The Art, Science, and Technology of Pharmaceutical Compounding.
Allen LV Jr. American Pharmaceutical Association, Washington, DC, 1998.
Hardcover, 319 pages. US$70.00.

Loyd V. Allen Jr is professor emeritus of pharmaceutics at the College of Pharmacy, University of Oklahoma, Oklahoma City. He is also editor-in-chief of the *International Journal of Pharmaceutical Compounding*. Professor Allen states that the purposes of this book are to provide a basic foundation of knowledge to enable pharmacists to "sharpen their skills" in compounding, to serve as an educational tool for pharmacists who did not receive instruction in compounding, and to be a textbook for current students. In most regards, the book succeeds.

This volume is well organized and clearly written. It covers general requirements and guidelines for extemporaneous compounding, with good detail on equipment and facilities, documentation, calculations, formulation, and quality control. In addition, there are chapters devoted to 14 specific dosage forms. For each dosage form, the author reviews types, historical use, application, formulation ingredients, preparation methods, physicochemical considerations, packaging,

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labelling, storage, stability, and patient counselling requirements. At the end of these chapters, the author provides a few sample formulations with directions for their preparation. This book provides a handy reference for the more familiar dosage forms, such as oral suspensions, solutions, creams, and ointments, as well as for less common products such as lozenges and gels. Biotechnology products and veterinary dosage forms are also covered. Each chapter is designed to stand alone, a feature that inevitably results in some repetition.

The author emphasizes the responsibilities of the compounding pharmacist, including the necessity to review the available literature for information to support the product's use, preparation, and stability. In particular, he emphasizes the need to provide a reasonable and rational expiry date. Unfortunately, these principles are not fully illustrated. Factors affecting stability, packaging, and storage are outlined in the chapter for each dosage form, but the sample formulations that follow do not mention appropriate packaging, storage, or expiry dates.

The author relies heavily on section 1161, "Pharmacy compounding practices," in the *United States Pharmacopeia 23/National Formulary 18* (fifth supplement, published 1995).[1] In this regard, Allen's book is still current, as this section remains almost entirely unchanged in the 2000 edition.[2]

There is increasing interest in pharmaceutical compounding to meet unique patient needs. This book is certainly recommended for pharmacists who require a comprehensive general reference.

Susan Stansfield, BScPhm
Manager, Resources
Department of Pharmacy
The Hospital for Sick Children
Toronto, Ontario

References

1. Pharmacy compounding practices. In: *United States Pharmacopeia 23/National Formulary 18* (Supplement 5). Rockville (MD): United States Pharmacopeial Convention, Inc.; 1995. p. 3531-5.
2. Pharmacy compounding practices. In: *United States Pharmacopeia 24/National Formulary 19*. Rockville (MD): United States Pharmacopeial Convention, Inc.; 2000. p. 2118-22.