Illustrations in This Bookiv	
PSAP-VII Editorial Boardv	
Welcomevi	
Faculty Potential COI Disclosure	
Role of ACCP	
Role of BPSvii	
CPE and Program Instructions	
Posttest Instructions	

Pediatrics I	1
Pediatrics I Panel	3
Pediatrics I Subscriber Evaluation	5

Pharmacogenomics and Pediatric Pharmacotherapy

By Mary Jayne Kennedy, Pharm.D., DACBP Candidate Gene Studies12 Examples of Gene-Response Associations Thiopurine Methyltransferase and 6-Mercaptopurine14 Cysteinyl Leukotrienes and Leukotriene Modifiers15 Maternal *CYP2D6* Genotype and Opioid Incorporating Pharmacogenomics into Pediatric Pharmacotherapy16 Factors Influencing the Clinical Challenges in the Clinical Application Identifying Appropriate Indications for

SICKLE CELL DISEASE

By Tracy Hagemann, Pharm.D., FCCP

Introduction	
Epidemiology	
Incidence	

Pathophysiology	30
Clinical Presentation and Diagnosis	30
Neonatal Screening	
Signs and Symptoms	
Health Supervision Monitoring	
Growth and Development	
Morbidity and Mortality	
Quality Patient Care	
Family and Patient Education	
Preventive Pharmacotherapy	
Acute Complication Management	
Management of Crises	
Hematopoietic Stem Cell Transplantation	
The Role of the Pharmacist	
Annotated Bibliography	
Self-Assessment Questions	

POISONING AND ENVENOMATION

By Mark R. Haase, Pharm.D., FCCP, BCPS

Introduction	
National Poison Data System	
Poison Center Role in Data Collection	
Trends in Pediatric Exposures	
Clinical Evaluation of the Poisoned Child	
Triage	
Supportive Care	
History and Physical Examination	
Laboratory Evaluation	
Decontamination	
Syrup of Ipecac	
Gastric Lavage	
Activated Charcoal	
Whole Bowel Irrigation	
Poisoning with Selected Agents	
Acetaminophen	
Ethylene Glycol and Methanol	
Nonprescription Drugs	
Crotaline Envenomation	
Poison Prevention Education	
Conclusion	
Annotated Bibliography	
Self-Assessment Questions	63

Pediatrics II	
Pediatrics II Panel	
Subscriber Evaluation Pediatrics II	

LEGISLATION, REGULATIONS, AND GUIDANCES AFFECTING PEDIATRIC PHARMACOTHERAPY By Gilbert J. Burckart, Pharm.D., FCCP Introduction

by Gildert J. Burckart, Pharm.D., FCCP	
Introduction	
Historical Background	73

Important Regulations Related to Pediatric Drug Therapy75
National Research Act
Pediatric Research Equity Act75
Best Pharmaceuticals for Children Act
The Orphan Drug Act77
European Medicines Agency
Guidances Related to Pediatric Drug Development
International Conference on Harmonization
E11: Clinical Investigation of Medicinal Products
in the Pediatric Population77
FDA Guidance for Industry
Important Concepts
Extrapolation and Interpolation
Pharmacokinetics and Pharmacodynamics
Pediatric Drug Safety
The Future of Pediatric Drug Development
Annotated Bibliography
Self-Assessment Questions

Extemporaneous Formulations

By Vinita B. Pai, Pharm.D., M.S.;

and Milap C. Nahata, Pharm.D., M.S.

Introduction	
Need for Extemporaneous Formulations	
Options for Providing Formulations	
Essential Components for Preparing	
Extemporaneous Formulations	
Quality Suspensions	
Suspending Agents	
Preparation of Extemporaneous Formulation	
Stability and Sterility Testing of Formulatio	ns
Stability	
Sterility	
Efficacy and Safety of Extemporaneous For	
Role of the Pharmacist	
Annotated Bibliography	
Self-Assessment Questions	

GASTROESOPHAGEAL REFLUX DISEASE By Kalen B. Porter, Pharm.D., BCPS, AE-C

Introduction	
Definitions	
Epidemiology	
Clinical Practice Guidelines	
Gastroesophageal Reflux	106
Pathophysiology	
Clinical Presentation	
Diagnosis	
Treatment Goals	
Quality Patient Care	
Gastroesophageal Reflux Disease	
Pathophysiology	
Clinical Presentation	109
Diagnosis	
Treatment	
Quality of Life	
The Role of the Pharmacist	
Annotated Bibliography	118
Self-Assessment Questions	

PARENTERAL NUTRITION IN THE NEONATE By Claudia Kamper. Pharm.D., BCNSP

By Claudia Kamper, Pharm.D., BCNSP	
Introduction	.127
Growth	128
Indication for Parenteral Nutrition	
Parenteral Nutrient Requirements	130
Fluid and Sodium	.130
Macronutrients	.130
Micronutrients	
Complications of PN	135
Hyperglycemia	
Metabolic Bone Disease	
Parenteral Nutrition–Associated Cholestasis	136
CVC-Related Infections	136
Special Challenges	.137
Cardiac Surgery	
Extracorporeal Membrane Oxygenation	.137
Patient Safety Issues	
Role of the Pharmacist	
Annotated Bibliography	139
Self-Assessment Questions	

Pediatrics III	147
Pediatrics III Panel	
Subscriber Evaluation Pediatrics III	151

Hyperglycemia of Critical Illness and Pulmonary Arterial Hypertension

By David S. Hoff, Pharm.D., FCCP

Introduction	
Hyperglycemia of Critical Illness	
Pediatric Subpopulations	
Treatment Goals	
Quality Patient Care	
Conclusion	
Pediatric PAH	
Differences Between Children and Adults	161
Populations with PAH	
Pharmacotherapy Treatment Goals	
Conclusion	
Annotated Bibliography	
Self-Assessment Questions	
•	

Management of the Postoperative Patient After Congenital Heart Disease Repair

By Elizabeth Anne Farrington, Pharm.D., FCCP, FCCM, BCPS

Introduction	
Perioperative Issues	176
Inflammatory Response	
Modified Ultrafiltration	
Hypothermia	
Postoperative Complications	
Coagulopathy/Hemorrhage	
Low Cardiac Output Syndrome	

Fluid Overload	
Hyperglycemia	
Pulmonary Hypertension	
Postoperative Dysrhythmias	
Role of the Pharmacist	
Annotated Bibliography	
Self-Assessment Questions	

ACUTE AND CHRONIC KIDNEY DISEASE.. By Christopher L. Shaffer, Pharm.D., BCPS; and Carisa J. Schweitzer Masek, Pharm.D.

Acute Kidney Injury194 Congenital, Genetic, and Developmental Reference Values for Common Laboratory Tests^a.....212