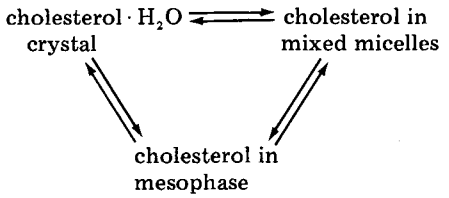
laboratories, also show that the cholesterol release in media containing III and lecithin may follow the pattern described in Scheme I.



Scheme I

The process effectively represents a substantial mass transfer rate of cholesterol from the gallstone into the medium. Although this process is significantly slower than the micellar dissolution rate of a cholesterol gallstone in a lecithin–IV solution, after some time (several days in these experiments) the extent of dissolution and disintegration by this process may be greater.

These studies imply that the phase equilibria in III–lecithin–cholesterol–water differ from that in IV–lecithin–cholesterol–water. Conjugates of ursodeoxycholic acid apparently have a much weaker tendency to disperse mixed lecithin–cholesterol bilayers than those of chenodeoxycholic acid. The data do not answer directly the question of whether mesophase formation may occur during gallstone dissolution induced by ursodeoxycholate in humans since biliary bile acids become only moderately enriched in ursodeoxycholic acid (60–70%) during continuous ursodeoxycholate administration; therefore, further studies are needed. Mesophase formation during gallstone induction does occur in the cholesterol-fed prairie dog (12) whose bile contains predominantly cholate conjugates, and mesophases were reported to occur in some samples of human bile (13, 14).

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BOOKS

REVIEWS

Pharmaceutical Calculations, 7th Ed. By MITCHELL J. STOKLOSA and HOWARD C. ANSEL. Lea & Febiger, 600 Washington Square, Philadelphia, PA 19106. 385 pp. 15 × 23 cm. Price $15.00.

The seventh edition is in the same format as earlier ones but contains an expanded chapter on dosage calculations and additional chapters on interpreting the prescription and calculations involving parenteral admixtures. The material from the "Chemical Problems" chapter in the 6th edition is found in the appendix of the new edition. Many new practice problems have been added to appropriate chapters.

The addition of a new chapter, "Interpretation of the Prescription or Medication Order," is very good. The interpretation presented is aimed specifically at helping the student solve problems presented in the prescription, medication order, or formula and does not duplicate information given in other chapters, as one might expect. The subject matter is presented in a direct manner with enough examples to be easily understood.

Additions to the "Calculation of Doses" chapter include an expansion of the surface area method with the two DuBois and DuBois nomograms for finding body surface areas for children and adults. This is a considerable improvement over the 6th edition which contained a table of body weights and surface areas. Unfortunately, the reference to the use of this method (Harry Shirkey) uses the West nomogram, which gives results different from that of DuBois. Perhaps an expanded discussion could cover this point in the next edition.

The inclusion of calculations involving lean body mass, loading dose, maintenance dose, and the use of creatinine clearance rate is an excellent choice of subject to update the book. The explanations and examples are all clear and precise except for the calculation and use of creatinine

clearance rate for females, which is hampered somewhat by insufficient practice problems of this type at the end of the chapter.

"Some Calculations Involving Parenteral Admixtures" is another new chapter. The material covers the application of the milliequivalent and millimole concepts to the use of additive solutions in parenteral therapy. The use of various solutions obtained from ampuls or vials and the constituting of total parenteral nutrition or hyperalimentation fluids are included, as are computations of the flow rates of intravenous solutions.

"Pharmaceutical Calculations" has been a standard text for many years. Its clear but concise explanations, numerous examples, and various practice problems have made it so. The new materials are good additions to an already excellent book.

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Sustained Release Medications. Edited by J. C. JOHNSON. Noyes Data Corp., Mill Rd. at Grand Ave., Park Ridge, NJ 07655. 1980. 412 pp. 15 × 23 cm. Price $54.00.

In the foreword, the editor gives an excellent and precise description of the information contained in the book. The information is based on U.S. patents issued since January 1974 in the field of sustained-release medications. The editor indicates that the book is a data-based publication, providing information retrieved and made available from the U.S. patent literature. Thus, it serves a double purpose in that it supplies detailed technical information and can be used as a guide to the patent literature in this field. By indicating all the significant information and eliminating legal jargon and juristic phraseology, this book represents an advanced, commercially oriented review of recent developments in the field of sustained-release medications. The book is composed of 14 chapters; it contains 263 patents covering 204 processes.

The first chapter deals with patents describing the preparation of excipients used in the manufacture of these medications. Included are controlled-release tableting media (talc, ethylcellulose, methyl stearate mixtures, hydrated hydroxyalkylcellulose plus aliphatic alcohol, and salts of polymeric carboxylates), polymer gels (chelated hydrogels and water-insoluble hydrophilic copolymers), enteric-coating materials (cellulose ether compositions, partial esters of acrylate-unsaturated anhydride copolymers, and water-soluble coating resins), and polyesters (polymers with oxyacycloalkane units, polymers with alkoxy or oxacycloalkane substituents, bioabsorbable polyglycolic acid polyester condensates, and bioerodable partial esters of polycarboxylic acids).

Patented processes involved in the preparation and coating of microcapsules is covered in Chapter 2. Chapter 3 includes processes for preparing capsules as well as tablet cores and tablet coatings. Patents dealing with films and webs are discussed in Chapter 4. The fifth chapter describes 10 processes utilized in the design of diffusion devices containing medications soluble to some extent in the polymeric material. Chapter 6 includes 16 processes involved in the preparation of osmotic devices that use polymeric materials permeable to water and body fluids but not permeable to the drug.

The next four chapters describe devices such as implants, ocular inserts, intravaginal and intrauterine inserts, and devices for use in the GI tract. These devices utilize bioerodable polymers selected so that the device and the medication are absorbed by the body. Chapters 11–13 deal with various sustained-release medications such as heart and circulatory drugs, antispasmodics, antibiotics, aspirin, and analgesics and GI tract drugs. The final chapter describes veterinary preparations.

The book is a must for individuals interested in sustained-release technology. It is well written and would be a great timesaver and a source of many excellent ideas.

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NOTICES

Synthetic Peptides, Vol. 5. By GEORGE R. PETTIT. Elsevier Scientific Publishing Co., 52 Vanderbilt Ave., New York, NY 10017. 1980. 404 pp. 14 × 22 cm. Price $109.75.

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