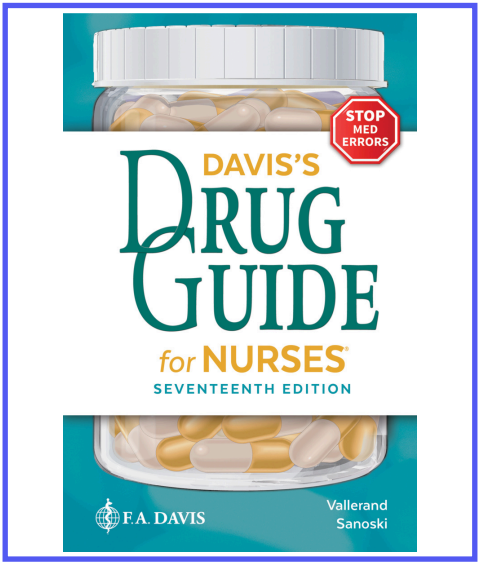


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an the QR code to access the digital study p

DEDICATION

To my son, Ben, whose sensitivity and sense of humor make even the toughest day easier.
To my daughter, Katharine, whose dedication and passion in seeking her goals I admire.
Watching you both grow to become wonderful young adults gives me such pride and joy. Your supp
of my work inspires me. Thank you for sharing so much of your lives with me. I love you.

A

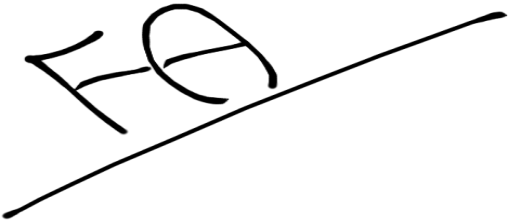
To my wonderful mother, Geraldine, who has provided her continual love, support, and wisdom a
continue to pursue all of my personal and professional goals.

C

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We offer our thanks to the students and nurses who have used our book for more than 30 years. We ho
our book provides you with the current knowledge of pharmacotherapeutics you need to continue
give quality care in our rapidly changing health care environment.

April and Cin



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FOR NURSES

Davis's Drug Guide for Nurses provides comprehensive, up-to-date drug information in well-organized, nursing-focused monographs. It also includes extensive supplemental material in 14 appendices, thoroughly addresses the issue of safe medication administration, and educates the reader about 50 different therapeutic classes of drugs. In this 17th edition, we have continued the tradition of focusing on safe medication administration by including **Medication Safety Tools** and even more information about health care's most vulnerable patients: children, the elderly, pregnant women, and breast feeding mothers. Look for more Pedi, Geri, OB, and Lactation headings througho the monographs. We have also included a BEERS label at the top of applicable drug monographs for those medications listed in the Beers Criteria developed by the American Geriatrics Society. These medications are considered to be potentially inappropriate for use in older adults because they are associated with more risk than benefit in this patient population. In addition, we've included information relevant to Canadian students and nurses. You'll find an appendix comparing Canadian and U.S. pharmaceutical practices, more Canada-only combination drugs in the Combination Drugs appendix, and additional Canadian brand names in the drug monographs. To help you find this information quickly, we've also added a maple leaf icon (🍁) in the index next to each Canadian entry. We have added pharmacogenomic information throughout numerous monographs to guide th nurse in selecting and monitoring various drug therapies. To help you find this information quickly, we've added a double helix icon (🧬) to denote this information as it applies to specific drugs. Use th book to enhance your competence in implementing and evaluating medication therapies. The following sections describe the organization of *Davis's Drug Guide for Nurses* and explain how to quickly find the information you need.

Safe Medication Use Articles

"Medication Errors: Improving Practices and Patient Safety," "Detecting and Managing Adverse Drug Reactions," "Overview of Risk Evaluation and Mitigation Systems (REMS)," "Special Dosing Considerations," and "Educating Patients About Safe Medication Use" comprise the safe medication use articles and provide an overview of the medication safety issues that confront practitioners and patients. Leading off this series, the medication errors article familiarizes you with the systems issues and clinical situations repeatedly implicated in medication errors and suggests practical means to avoid them. It also teaches you about *high alert* medications, which have a greater potential to cause patient harm than other medications. "Detecting and Managing Adverse Drug Reactions" explains th different types of adverse reactions and provides guidance on how to detect and manage them. "Risk Evaluation and Mitigation Strategies (REMS)" explains strategies developed by the pharmaceutical industry and required by the Food and Drug Administration (FDA) to minimize adverse drug reactio from potentially dangerous drugs. We have highlighted the drugs that currently have approved REMS programs associated with their use by adding a REMS label at the top of applicable drug monograph "Special Dosing Considerations" identifies the patient populations, such as neonates and patients wit renal impairment, who require careful dose adjustments to ensure optimal therapeutic outcomes. "Educating Patients About Medication Use" reviews the most important teaching points for nurses to discuss with their patients and their families. In addition to these safety articles, other critical information is highlighted in red throughout the drug monographs. This allows the reader to quickly identify important information and to see how nursing practice, including assessment, implementation, and patient teaching, relates to it.

Classifications Profile

apeutic classifications used in *Davis's Drug Guide for Nurses*. It also provides patient teaching rmation common to all agents within the class and a list of drugs within each class.

dication Safety Tools

ated for this edition is a section with tables and charts that nurses can use for a quick but thorough rence to information that will help them avoid making medication errors. It includes lists of drugs are associated with adverse reactions and falls in the elderly; proper dosing for pediatric avenous medications; confused drug names; FDA-approved Tall Man letters and more.

ug Monographs

g monographs are organized in the following manner:

h Alert Status: Some medications, such as chemotherapeutic agents, anticoagulants, and lins, have a greater potential for harm than others. These medications have been identified by the *itute for Safe Medication Practices* as **high alert drugs**. *Davis's Drug Guide for Nurses* udes a high alert tab in the upper right corner of the monograph header in appropriate ications to alert the nurse to the medication's risk. The term "high alert" is used in other parts of monograph as well, to help the nurse administer these medications safely. See the article dication Errors: Improving Practices and Patient Safety" for a complete list of high alert ications in *Davis's Drug Guide for Nurses*. Refer to ISMP.org for all solutions, groups, and vidual high alert drugs.

eric/Brand Name: The generic name appears first, with a pronunciation key, followed by an abetical list of trade names. Canadian trade names are preceded by a maple leaf (🍁). Brand es that have been discontinued have a slash through them (~~Decadron~~). Common names, reviations, and selected foreign names are also included.

ssification: The therapeutic classification, which categorizes drugs by the disease state they are d to treat, appears first, followed by the pharmacologic classification, which is based on the drug's hanism of action.

trolled Substance Schedule: All drugs regulated by federal law are placed into one of five edules, based on the drug's medicinal value, harmfulness, and potential for abuse or addiction. edule I drugs, the most dangerous and having no medicinal value, are not included in *Davis's g Guide for Nurses*. (See Appendix I for a description of the Schedule of Controlled Substances.)

gnancy Category: The FDA recently recommended discontinuation of the Pregnancy Category em (A, B, C, D, and X) since this categorization may not appropriately communicate the risk that a g may have during pregnancy or breast feeding. Based on this guidance, the Pregnancy Categories e been removed from each of the drug monographs. These pregnancy letter categories have been laced in drug prescribing information with a narrative summary that describes the potential risk of g the drug during pregnancy and breast feeding, as well as the potential impairment of fertility in en and men of reproductive potential. The drug monographs have been enhanced with this iled information in these patient populations and highlighted by a *Rep* tag to call the user's ntion to reproductive information.

ications: Medications are approved by the FDA for specific disease states. This section identifies the ases or conditions for which the drug is commonly used and includes significant unlabeled uses as well.

ion: This section contains a concise description of how the drug produces the desired therapeutic ct.

rmacokinetics: Pharmacokinetics refers to the way the body processes a medication by absorption, ribution, metabolism, and excretion. This section also includes information on the drug's half-life.

bsorption: Absorption describes the process that follows drug administration and its subsequent

Absorption into systemic circulation also follows other routes of administration such as topical, transdermal, intramuscular, subcutaneous, rectal, and ophthalmic routes. Drugs administered intravenously are 100% bioavailable.

Distribution: This section comments on the drug's distribution in body tissues and fluids. Distribution becomes important in choosing one drug over another, as in selecting an antibiotic that will penetrate the central nervous system to treat meningitis or in avoiding drugs that cross th placenta or concentrate in breast milk. Information on protein binding is included for drugs that are >95% bound to plasma proteins, which has implications for drug-drug interactions.

Metabolism and Excretion: Drugs are primarily eliminated from the body either by hepatic conversion to active or inactive compounds (metabolism or biotransformation) and subsequent excretion by the kidneys, or by renal elimination of unchanged drug. Therefore, drug metabolism and excretion information is important in determining dosage regimens and intervals for patients with impaired renal or hepatic function. The creatinine clearance (CCr) helps quantify renal function and guides dosage adjustments. Formulas to estimate CCr are included in Appendix F.

Half-Life: The half-life of a drug is the amount of time it takes for the drug concentration to decrease by 50% and roughly correlates with the drug's duration of action. Half-lives are given fo drugs assuming the patient has normal renal or hepatic function. Conditions that alter the half-life are noted.

Time/Action Profile: The time/action profile table provides the drug's onset of action, peak effect, and duration of activity. This information can aid in planning administration schedules and allows th reader to appreciate differences in choosing one route over another.

Contraindications and Precautions: Situations in which drug use should be avoided are listed as contraindications. In general, most drugs are contraindicated in pregnancy or lactation, unless the potential benefits outweigh the possible risks to the mother or baby (e.g., anticonvulsants, antihypertensives, and antiretrovirals). Contraindications may be absolute (i.e., the drug in question should be avoided completely) or relative, in which certain clinical situations may allow cautious us of the drug. The precautions portion includes disease states or clinical situations in which drug use involves particular risks or in which dosage modification may be necessary. Extreme cautions are noted separately to draw attention to conditions under which use of the drug results in serious, potentially life-threatening consequences.

Adverse Reactions and Side Effects: Although it is not possible to include all reported reactions, major side effects for all drugs are included. Life-threatening adverse reactions or side effects are **CAPITALIZED**, and the most frequent side effects are underlined. Those underlined generally have incidence of 10% or greater. Those not underlined occur in fewer than 10% but more than 1% of patients. Although life-threatening reactions may be rare (fewer than 1%), they are included becaus of their significance. The following abbreviations are used for body systems:

CNS: central nervous system
EENT: eye, ear, nose, and throat
Resp: respiratory
CV: cardiovascular
GI: gastrointestinal
GU: genitourinary
Derm: dermatologic
Endo: endocrinologic
F and E: fluid and electrolyte
Hemat: hematologic
Local: local
Metab: metabolic
MS: musculoskeletal
Neuro: neurologic
Misc: miscellaneous
Rep: reproductive

Interactions: Drug interactions are a significant risk for patients. As the number of medications a