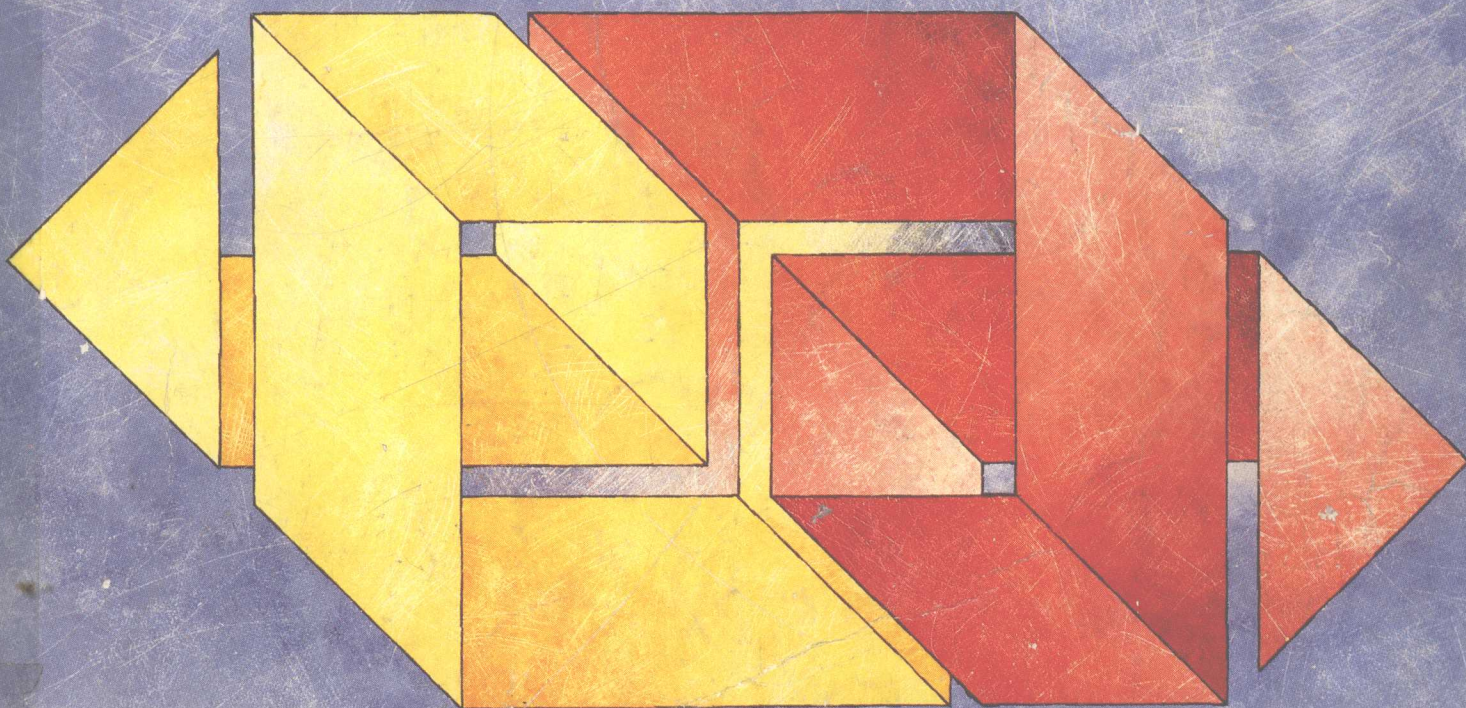


# **Essentials of Clinical Pharmacology in Nursing**

**Second Edition**



**Bradley R. Williams  
Charold L. Baer**



# Essentials of Clinical Pharmacology in Nursing

Second Edition



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## FOREWORD

The importance of pharmacotherapeutics as an integral part of total health care has burgeoned since the use of penicillin to treat patients in 1942. Since then, increasing pharmacologic research has provided knowledge about how drugs affect the human body and has produced a wide range of new drugs for dealing with health care problems.

*Essentials of Clinical Pharmacology in Nursing, Second Edition* draws from the vast knowledge base of pharmacology to present the reader with significant, practical information for clinical use. The authors and contributors are accomplished teachers, clinicians, and researchers whose knowledge of pharmacotherapeutics brings need-to-know information to the reader clearly and concisely.

The textbook is divided into sixteen units that contain 59 chapters. Units One and Two address fundamentals of pharmacology and drug administration; Units Three through Sixteen group drugs by therapeutic classification. A consistent format is built on chapter learning objectives, recurring charts and tables, a detailed nursing-process approach, chapter summaries, and study questions. These consistencies assist the reader in understanding, recalling, and using the information as it relates to nursing care.

Unit One introduces pharmacology and its fundamental principles, including pharmacokinetics, pharmacodynamics, and pharmacotherapeutics—plus adverse drug reactions. Unit Two presents the nursing process and examines its application to drug administration; the unit then covers the nurse's responsibilities in drug administration, dosage measurements and calculations, and routes and techniques of administration.

Units Three through Sixteen gather drugs into therapeutic categories and show their uses in dealing with:

- the autonomic nervous system
- neurologic and neuromuscular disorders
- pain
- cardiovascular function
- the hematologic system
- respiratory function
- gastrointestinal function
- infection
- inflammation, allergy, and organ rejection
- psychogenic behavior and sleep patterns
- endocrine system disorders
- fluid, electrolyte, and nutritional imbalances
- malignant neoplasms
- sensory disorders and other conditions.

Numerous new features in *Essentials of Clinical Pharmacology in Nursing, Second Edition* include:

- new drugs
- greatly detailed use of the nursing process
- current North American Nursing Diagnosis Association (NANDA) data
- patient-teaching guidelines
- specific considerations for pediatric, geriatric, pregnant, and breast-feeding patients
- a new chapter on dosage measurements and calculations
- updated charts of selected major drugs
- a new grouping of uncategorized agents
- new study questions
- updated selected references
- new appendices.

Usually, the nurse is the principal administrator of prescribed drugs and the primary teacher of patients. To fulfill these roles, the nurse needs to be confident, safe, and thoroughly informed when carrying out pharmacotherapeutic responsibilities. *Essentials of Clinical Pharmacology in Nursing, Second Edition* provides the needed data, guidelines, and instructions for mastering information, administering drugs, and providing related care. This valuable resource can enhance the nurse's ability and performance in providing high quality health care.

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## **PREFACE**

Because administering drugs and monitoring drug therapy are complex nursing responsibilities, the nurse must be prepared for these tasks and also must know the *hows* and *whys* associated with drug therapy. For example, the nurse must be able to:

- use proper procedures and techniques to administer each medication
- follow appropriate safeguards to prevent errors during medication administration
- apply the nursing process by assessing the patient's responses to drug therapy, formulating appropriate nursing diagnoses, planning and implementing care (including patient teaching), and evaluating the patient's responses to nursing care
- document the patient's responses to drug therapy, and communicate pertinent drug therapy information to other members of the health care team.

Also, the nurse must know:

- which drugs the patient is receiving—as well as their pharmacologic properties
- the dosage and frequency of administration for each drug
- each drug's probable interactions
- each drug's therapeutic and adverse effects.

*Essentials of Clinical Pharmacology in Nursing, Second Edition* prepares the reader for all of these responsibilities. It provides basic pharmacologic information and an understanding of nursing process application in drug therapy. Specifically, it includes:

- detailed coverage of all drug classes and of more than 1,000 generic drugs
- many newly approved drugs
- updated information on drugs included in the first edition
- an extensive new chapter on uncategorized drugs
- descriptions of nursing care for each drug class, using the steps of the nursing process
- identification of key aspects of nursing care in ***bold-faced italic*** type, which the reader can use when preparing plans of care
- new multiple-choice study questions at the end of each chapter for the reader to use as a self-test.

Because of its easy-to-follow, concise format, *Essentials of Clinical Pharmacology in Nursing, Second Edition* can be used by the student in a basic pharmacology course and in subsequent clinical courses. It also can serve as a trustworthy general reference for the practicing clinician.

Throughout, the text consistently uses highly effective pedagogical devices. Each chapter begins with learning objectives that focus the reader's attention and an introduction that provides a context for the information that follows. The text promotes critical thinking by presenting its data systematically and relatedly. Terms defined in the Master Glossary are printed in **boldfaced** type. A chapter summary pulls together vital information and reinforces learning and recall. The chapter summary and study questions provide a comprehensive review apparatus. By checking Appendix 1 for answers to study questions, the student can self-test—and self-correct—knowledge, as needed.

To underscore important themes and types of information and to promote access to and use of the information, each drug chapter includes the following recurring features:

- *Selected nursing diagnoses*, an alphabetized list of representative nursing diagnoses (including problem and etiology) based on the chapter's content and the North American Nursing Diagnosis Association (NANDA) taxonomy.
- *Selected major drugs*, a ready reference chart that presents the generic and trade names, major indications, usual adult and (where applicable) pediatric dosages, contraindications, and precautions for each major drug currently in clinical use.
- *Drug interactions*, a chart including drugs that may interact with the prescribed medication, possible effects from this interaction, and related nursing implications.
- *Patient teaching*, a handy list that highlights key points for the nurse to teach the patient.

The back of the book also is packed with useful information. It includes:

- the complete list of diagnostic categories grouped by functional pattern, as approved by NANDA
- several new drug-related appendices covering active and passive immunity agents, integumentary system agents, uterine motility agents, drugs used to treat poisoning, and substance abuse.
- an updated master list of selected references that are suitable for further exploration, organized by general and chapter-specific references
- a Master Glossary that defines the text's **boldfaced** terms in one convenient location.

Throughout *Essentials of Clinical Pharmacology in Nursing, Second Edition*, charts, illustrations, bulleted

lists, and other distinctive treatments focus the reader's attention, promote deeper understanding, and summarize data for easy review and recall. These elements are intended for frequent use.

Supplementary materials support teaching and learning with this text. The *Instructor's Resource Manual for Essentials of Clinical Pharmacology in Nursing, Second Edition* has a streamlined format: For each chapter, it includes a new chapter overview, suggested lecture topics, and an all-new test bank, as well as test answers and rationales that are keyed to the text. The test bank is designed to be photocopied for in-class use and is available on computer disk for easy modification by the instructor. In addition, *Dosage Calculations Manual, Second Edition* contains a pre-test, extensive reviews of key mathematical principles, and numerous practice exercises with answers. This easy-to-use workbook accommodates the student's need to review or learn in small increments, practice calculations and conversions, and become more proficient in preparing medications for administration.

The text and its supplements were written by practicing clinicians, instructors, and pharmacists—all of whom are at least master's degree prepared. All materials were reviewed extensively by nurses and pharmacists from appropriate specialty areas. The combined efforts of these experts have produced a well-illustrated and highly readable pharmacologic reference that contains the most accurate and clinically applicable information available today.

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