

Drug Information References

Chapter 6

Objectives

- Demonstrate the appropriate way to research drugs and other information from reference books, journals, and electronic resources.
- Demonstrate the appropriate way to reference drugs and other information from the internet.

Objectives (cont'd)

- Describe the information contained in the following reference books:
 - *American Hospital Formulary Service Drug Information*
 - *Drug Topics Red Book*
 - *Approved Drug Products with Therapeutic Equivalence Evaluations* (otherwise known as the “Orange Book”)
 - *Clinical Pharmacology*
 - *Drug Facts and Comparisons* or *e-Facts*

Objectives (cont'd)

- Describe the information contained in the following reference books:
 - *Goodman and Gilman's The Pharmacological Basis of Therapeutics*
 - *Trissel's Handbook on Injectable Drugs*
 - *Ident-A-Drug Handbook*
 - *Physician's Desk Reference*
 - *Remington's Pharmaceutical Sciences: The Science and Practice of Pharmacy*

Objectives (cont'd)

- Explain the specialized reference books necessary in hospital pharmacy.
- List other types of reference materials in addition to books.
- Explain the importance of journals and news magazines as they pertain to pharmacy and continuing education.

Objectives (cont'd)

- Describe how to find reputable websites for referencing.
- Demonstrate how to identify medications through reference books or electronic sources.

Introduction

- Reference books are some of the most important tools that are used in pharmacy.
- Pharmacists rely on good reference books to help give correct information to healthcare professionals that call the pharmacy.
- Most reference books give basic information on drugs.

Understanding the Correct Way to Reference

- Key points:
 - What exactly are you looking for?
 - Do you need to know the generic name only, interactions, classification, or maybe what the drug looks like?

Understanding the Correct Way to Reference (cont'd)

- A new drug in the experimental stage is given a name based on its chemical attributes.
- When the FDA approves the drug, a monograph is created to include classification, indication, and side effects.

Understanding the Correct Way to Reference (cont'd)

- Classification puts the drug into the proper category based on its chemical reactions.
- Indication lists the main conditions for which this chemical is used.
- The founding company also gives the chemical a trade name.

Understanding the Correct Way to Reference (cont'd)

- Most of the chemical names for beta-blockers end in *-olol*
- Monographs or package inserts list pertinent information
- Most reference books list trade and generic names of drugs, indications, classifications, contraindications, dosage strengths, dosage forms, and price

Understanding the Correct Way to Reference (cont'd)

- Contraindications identify types of persons who should not be given these medications
- Knowing how to use books allows the technician to find correct information in a timely manner

References Used in Pharmacy

- Technicians must be at ease using basic drug and pharmacy references.
- Knowing how to use the reference properly allows the technician to find the correct information in a timely manner.

Drug Facts and Comparisons

- First published in 1946, it was created for quick and accurate reference and drug comparison
- For the five sections to *F&C*, refer to Table 6-1.
- Included under each drug listing are :
 - Indications
 - Dosage strengths, dosage forms, sizes, and manufacturers

Physicians' Desk Reference

- The *PDR* is found in all doctors' offices and pharmacies.
- For the six sections in the *PDR*, refer to Table 6-2.
- Each drug referenced in *PDR* has a complete description of the drug, including its chemical structure and study results.

Physicians' Desk Reference (cont'd)

- The PDR is a compilation of package inserts.
- It lists only FDA-approved drugs that the manufacturers choose.
- It contains useful drug manufacturer contact information, such as addresses and phone numbers.

Drug Topics Red Book

- *Drug Topics Red Book* is a good source of information pertaining to drug costs.
- Community pharmacies are more likely to use this book.

Drug Topics Red Book (cont'd)

- *Red Book* contains information in the form of quick referencing charts, such as drugs that should not be crushed, sugar-free and alcohol-free drugs, and drugs excreted in breast milk.
- *Red Book* includes tables showing pharmacy calculations and dosing instructions converted into Spanish.

Drug Topics Red Book (cont'd)

- For an outline of the 10 sections of *Red Book*, refer to Table 6-3.
- Added feature: it gives all the requirements for nontraditional PharmD programs.

Approved Drug Products with Therapeutic Equivalence Evaluations – “Orange Book”

- “Orange Book” lists all approved drug products with therapeutic equivalence evaluations.
- Other information included: discontinued drug products, orphan products, approvals list.
- Updated annually; it can be accessed online.

American Hospital Formulary Service

Drug Information

- Used mainly in hospitals, the *AHFS DI* gives a comprehensive listing of approved formulary drugs, their uses, adverse reactions, and other pertinent information.
- Formularies are lists of approved uses of medications.

United States Pharmacopoeia/National Formulary (USP-NF)

- USP-NF is a guide for the specifications—tests, procedures, and acceptance criteria—required for pharmaceutical manufacturing and quality control.
- It lists new product development and approvals.

United States Pharmacopoeia

- United States Pharmacopoeia is a comprehensive compilation of information on compounding products, ingredients, their safety, and products used to treat specific medical conditions.
- Also includes most recent sterile preparations guidelines for USP <797>, most common nonformulary agents, veterinary compounding, dietary supplements, and laws pertaining to compounding.

Clinical Pharmacology and Other Gold Standard Products

- An electronic drug compendium
- Officially recognized by the Centers for Medicare and Medicaid (CMS) due to its extensive drug information, including off-label drug uses supported by clinical evidence
- Data continuously updated

Clinical Pharmacology and Other Gold Standard Products (cont'd)

- Other Gold Standard products include:
 - Comprehensive drug details
 - Drug product comparison reports
 - International drugs listings: Global Drug Name Index
 - Consumer Medication Information: MedCounselor Sheets
 - Herbals and Dietary Supplements

Ident-A-Drug

- *Ident-A-Drug* lists both tablets and capsule identifications.
- It is an extensive reference book with more than 7000 listings.
- The drugs are not listed by pictures but by identifiable codes, shapes, and whether the tablet is scored.

Micromedex Healthcare Series

- *Micromedex Healthcare Series* is an online and mobile application.
- Information is provided through several different software programs that can be purchased, including:
 - Comprehensive drug details: DRUGDEX
 - FDA approved drugs: PDR
 - International drugs: Index Nominum

Handbook on Injectable Drugs/Trissel

- This handbook is mostly used in the hospital setting.
- It provides referencing of the compatibility of various agents given parenterally.
- The monographs discuss products, administration, stability, and compatibility with infusion solutions and other drugs.

American Drug Index

- *American Drug Index* contains more than 22,000 drugs.
- Includes manufacturer names, pronunciation of drugs, active ingredients, dosage forms, strengths and other information.

Goodman & Gilman's The Pharmacological Basis of Therapeutics

- Information in *The Pharmacological Basis of Therapeutics* includes pharmacokinetics and pharmacodynamics, drug transport/drug transporters, drug metabolism pharmacogenomics, and principles of therapeutics in all areas of the body system.

Handbook of Non-Prescription Drugs by APhA

- This reference provides self-care options for nonprescription medications, nutritional supplements, medical foods, complementary and alternative therapies, and nondrug and preventive measures-for self-treatable disorders.

Handbook of Non-Prescription Drugs by APhA (cont'd)

- This handbook provides FDA-approved dosing information and evidence-based research on efficacy and safety considerations of nonprescription, herbal, and homeopathic medications.

Martindale's The Complete Drug Reference

- Provides information on drugs in clinical use worldwide, as well as:
 - Selected investigational and veterinary drugs
 - Herbal and complementary medicines
 - Pharmaceutical excipients
 - Vitamins and nutritional agents
 - Vaccines

Remington's Pharmaceutical Sciences: The Science and Practice of Pharmacy

- This reference covers the entire scope of pharmacy from the history of pharmacy and ethics, to the specifics of industrial pharmacy and pharmacy practice.

Additional Pharmacy Reference Books

- *The Pediatric Drug Handbook*
- *Geriatric Drug Handbook*
- Other specialty reference books

Pocket-Sized Reference Books

- A technician needs to have his or her own reference books.
- Pocket versions contain trade/generic names, drug classifications, indications, side effects.
- Downside: softbound, need to be updated yearly.
- Upside: drugs remain same year after year.

Electronic Referencing

- Handheld devices – PDAs and smart phones
- Download drug guides
- Devices small enough to carry in pocket
- CD-ROM

The Internet

- The Internet has a lot of information, but it is up to the reader to determine whether the information is reliable or accurate.
- Pharmacy organizations have Web sites on the Internet.
- These associations also have links to other pharmacy sites that may be of interest.
- Organizations provide continuing education in the form of online exams and live CE courses.

Journals and Newsmagazines

- Nearly every pharmacy subscribes to journals and newsmagazines that pertain to pharmacy.
- Journals offer continuing education (CE) to certified technicians at a reasonable cost.
- They contain articles on new drugs, technicians, the future of pharmacy, and various legislative changes, Table 6-7.

Additional Types of Information

- Joining an association can be very rewarding, a good source of information, and a way to network.
- There are a few associations that provide CE for technicians.
- Associations include NPTA, AAPT, ASHP, APhA.
- Seminars and CE dinners are sponsored by drug companies and provide a good source of information.

Learn What to Look for When Choosing a Reference Book

- Knowing the proper book to reference is important not only for the correct information but also for saving time and avoiding frustration.
- Stay away from books that only reference drug names one way (only trade or generic names) because this can become time consuming.