HYPERLIPIDEMIA

Authors
Craig J. Beavers, Pharm.D., BCCP, CACP
Cardiovascular Clinical Pharmacy Coordinator
Department of Pharmacy
University of Kentucky Healthcare
Assistant Adjunct Faculty
Department of Pharmacy Practice and Science,
University of Kentucky College of Pharmacy
Lexington, Kentucky

Michael S. Kelly, Pharm.D., BCACP, CDE, CLS
Assistant Professor
Department of Pharmacy Practice
Chapman University School of Pharmacy
Irvine, California

Reviewers
Dave L. Dixon, Pharm.D., FCCP, FACC,
FNLA, BCPS, BCACP, CDE, CLS
Associate Professor
Department of Pharmacotherapy and Outcomes Science
Virginia Commonwealth University School of Pharmacy
Richmond, Virginia

Andrew P. Clark, Pharm.D., BCPS, CDE, CPP
Clinical Staff Pharmacist
Division of Pharmacy Services
Carolina's HealthCare System NorthEast
Concord, North Carolina

Sally Earl, Pharm.D., BCPS
Clinical Assistant Professor
Department of Pharmacy Practice
University of Mississippi School of Pharmacy
University, Mississippi

HYPERTENSION

Authors
Toni L. Ripley, Pharm.D., FCCP, BCPS, AHSCP-CHC
Assistant Editor
Editorial Department
Therapeutic Research Center
Clinical Adjunct Professor
University of Oklahoma College of Pharmacy
Edmond, Oklahoma

Anna Barbato, Pharm.D., BCPS, AHSCP-CHC
Clinical Pharmacist
Department of Disease State Management
Oklahoma Heart Hospital
Oklahoma City, Oklahoma

Reviewers
Adam Bress, Pharm.D., MS
Assistant Professor
Department of Population Health Science
University of Utah School of Medicine
Salt Lake City, Utah

David L. Nickerson, Pharm.D., BCPS
Senior Pharmacist
Emergency Department
Brigham and Women’s Hospital
Boston, Massachusetts

Kathryn Rice, Pharm.D., BCPS
Clinical Pharmacist
Department of Pharmacy
McLeod Regional Medical Center
Florence, South Carolina
Assistant Professor of Pharmacy Practice
South University School of Pharmacy
Columbia, South Carolina

Series Editors:
John E. Murphy, Pharm.D., FCCP, FASHP
Professor of Pharmacy Practice and Science
Associate Dean – Phoenix Campus
University of Arizona College of Pharmacy
Phoenix, Arizona

Mary Wun-Len Lee, Pharm.D., FCCP, BCPS
Vice President and Chief Academic Officer
Pharmacy and Optometry Education
Professor of Pharmacy Practice
Midwestern University
Chicago College of Pharmacy
Downers Grove, Illinois

Faculty Panel Chair:
Douglas L. Jennings, Pharm.D., FCCP, FAHA, FACC, BCPS
Assistant Clinical Professor of Pharmacy Sciences
Columbia University School of Nursing
Affiliate Clinical Faculty
St. John College of Pharmacy and Health Sciences
New York, New York
The American College of Clinical Pharmacy and the authors thank the following individuals for their careful review of the Cardiology I chapters:

**Anne L. Hume, Pharm.D., FCCP, BCPS**  
Professor of Pharmacy  
Department of Pharmacy Practice  
University of Rhode Island  
Kingston, Rhode Island  
*Adjunct Professor of Family Medicine*  
Alpert School of Medicine at Brown University  
Providence, Rhode Island

**Mary Wun-Len Lee, Pharm.D., FCCP, BCPS**  
Vice President and Chief Academic Officer  
Pharmacy and Optometry Education  
*Professor of Pharmacy Practice*  
Midwestern University  
Chicago College of Pharmacy  
Downers Grove, Illinois
ACUTE CORONARY SYNDROME AND MYOCARDIAL INFARCTION

Authors
James C. Coons, Pharm.D., FCCP, BCCP
Associate Professor
University of Pittsburgh School of Pharmacy
Department of Pharmacy and Therapeutics
Clinical Pharmacist, Cardiology
UPMC Presbyterian Shadyside Hospital
Pittsburgh, Pennsylvania

Taylor J. Miller, Pharm.D.
Clinical Pharmacist
Department of Pharmaceutical Services
UPMC Mercy
Pittsburgh, Pennsylvania

Reviewers
Steven P. Dunn, Pharm.D., FAHA,
BCPS-AQ Cardiology, BCCCP
Pharmacy Clinical Coordinator – Heart and Vascular
University of Virginia Health System
Charlottesville, Virginia

Melissa Ruble, Pharm.D., BCPS
Assistant Professor
Department of Pharmacotherapeutics and Clinical Research
University of South Florida College of Pharmacy
Tampa, Florida

Tara Anderson Mains, Pharm.D., BCPS
Coordinator, Clinical Pharmacy Services
Department of Pharmacy
St. Claire Healthcare
Morehead, Kentucky

HEART FAILURE

Author
Adam Sieg, Pharm.D., BCPS
Clinical Pharmacist Specialist – Advanced Heart Failure and Transplant/MCS
Department of Pharmacy
University of Kentucky Healthcare
Assistant Adjunct Faculty
Department of Pharmacy Practice and Science, University of Kentucky College of Pharmacy
Lexington, Kentucky

Reviewers
Orly Vardeny, Pharm.D., FCCP, FAHA, FHFS, BCACP
Core Investigator
Center for Care Delivery and Outcomes Research
Minneapolis VA Health Care System
Associate Professor
Department of Medicine
University of Minnesota
Minneapolis, Minnesota

Stephen B. Vickery, Pharm.D., BCPS
Assistant Professor of Pharmacy
Wingate University Hendersonville Health Sciences Center
Hendersonville, North Carolina

Kevin Ordons, Pharm.D., BCPS, BCCP
Clinical Pharmacy Specialist, Emergency Medicine
Department of Pharmacy
Mercy Health St. Elizabeth Youngstown
Youngstown, Ohio
COMPLEX MANAGEMENT OF ATRIAL FIBRILLATION

Author
Bethany A. Kalich, Pharm.D., BCPS-AQ Cardiology
Assistant Professor
Feik School of Pharmacy
University of the Incarnate Word
San Antonio, Texas

Reviewers
Shannon W. Finks, Pharm.D., FCCP, BCPS, BCCP, AHSCP-CHC
Professor
Department of Clinical Pharmacy and Translational Science
University of Tennessee College of Pharmacy
Memphis, Tennessee

Melanie R. Madorsky, Pharm.D., BCPS, BCCP
Clinical Pharmacy Specialist, Cardiac Care Unit
Department of Pharmacy
Memorial Hermann-Texas Medical Center
Houston, Texas

Maha O. Kebir, Pharm.D., MS, BCPS, CPHQ
Clinical Pharmacist
Department of Pharmacy
Christiana Care Health System
Newark, Delaware

The American College of Clinical Pharmacy and the authors thank the following individuals for their careful review of the Cardiology II chapters:

H. Gwen Bartlett, Pharm.D., BCPS, BCCCP, BCCP
Assistant Professor of Pharmacy Practice
School of Pharmacy
Husson University
Bangor, Maine

Judy Cheng, Pharm.D., MPH, BCPS (AQ Cardiology)
Professor and Interim Chair of Pharmacy Practice
Department of Pharmacy Practice
MCPHS University
Clinical Pharmacy Specialist
Department of Pharmacy
Brigham and Women’s Hospital
Boston, Massachusetts

Marisel Segarra-Newnham, Pharm.D., MPH, FCCP, BCPS, BCIDP
Clinical Pharmacy Specialist, Infectious Diseases/HIV
Antimicrobial Stewardship Program Pharmacy Director
Veterans Affairs Medical Center
West Palm Beach, Florida
Clinical Assistant Professor of Pharmacy Practice
University of Florida College of Pharmacy
Gainesville, Florida
CARDIOLOGY III PANEL

Series Editors:
John E. Murphy, Pharm.D., FCCP, FASHP
Professor of Pharmacy Practice and Science
Associate Dean – Phoenix Campus
University of Arizona College of Pharmacy
Phoenix, Arizona
Mary Wun-Len Lee, Pharm.D., FCCP, BCPS
Vice President and Chief Academic Officer
Pharmacy and Optometry Education
Professor of Pharmacy Practice
Midwestern University
Chicago College of Pharmacy
Downers Grove, Illinois

Faculty Panel Chair:
Douglas L. Jennings, Pharm.D., FCCP, FAHA, FACC, BCPS
Assistant Clinical Professor of Pharmacy Sciences
Columbia University School of Nursing
Affiliate Clinical Faculty
St. John College of Pharmacy and Health Sciences
New York, New York

ReCORDED WEBCAST: PRECISION MEDICINE IN CARDIOVASCULAR DISEASE

Authors
James C. Lee, Pharm.D., BCACP
Clinical Assistant Professor
Department of Pharmacy Practice
University of Illinois at Chicago College of Pharmacy
Clinical Pharmacist & Co-Director, Personalized Medicine Program
Department of Ambulatory Pharmacy Services
University of Illinois Hospital & Health Sciences Program
Chicago, Illinois

Yee Ming Lee, Pharm.D., BCPS, ABCP
Assistant Professor
Department of Clinical Pharmacy
University of Colorado Skaggs School of Pharmacy and Pharmaceutical Sciences
Aurora, Colorado

Reviewers
Larisa H. Cavallari, Pharm.D., FCCP, BCPS
Associate Professor
Director, Center for Pharmacogenomics and Precision Medicine
Department of Pharmacotherapy and Translational Research
University of Florida
Gainesville, Florida

Janna Afanasjeva, Pharm.D., BCPS
Drug Information Specialist
Clinical Assistant Professor
University of Illinois Chicago College of Pharmacy
Chicago, Illinois

Manish Patel, Pharm.D., BCPS
Clinical Pharmacist
Department of Pharmacy Services
Summerlin Hospital Medical Center
Las Vegas, Nevada

RECORDED WEBCAST: VALVULAR HEART DISEASE

Authors
Carrie S. Oliphant, Pharm.D., FCCP, BCPS, BCCP, AACC
Global Medical Information Specialist
Med Communications, Inc.
Memphis, Tennessee

J. Erin Ledford, Pharm.D., BCPS AQ-Cardiology, BCCCP
Cardiology Critical Care Clinical Specialist
Director – PGY2 Critical Care Residency
Department of Pharmacy
WakeMed Health & Hospitals
Raleigh, North Carolina

Reviewers
Scott Bolesta, Pharm.D., BCPS, FCCP, FCCM
Associate Professor
Department of Pharmacy Practice
Wilkes University
Visiting Investigator
Heart Institute
Geisinger
Wilkes-Barre, Pennsylvania
The American College of Clinical Pharmacy and the authors thank the following individuals for their careful review of the Cardiology III features:

**Joseph S. Bubalo, Pharm.D., BCPS, BCOP**  
*Oncology Clinical Pharmacy Specialist*  
*Assistant Professor of Medicine*  
Oregon Health and Science University Hospital and Clinics  
Portland, Oregon

**Mary Wun-Len Lee, Pharm.D., FCCP, BCPS**  
*Vice President and Chief Academic Officer*  
Pharmacy and Optometry Education  
*Professor of Pharmacy Practice*  
Midwestern University  
Chicago College of Pharmacy  
Downers Grove, Illinois
CARDIOLOGY IV PANEL

Series Editors:

John E. Murphy, Pharm.D., FCCP, FASHP  
Professor of Pharmacy Practice and Science  
Associate Dean – Phoenix Campus  
University of Arizona College of Pharmacy  
Phoenix, Arizona

Mary Wun-Len Lee, Pharm.D., FCCP, BCPS  
Vice President and Chief Academic Officer  
Pharmacy and Optometry Education  
Professor of Pharmacy Practice  
Midwestern University  
Chicago College of Pharmacy  
Downers Grove, Illinois

Faculty Panel Chair:

Douglas L. Jennings, Pharm.D., FCCP, FAHA, FACC, BCPS  
Assistant Clinical Professor of Pharmacy Sciences  
Columbia University School of Nursing  
Affiliate Clinical Faculty  
St. John College of Pharmacy and Health Sciences  
New York, New York

RECORDED WEBCAST: META-ANALYSIS AND OBSERVATIONAL RESEARCH IN CARDIOVASCULAR DISEASE

Author

William L. Baker Jr., Pharm.D., FCCP, FACC, FAHA  
Associate Professor  
Department of Pharmacy Practice  
University of Connecticut School of Pharmacy  
Storrs, Connecticut

Reviewers

Benjamin W. Van Tassell, Pharm.D., FCCP, FAHA, BCPS  
Associate Professor  
Department of Pharmacotherapy and Outcomes Science  
Virginia Commonwealth University School of Pharmacy  
Richmond, Virginia

Miki A. Goldwire, Pharm.D., MS, BCPS  
Associate Professor  
Director of Drug Information  
School of Pharmacy  
Regis University  
Denver, Colorado

Zoon H. Park, Pharm.D., BCPS, BCGP  
Cognitive Surplus Pharmacist Practitioner  
Niles, Illinois

STATISTICS IN PRACTICE: STATISTICS OVERVIEW

Authors

Daniel R. Touchette, Pharm.D., MA, FCCP  
Professor  
Director of Graduate Studies, MS Comparative Effectiveness Program  
Pharmacy Systems, Outcomes and Policy  
University of Illinois at Chicago  
Chicago, Illinois

Ryan Rodriguez, Pharm.D., BCPS  
Clinical Assistant Professor  
Drug Information Specialist  
Department of Pharmacy Practice  
University of Illinois at Chicago  
Chicago, Illinois

Reviewers

Kevin M. Sowinski, Pharm.D., FCCP  
Professor  
Department of Pharmacy Practice  
Purdue University, College of Pharmacy  
Adjunct Professor  
Department of Medicine  
Indiana University, School of Medicine  
Indianapolis, Indiana

Daniel R. Malcom, Pharm.D., BCPS, BCCCP  
Associate Professor and Vice-Chair  
Department of Clinical and Administrative Sciences  
Sullivan University College of Pharmacy and Health Sciences  
Louisville, Kentucky

Miki A. Goldwire, Pharm.D., MS, BCPS  
Associate Professor  
Director of Drug Information  
School of Pharmacy  
Regis University  
Denver, Colorado

Emily Rowe, Pharm.D., BCPPS, BCPS  
Senior Clinical Pharmacy Specialist – Pediatrics  
Department of Pharmacy  
Tufts Medical School  
Boston, Massachusetts
The American College of Clinical Pharmacy and the authors thank the following individuals for their careful review of the Cardiology IV features:

**Ralph H. Raasch, Pharm.D., FCCP, BCPS**  
Associate Professor of Pharmacy (retired)  
Division of Practice Advancement and Clinical Education  
Eshelman School of Pharmacy  
The University of North Carolina at Chapel Hill  
Chapel Hill, North Carolina

**Marisel Segarra-Newnham, Pharm.D., MPH, FCCP, BCPS, BCIDP**  
Clinical Pharmacy Specialist, Infectious Diseases/HIV  
Antimicrobial Stewardship Program Pharmacy Director  
Veterans Affairs Medical Center  
West Palm Beach, Florida  
Clinical Assistant Professor of Pharmacy Practice  
University of Florida College of Pharmacy  
Gainesville, Florida
DISCLOSURE OF POTENTIAL CONFLICTS OF INTEREST

Consultancies: Craig J. Beavers (Medicure Inc); James C. Coons (Medicure); Dave L. Dixon (Accreditation Council for Clinical Lipidology); Sally Earl (Sanofi); Bethany Kalich (Sanofi/Regeneron); Mike S. Kelly (Medicure Inc); Yee Ming Lee (EBSCO Health DynaMed); Toni L. Ripley (Van Meter Law Firm); Garcia Simon-Clarke (BPS Specialty Council on Nuclear Medicine); Benjamin Van Tassell (Serpin Pharma LLC)

Stock Ownership: Bethany Kalich (Amgen, Inc)

Royalties:

Grants: Adam Phillip Bress (NHLBI [2 grants]); James C. Coons (United Therapeutics); Ryan Rodriguez (Takeda Pharmaceuticals); Daniel R. Touchette (Sunovion Pharmaceuticals, Institute for Clinical and Economic Review, Takeda Pharmaceuticals, Cardinal Health); Benjamin Van Tassell: (National Heart, Lung, and Blood Institute, Swedish Orphan Biovitrum, Virginia Biosciences Health Research Corporation); Orly Vardeny (Novartis)

Honoraria: Sally Earl (Janssen, Regeneron); Douglas Jennings (Novartis Pharmaceuticals); Bethany Kalich (Pfizer/BMS); Ryan Rodriguez (ACCP)

Other: Bethany Kalich (founder of EmpowerRx Health Education Providers, LLC)

Nothing to disclose: Janna Afanasjeva; William L. Baker Jr; Anna R. Barbato; Scott Bolesta; Larisa H. Cavallari; Andrew P. Clark; Steven P. Dunn; Shannon W. Finks; Micheline A. Goldwire; Carol Heunisch; Maha O. Kebir; J. Erin Ledford; James C. Lee; Melanie R. Madorsky; Tara Anderson Mains; Daniel R. Malcom; Taylor Miller; David Nickerson; Carrie S. Oliphant; Kevin J. Ordons; Zoon H. Park; Manish Patel; Kathryn Rice; Emily H. Rowe; Melissa Ruble; Adam Sieg; Kevin Sowinski; Stephen B. Vickery.

ROLE OF BPS: The Board of Pharmacy Specialties (BPS) is an autonomous division of the American Pharmacists Association (APhA). To maintain its strict, independent standards for certification, BPS does NOT endorse or provide review information, preparatory courses, or study guides for Board Certification Examinations. The Board, through its specialty councils, is responsible for specialty examination content, administration, scoring, and all other aspects of its certification programs. BPS is totally separate and distinct from ACCP. PSAP has been approved by BPS for use in BCPS recertification. Information about the BPS recertification process is available online.

Questions regarding BPS specialty recertification should be directed to:

Board of Pharmacy Specialties
2215 Constitution Avenue NW
Washington, DC 20037
(202) 429-7591