
TEXTBOOK OF

PHARMACOLOGY

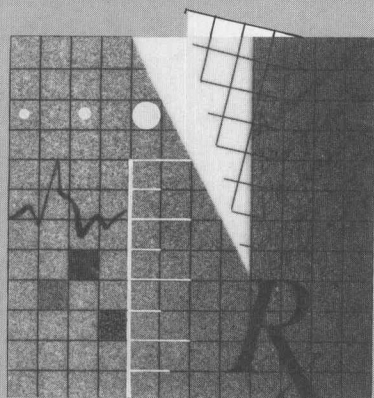
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NURSING CARE



Using the Nursing Process

Roger T. Malseed
Gail S. Harrigan



Textbook of Pharmacology and Nursing Care

USING THE NURSING PROCESS



J.B. LIPPINCOTT COMPANY

Philadelphia

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São Paulo Sydney

Acquisition/Sponsoring Editor:

Nancy Mullins

Manuscript Editor:

Virginia Barishek

Indexer: Alexandra Weir

Design Coordinator: Anita Curry

Designer: Tracy Baldwin

Production Coordinator:

Charlene Squibb

Compositor: TAPSCO, Inc.

Printer/Binder: The Murray

Printing Company

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6 5 4 3 2 1

Library of Congress Cataloging-in-Publication Data

Malseed, Roger T. (Roger Thomas)

Textbook of pharmacology and nursing care.

Includes bibliographies and index.

1. Pharmacology. 2. Nursing. I. Harrigan, Gail. II. Title. [DNLM: 1. Drug Therapy—nursing.

2. Pharmacology—nurses' instruction. QV 4 M259t]

RM300.M184 1989 615'.1'024613 87-35370

ISBN 0-397-54432-4

Any procedure or practice described in this book should be applied by the health-care practitioner under appropriate supervision in accordance with professional standards of care used with regard to the unique circumstances that apply in each practice situation. Care has been taken to confirm the accuracy of information presented and to describe generally accepted practices. However, the authors, editors, and publisher cannot accept any responsibility for errors or omissions or for consequences from application of the information in this book and make no warranty, express or implied, with respect to the contents of the book.

Every effort has been made to ensure drug selections and dosages are in accordance with current recommendations and practice. Because of ongoing research, changes in government regulations, and the constant flow of information on drug therapy, reactions, and interactions, the reader is cautioned to check the package insert for each drug for indications, dosages, warnings, and precautions, particularly if the drug is new or infrequently used.

Textbook of Pharmacology and Nursing Care

USING THE NURSING PROCESS

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*To Zoriana,
for her unfailing love and support,
and to Mark and Natalie,
who are a constant source of pride and joy*

*To Rick and Randy,
who, through their love and laughter,
remind me daily of what is truly important in life*



2000年6月12日

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Preface

Nurses occupy a unique position in the delivery of health care, one that requires broad knowledge encompassing both didactic and practical aspects. A significant responsibility of such a position is the necessity for nurses to be skilled in the clinical pharmacology of the vast array of medicinal agents used in modern pharmacotherapy. Nurses must provide vital monitoring of the safety and efficacy of drug therapy, and responsible and appropriate nursing intervention frequently is a primary determinant of the overall success of drug treatment.

This book was conceived and developed to provide the necessary knowledge for nurses and other health care personnel in both the theoretical aspects of pharmacology as well as the entire nursing process as it relates to drug therapy and patient care.

The nursing process format is strongly emphasized throughout the book in order to encourage readers to utilize all nursing skills in caring for a patient, and not just those required for proper drug administration. Since as many as 20% of patients taking prescribed drugs suffer unexpected drug reactions, nurses need to be provided with the tools necessary to minimize problems and encourage safe drug usage.

The first step in this process is through *Assessment*. The reader is given pertinent historical information including the proper means for obtaining a medical or personal history so that potential problems may be detected at an early stage. This data is culled from the Interactions, Side-Effects/Adverse Reactions, and Contraindications and Precautions sections of the pharmacological profile on each drug or drug class. In addition, suggestions for appropriate physical examinations and laboratory or diagnostic monitoring are included to emphasize the necessity and importance of having a complete data base before administering any drug.

Nursing *Diagnoses* are then listed. They outline the actual and potential reactions a patient may have to a drug and in what areas a nurse may appropriately intervene.

The *Plan* identified in each section outlines goals that assist in ensuring safe drug administration, close monitoring of drug effects, and early detection of side-effects. The goals also

provide the framework for patient teaching to optimize drug effectiveness and minimize undesirable reactions.

In the *Intervention* section, common side-effects as well as significant adverse reactions are discussed. Strategies are given for appropriate patient monitoring and those signs and symptoms of potential problems that patients should be taught to report are outlined. In addition, information about specific administration techniques is provided where appropriate.

The *Evaluation* section lists specific outcome criteria that can be used to measure drug effectiveness. Appropriate changes in laboratory values, diagnostic tests, and patient reactions are identified to provide as many objective parameters as possible.

Nursing care plans have been included for 22 major drug categories in order to demonstrate more clearly how drug therapy can affect the *total* patient. These care plans are structured to provide detailed information for the reader about assessment, nursing diagnoses, expected client outcomes, and appropriate interventions, and are designed to complement the narrative in the chapters in which they appear. They are meant to be integrated into the total nursing care plan for a patient, who will obviously have many more needs than simply those related to safe drug administration. Thus, the format intentionally emphasizes the importance of drug therapy in planning total patient care.

Case studies have also been included at the end of many chapters and are largely based on actual experiences with many patients. The case studies are designed to provoke discussion *beyond* the questions asked at the end of each case. Nurses need to discuss the rationale for certain drug regimens, why certain people have difficulty with a particular drug regimen, and how nurses may effectively intervene through demonstration, teaching, and communication with other caregivers to minimize a patient's problems with drug therapy.

The book is divided into 12 sections and an appendix. Section I deals with general principles of pharmacology and includes detailed explanations of those concepts needed by the reader to grasp fully the later discussions of the mechanisms, actions, and fate of the individual drugs. A critical aspect of drug therapy is the potential for two or more drugs to interact adversely, and this problem is considered in detail in this section. Given the increasing tendency toward multiple drug therapy, especially in elderly patients, this facet of pharmacology justifiably deserves careful attention. In addition to the general discussion of drug interactions in Section I, extensive listings of documented drug interactions are provided throughout the text for individual drugs or drug groupings.

Section II attempts to define critically the role of the nurse in drug therapy. Techniques of drug administration and patient teaching are reviewed in Chapters 6 and 8. These chapters describe both common and not-so-common drug administration techniques, proper formats for writing drug cards, methods for teaching patients how to take medications

properly, and many other aspects of drug administration. Detailed information is given in Chapter 6 about intravenous drug administration, because this route is so often utilized in critical care situations. Through this detailed presentation, readers should be able to obtain the information necessary to ensure safe drug administration from a single resource. Considerable attention is focused on the legal aspects of drug usage, particularly as they relate to the nurse. In addition, considerations of those facets of health care unique to the pediatric and geriatric populations receive careful scrutiny in individual chapters dealing with pediatric pharmacology and geriatric pharmacology. These chapters follow a Nursing Process format, and identify differences in physiological functioning, developmental skills, and learning needs for these populations as well as the many problems inherent in providing safe and effective drug therapy in these patient groups. Finally, a comprehensive review of the mathematics of drug therapy is also presented in this section, where practice problems are provided for many different types of dosage calculations.

Beginning with Section III and continuing through Section XI, the principal classes of drugs the reader is likely to encounter in clinical practice are discussed under their appropriate general headings. Each chapter begins with an overview of the drug class, frequently integrated with a discussion of the physiology of the appropriate organ or body system affected. A detailed account of the pharmacology of the drug class is then presented, followed by specific information relative to the indications, fate, adverse effects, contraindications, precautions, and interactions associated with the class of drugs or, where appropriate, the individual drugs being considered. Tables are used extensively to facilitate comparison of similar drugs. Information provided for every drug includes available preparations, recommended dosages, and other pertinent comments regarding administration. A number of related bibliographic articles are found at the end of each chapter. Finally, a list of review questions based upon the content of the chapter is provided to test the reader's understanding of the material presented.

The problem of drug abuse is addressed at length in a separate chapter in Section XII, where general considerations of the problem are discussed, and guidelines for the recognition and the treatment of abuse of many different drugs are outlined. The Appendix contains many useful tables, such as abbreviations, laboratory values (including international units), and a comprehensive listing of incompatibilities of drugs in solution.

Another unique feature found throughout the text is the presence of many *Disease Briefs*, which provide a concise yet practical review of the etiology and symptoms of a disease that is treatable by a particular drug being discussed.

The scope of this text is an indication of the complexity of modern pharmacotherapeutics. Nurses and other health care providers face an enormous task in keeping informed about

the medications that they must administer and monitor. This book is intended to serve as a comprehensive, practical source for that information and to provide the nurse with a single reference from which to obtain sufficient knowledge in both the theoretical and practical aspects of drug therapy and patient care to provide quality health care.

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Acknowledgments

A book of this size and scope is not possible without the assistance and support of many people. The authors would like to express their appreciation to the editors, past and present, at the J.B. Lippincott Company who have overseen various phases of this work and whose advice, direction, and encouragement have helped make the final product a reality. They are Bernice Heller, David Miller, Joyce Mkitarian, Nancy McFarland, and Nancy Mullins.

A variety of nurses, colleagues, and friends gave freely of their time and expertise to ensure that the material in this book is as current and accurate as possible. Thanks are extended to Emily Auermuller, Janet Boury, Margaret Davidson, Dayle Dorsky-Flynn, Anna Ellis, Sally Fedkenheuer, D. Anthony Forrester, Shauna Giggey, Susan Hall-Bruncati, Mary Ellen Hickman, Terri Hollander, Lois Honchurek, Deanna Johnson, Janice Johnston, Margaret Levine, Joan Monahan, Tish Obal, Carole Shea, and Hazel Williams.

A special debt of gratitude is extended to those individuals who spent countless hours typing the manuscript. In particular, Mary Murphy, Lynn Loudy, and the typing service at the J.B. Lippincott Company deserve a sincere thank-you.

It goes without saying that the efforts of the consultants and contributors were of immeasurable importance in sculpturing and refining this book. Their interest, input, and advice are gratefully acknowledged.

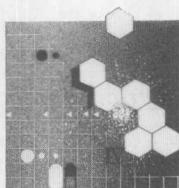
The authors would also like to thank the reference librarians at the George Smith Library of the University of Medicine and Dentistry of New Jersey and at the Monmouth County Library, Eastern Branch who provided countless resources and information throughout the development of this book.

A special thank-you is extended to Suzanne Smeltzer for her support, advice, and encouragement throughout this project.

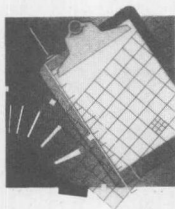
A wife and mother needs additional support when becoming a writer, because many domestic duties begin to fall apart. I would like to thank the Sumski and Harrigan families for

helping me hold down the "fort" with support, food, humor, presents, cards, telephone calls, and babysitting services without which I would not have survived. I would especially like to thank my mother, who was always there with a hug, a laugh, and incredible energy just when I needed it most.

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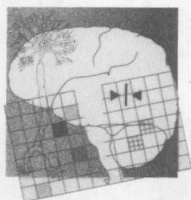
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