuous recycling, which is associated with gall bladder storage and emptying, is even more complex (1).

(1) W. A. Colburn, *J. Pharmacokinet. Biopharm.*, in press.

Wayne A. Colburn

Department of Pharmacokinetics and
Biopharmaceutics
Hoffmann-La Roche Inc.
Nutley, NJ 07110

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BOOKS

REVIEWS

Basic Clinical Pharmacokinetics. By MICHAEL E. WINTER, with BRIAN S. KATCHER and MARY ANNE KODA-KIMBLE. Applied Therapeutics, P.O. Box 31-747, San Francisco, CA 94131. 1980. 231 pp. 14.8 × 22.7 cm. Price \$22.00.

Pharmacokinetics and biopharmaceutics are well-established disciplines. Their contributions in describing drug disposition, and predicting plasma drug concentrations and changes in drug concentrations are generally recognized. During the past decade, evaluation of drug concentrations in biological fluids has found wide acceptance as part of drug therapy monitoring. The authors view this book as a practical guideline for the clinician in evaluating drug monitoring.

The book is divided into two parts. The first part gives a brief overview of the basic principles of pharmacokinetics dealing with bioavailability, rate of administration, desired plasma concentration, volume of distribution, clearance, elimination, steady-state concentrations, interpretation of plasma drug concentrations, selection of appropriate equations, and creatinine clearance. At the end of the first part, a very instructive diagram is given for evaluation and interpretation of plasma levels. This diagram will be very helpful for any clinician confronted with blood level data interpretation.

Part 2 discusses the clinical pharmacokinetics of drugs usually monitored by a clinical pharmacokinetics service. The following drugs are covered: digoxin, lidocaine, procainamide, quinidine, theophylline, gentamicin, phenobarbital, and phenytoin. For each of these drugs, therapeutic and toxic plasma levels, bioavailability, if applicable, and the most important pharmacokinetic parameters (*i.e.*, volume of distribution, clearance, and elimination half-life) are covered. Where applicable, the influence of age, disease, and other concomitantly given drugs on drug disposition is discussed.

This section, which is well referenced, is followed by a selection of typical clinical cases, along with the pharmacokinetic approach for solution. The calculations are listed stepwise so that even one who is inexperienced in pharmacokinetics can easily follow. This section will be of great value to anyone interested in or practicing clinical pharmacokinetics, as well as for teaching undergraduate and graduate students. Although only a few drugs are discussed in detail, once one masters these problem cases, the principles can be applied and tailored to many more drugs.

The book contains three appendices: I, nomograms for calculating body surface area of children and adults; II, a listing of equations used throughout the text; and III, a glossary of terms and abbreviations.

In summary, this is a well-written and well-designed text which incorporates the most important basic principles of basic and clinical pharmacokinetics. As such, the book will be of great value to all those involved in clinical pharmacokinetics and drug monitoring, particularly

those who are entering the field. The authors have to be congratulated for writing such a well-organized guideline to the practical approach of drug level monitoring.

Reviewed by W. A. Ritschel
College of Pharmacy and
College of Medicine,
University of Cincinnati
Medical Center
Cincinnati, OH 45267

GC/MS Assays for Abused Drugs in Body Fluid. NIDA Research Monograph 32. By RODGER L. FOLTZ, ALLISON F. FENTIMAN, and RUTH B. FOLTZ. National Institute on Drug Abuse, Division of Research, 5600 Fishers Lane, Rockville, MD 20857. 1980. 202 pp. 14 × 23 cm. Price \$5.00. (Available from Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402. Specify GPO stock no. 017-024-01015-4.)

This monograph, prepared by authors who are well versed in the areas of analytical methodology and drug abuse, should be valuable to investigators interested in quantitating drugs in biological fluids. This work is actually a compilation of assays used for measuring the levels of drugs most often misused.

This volume (13 chapters) includes an introduction and a discussion of experimental considerations and operations common to all of the assays (Chapter 2), and each remaining chapter is devoted to a particular drug that is commonly abused. The inclusion of Chapter 2 (which deals with the basics of obtaining internal standards, preparing calibration curves, sample extractions, performance evaluation of the gas chromatograph-mass spectrometer, *etc.*) is an ideal approach since it greatly reduces excessive repetition that would have been required in each of the succeeding chapters. The authors recommend that investigators concentrate on Chapter 2 along with the specific chapter for the drug in question.

Each succeeding chapter is devoted to one of the following drugs of abuse: phencyclidine, methaqualone, methadone, Δ^9 -tetrahydrocannabinol and two of its metabolites (11-hydroxy- Δ^9 -THC and 11-nor-9-carboxy- Δ^9 -THC), cocaine and its major metabolite (benzoylecgonine), morphine, diazepam and its major metabolite (*N*-desmethyldiazepam), amphetamine, methamphetamine, 2,5-dimethoxy-4-methylamphetamine, and mescaline. Each chapter begins with a brief historical description of the drug followed by a synopsis of its pharmacological effects. A discussion on pharmacokinetics and metabolism examines which biological fluid should be chosen for assay and whether metabolites should be quantitated. Then the sensitivity and selectivity of most of the techniques (*e.g.*, spectrometry, gas chromatography, and radioimmunoassay)

that have been applied to the analysis of the drug are presented. However, quantitation by gas chromatography-mass spectrometry-single-ion monitoring, which is far more reliable and sensitive than most other methods, is emphasized. A detailed description of gas chromatographic-mass spectrometric methodology is provided. In addition, each chapter has its own reference section, which provides ample documentation.

This monograph enables the investigator to choose the best analytical method for a particular drug based on the materials and equipment available. In addition, the design of basic experimental protocols should be greatly facilitated with the information contained within this volume. Although this book is intended for those in the field of drug abuse, it should be helpful to anyone interested in undertaking an analysis of any drug by gas chromatography-mass spectrometry.

Reviewed by Billy R. Martin
Department of Pharmacology
Medical College of Virginia
Virginia Commonwealth University
Richmond, VA 23298

Pharmacological and Biochemical Properties of Drug Substances, Vol. 3. Edited by MORTON E. GOLDBERG. American Pharmaceutical Association, 2215 Constitution Ave., N.W., Washington, D.C., 20037. 1981. 495 pp. 16 × 24 cm. Price \$39.00 (Vols. 1-3, \$90.00).

The third volume of this series presents 16 new monographs on a variety of therapeutic agents and topics, bringing the total number of monographs in this series to 52. Most of these reviews (in this volume as well as in the previous two) are concerned with specific drugs and are extensively referenced.

Although Dr. Goldberg's own research has emphasized central nervous system pharmacology, the book covers a wide variety of therapeutic classes such as cardiovascular agents, chemotherapeutic agents, and pulmonary/antiallergy agents, to name a few. The members of the editorial board also are cited for various areas of expertise.

Volume 3 contains three monographs covering topical steroid therapy, eicosanoids and pulmonary function, and one entitled, "Assessing Drug Concentration/Effect Correlations: Implications for Research and Therapy."

The author encourages readers to write to him or one of the editors if it is felt that a drug or topic deserves consideration for future volumes.

Staff review

NOTICES

An Introduction to Hazard and Operability Studies. The Guide Word Approach. By R. ELLIS KNOWLTON. Chematics International Ltd., 1770 Burrard St., Vancouver, B.C., Canada, V6J 3G7. 1981. 43 pp. 17 × 24 cm. Price \$7.00.

Ap-GI—2nd International Conference on Pharmaceutical Technology. Paris—3-5 June 1980. Association de Pharmacie Galenique Industrielle, Rue JB, Clement 92290. Chatenay-Malabry, France. 15 × 24 cm. (each book). Price 800 FF complete set of five books, incl. taxes.

Arzneistoffe. (Lehrbuch der Pharmazeutischen Chemie). By WALTER SCHUNACK, KLAUS MAYER, and MANFRED HAAKE. Frieder Viewen & Sohn, Verlagsgesellschaft mbH, Postfach 5829, D-6200, Wiesbaden 1, West Germany. 1981. 608 pp. 17.5 × 24.5 cm. Price DM 68.00.

Basics of Electroorganic Synthesis. By DEMETRIOS K. KYRIACOU. Wiley, One Wiley Drive, Somerset, NJ 08873. 1981. 153 pp. 15 × 23 cm. Price \$27.50.

Behavioral Pharmacology. 2nd Ed. By SUSAN D. IVERSEN and LESLIE L. IVERSEN. Oxford University Press, 200 Madison Ave., New York, NY 10016. 1981. 305 pp. 15 × 23 cm. Price \$17.95 cloth and \$10.95 paper.

Biomedical and Dental Applications of Polymers: Polymer Science and Technology Vol. #14. Edited by CHARLES G. GEBELEIN and FRANK F. KOBLITZ. Plenum, 227 W. 17th St., New York, NY 10011. 1980. 492 pp. 16 × 25 cm.

Breastfeeding: Program, Policy, and Research Issues. Edited by EDWARD C. BAER and BEVERLY WINIKOFF. A Special Issue of Studies in Family Planning, Vol. 12, No. 4. Population Council, 1 Dag Hammarskjold Plaza, New York, NY 10017. 1981. 206 pp. 21 × 28 cm. Price, no charge for single copies, multiple copies, \$2.50 each.

Cellular Receptors for Hormones and Neurotransmitters. Edited by DENNIS SCHULSTER and ALEXANDER LEVITZKI. Wiley, 605 Third Ave., New York, NY 10016. 1980. 412 pp. 15 × 23 cm. Price \$70.00.

Enzymes as Drugs. Edited by JOHN S. HOLCENBERG and JOSEPH ROBERTS. Wiley, 605 Third Ave., New York, NY 10016. 1981. 455 pp. 15 × 23 cm. Price \$59.50.

Hagers Handbuch der Pharmazeutischen Praxis: Vollständige (Vierte) Neuauflage. By P. H. LIST and L. HORHAMMER. Springer-Verlag, 44 Hartz Way, Secaucus, NJ 07094. 1980. 628 pp. 16 × 24 cm. Price \$100.30.

Hospital Pharmacy. 4th ed. By WILLIAM E. HASSAN, Jr. Lea & Febiger, 600 Washington Square, Philadelphia, PA 19106. 1981. 588 pp. 15 × 24 cm. Price \$29.50, Canada \$35.50.

IARC Monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Humans. Some Pharmaceutical Drugs. Vol. 24. International Agency for Research on Cancer. World Health Organization, 1211 Geneva 27, Switzerland. 1980. 337 pp. 17 × 24 cm. Price U.S. \$25.00 (Sw. fr. 40).

Immunostimulation. By L. CHEDID, P. A. MIESCHER, and H. J. MUELLER-EBERHARD. Springer-Verlag New York, 44 Hartz Way, Secaucus, NJ 07094. 1980. 236 pp. 16 × 24 cm. Price \$22.50.

International Journal of Quantum Chemistry. Quantum Biology Symposium No. 7. (Proceedings of the International Symposium on Quantum Biology and Quantum Pharmacology). Held at Palm Coast, Fla., March 5-8, 1980. By PER-OLOV LOWDIN and JOHN R. SABIN. Wiley, 605 Third Ave., New York, NY 10016. 1980. 434 pp. 15 × 23 cm. Price \$40.00.

Liquid Chromatography In Clinical Analysis. Edited by POKAR M. KABRA and LAURENCE J. MARTON. The Humana Press Inc., Crescent Manor, P.O. Box 2148, Clifton, NJ 07015. 1981. 466 pp. 15 × 23 cm. Price \$55.00. \$65.00 foreign.

Manual of Antibiotics and Infectious Diseases. 4th ed. By JOHN E. CONTE, Jr., and STEVEN L. BARRIERE. Lea & Febiger, 600 Washington Square, Philadelphia, PA 19106. 1981. 233 pp. 14 × 22 cm. Price \$17.50. Canada \$21.00.

Manual of Clinical Pharmacology. Edited by DAVID ROBERTSON and CRAIG R. SMITH. The Williams & Wilkins Co., 428 E. Preston St., Baltimore, MD 21202. 1981. 350 pp. 17 × 25 cm. Price \$17.00.

Monoamine Oxidase Inhibitors. The State of the Art. Edited by M. B. H. YODIM and E. S. PAYKEL. Wiley, 605 Third Ave., New York, NY 10016. 1980. 214 pp. 15 × 23 cm. Price \$39.00.

Pharmaceuticals and Health Policy. (International Perspectives on Provision and Control of Medicines). Edited by RICHARD BLUM, ANDREW HERXHEIMER, CATHERINE STENZIL, and JASPER WOODCOCK. Holmes & Meier Publishers, Inc., 30 Irving Place, New York, NY 10003. 1981. 14 × 22 cm. Price \$37.50.

Pharmacology: An Introduction to Drugs. 2nd Ed. By MICHAEL C. GERALD. Prentice-Hall, Inc., Englewood Cliffs, NJ 07632. 1981. 686 pp. 15 × 23 cm. Price \$20.95.

SRS-A and Leukotrienes. (Proceedings of the Annual Symposium of the Institute of Basic Medical Sciences Royal College of Surgeons of England. 24th Sept. 1980). Edited by PRISCILLA J. PIPER. Wiley, One Wiley Drive, Somerset, NJ 08873. 282 pp. 15 × 23 cm. Price \$45.00.