DISCLOSURE OF POTENTIAL CONFLICTS OF INTEREST

Consultancies: William L. Baker Jr. (Bayer AG); James C. Coons (Bristol Myers Squibb; Alnylam); Paul P. Dobesh (The Pfizer/BMC Alliance; Janssen Pharmaceuticals); Kazuhiko Kido (Annals of Pharmacotherapy Journal); Hua Ling (Alnylam Pharmaceuticals); Nancy L. Shapiro (ASHP)

Stock Ownership: Snehal Bhatt (Sarepta Therapeutics)

Royalties: Carrie S. Oliphant (AstraZeneca)

Grants: William L. Baker Jr (Alexion Pharmaceuticals); James C. Coons (Pfizer; United Therapeutics); Nancy L. Shapiro (UIC Research Communication Center); Kazuhiko Kido (ACCP)

Honoraria: Snehal Bhatt (Janssen Pharmaceuticals)

Other:

Nothing to Disclose: Jessica E. Chasler, Nathan P. Clark, Bryan Cook, Mary B. Covell; Brooke Gengler, Michael Gillette, Lindsey E. Greiner, Sarah M. Hanigan, Carol Heunisch, Salem Kamalay, William Kuan, Michelle Lew, Tracy E. Macaulay, Melanie Madorsky, Joel C. Marrs, Taylor J. Miller, Zachary R. Noel, Brian R. Overholser, Shreya Patel, Cynthia A. Sanoski, Kevin M. Sowinski, Kathy Tang, Nathan J. Verlinden, Allie Wasik, Kristin Watson, Barbara S. Wiggins, Naomi Y. Yates, Joseph J. Zieminski

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. CardSAP has been approved by BPS for use in BCCP recertification. Information about the BPS recertification process is available online.

Questions regarding BCCP recertification should be directed to:

Board of Pharmacy Specialties

2215 Constitution Avenue NW Washington, DC 20037 (202) 429-7591

Arrhythmias and Thrombosis I Panel

Series Editors:

Cynthia A. Jackevicius, Pharm.D., M.Sc., FCCP, FCSHP, FAHA, FCCS, FACC, BCPS-AQ Cardiology, BCCP

Professor, Pharmacy Practice
College of Pharmacy
Western University of Health Sciences
Clinical Pharmacy Specialist, Cardiology
VA Greater Los Angeles Healthcare System
Los Angeles, California

J. Herbert Patterson, Pharm.D., FCCP, FHFSA

Professor of Pharmacy
Research Professor of Medicine
Executive Vice Chair, Division of Pharmacotherapy and
Experimental Therapeutics
UNC Eshelman School of Pharmacy
University of North Carolina at Chapel Hill
Chapel Hill, North Carolina

Faculty Panel Chair:

Cynthia A. Sanoski, Pharm.D., FCCP, BCPS

Department Chair
Associate Professor of Pharmacy Practice
Thomas Jefferson University
Philadelphia, Pennsylvania

Atrial Fibrillation/Atrial Flutter: Rate and Rhythm

Author

Shreya Patel, Pharm.D., BCPS

Associate Professor of Pharmacy Practice
Fairleigh Dickinson University School of Pharmacy and
Health Sciences
Florham Park, New Jersey

Reviewers

Zachary R. Noel, Pharm.D., BCPS, BCCP

Assistant Professor
Department of Pharmacy Practice and Science
University of Maryland School of Pharmacy
Baltimore, Maryland

William Kuan, Pharm.D., BCPS, BCCP

Clinical Pharmacist, Advanced Heart Failure/Heart
Transplant/Mechanical Circulatory Support
Acute Care Pharmacy Services
University of Kentucky HealthCare
Assistant Adjunct Professor
Acute Care Pharmacy Services
University of Kentucky College of Pharmacy
Lexington, Kentucky

Atrial Fibrillation/Atrial Flutter: Stroke Prevention

Author

Kazuhiko Kido, Pharm.D., MS, BCCP, BCPS

Clinical Assistant Professor
Clinical Pharmacy Specialist, Advanced Heart Failure/
Pulmonary Hypertension
Department of Clinical Pharmacy
West Virginia University
Morgantown, West Virginia

Reviewers

Carrie S. Oliphant, Pharm.D., FCCP, BCPS, BCCP, AACC

Senior Content Medical Information Specialist Med Communications, Inc. Waxhaw. North Carolina

Kathy Tang, Pharm.D., BCPS, BCCP

Clinical Pharmacist
Department of Pharmacy
WellStar Kennestone Hospital
Marietta, Georgia

Michael A. Gillette, Pharm.D., AACC, FHFSA, BCPS, BCCP

Clinical Pharmacy Specialist, Cardiology Michael DeBakey VA Medical Center Houston, Texas

The American College of Clinical Pharmacy and the authors thank the following individuals for their careful review of the Arrhythmias and Thrombosis 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

Cynthia A. Jackevicius, Pharm.D., M.Sc., FCCP, FCSHP, FAHA, FCCS, FACC, BCPS-AQ Cardiology, BCCP

Professor, Pharmacy Practice
College of Pharmacy
Western University of Health Sciences
Clinical Pharmacy Specialist, Cardiology
VA Greater Los Angeles Healthcare System
Los Angeles, California

Arrhythmias and Thrombosis II Panel

Series Editors:

Cynthia A. Jackevicius, Pharm.D., M.Sc., FCCP, FCSHP, FAHA, FCCS, FACC, BCPS-AQ Cardiology, BCCP

Professor, Pharmacy Practice
College of Pharmacy
Western University of Health Sciences
Clinical Pharmacy Specialist, Cardiology
VA Greater Los Angeles Healthcare System
Los Angeles, California

J. Herbert Patterson, Pharm.D., FCCP, FHFSA

Professor of Pharmacy
Research Professor of Medicine
Executive Vice Chair, Division of Pharmacotherapy and
Experimental Therapeutics
UNC Eshelman School of Pharmacy
University of North Carolina at Chapel Hill
Chapel Hill, North Carolina

Faculty Panel Chair:

Cynthia A. Sanoski, Pharm.D., FCCP, BCPS

Department Chair
Associate Professor of Pharmacy Practice
Thomas Jefferson University
Philadelphia, Pennsylvania

DOAC Use in Special Populations

Author

Sarah Hanigan, Pharm.D., BCPS-AQ Cardiology, BCCP

Clinical Assistant Professor
College of Pharmacy
University of Michigan
Cardiology Clinical Pharmacist
Michigan Medicine
Ann Arbor, Michigan

Reviewers

Nancy L. Shapiro, Pharm.D., FCCP, BCACP, CACP

Clinical Professor and Assistant Head for Education
Department of Pharmacy Practice
University of Illinois Chicago College of Pharmacy
Clinical Pharmacist and Coordinator
Antithrombosis Clinic
UI Health
Chicago, Illinois

Allie Wasik, Pharm.D., BCCP

Clinical Cardiology Pharmacist-VAD Team Northwestern Memorial Hospital Pharmacy Department Chicago, Illinois

Bryan Cook, Pharm.D., BCPS, BCCP

Senior Pharmacist
Center for Drug Policy
Mass General Brigham
Somerville, Massachusetts

Torsades de Pointes and Drug-Induced Arrhythmias

Authors

Brian R. Overholser, Pharm.D., FCCP

Professor
Department of Pharmacy
College of Pharmacy
Purdue University
West Lafayette, Indiana

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

Reviewers

William L. Baker Jr, Pharm.D., FCCP, FACC, FAHA, FHFSA

Associate Professor
Department of Pharmacy Practice
University of Connecticut School of Pharmacy
Storrs, Connecticut

Brooke E. Gengler, Pharm.D., BCCP

Pharmacy Specialist, Cardiology
Department of Pharmacy
SSM Health Saint Louis University Hospital
Saint Louis, Missouri

Carol Heunisch, Pharm.D., BCPS, BCCP

Director, Inpatient Pharmacy Services
Department of Pharmacy
NorthShore University HealthSystem
Evanston, Illinois

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

Christine K. O'Neil, Pharm.D., FCCP, BCPS, BCGP, CTTS

Professor of Pharmacy Practice
Assistant Dean, Curriculum Development
& Interprofessional Education
School of Pharmacy
Duquesne University
Pittsburgh, Pennsylvania

Toni L. Ripley, Pharm.D., FCCP, BCPS

Clinical Pharmacy Specialist
Department of Pharmacy, Clinical Section
Oklahoma City VA Health Care System
Oklahoma City, Oklahoma

Arrhythmias and Thrombosis III Panel

Series Editors:

Cynthia A. Jackevicius, Pharm.D., M.Sc., FCCP, FCSHP, FAHA, FCCS, FACC, BCPS-AQ Cardiology, BCCP

Professor, Pharmacy Practice
College of Pharmacy
Western University of Health Sciences
Clinical Pharmacy Specialist, Cardiology
VA Greater Los Angeles Healthcare System
Los Angeles, California

J. Herbert Patterson, Pharm.D., FCCP, FHFSA

Professor of Pharmacy
Research Professor of Medicine
Executive Vice Chair, Division of Pharmacotherapy and
Experimental Therapeutics
UNC Eshelman School of Pharmacy
University of North Carolina at Chapel Hill
Chapel Hill, North Carolina

Faculty Panel Chair:

Cynthia A. Sanoski, Pharm.D., FCCP, BCPS

Department Chair
Associate Professor of Pharmacy Practice
Thomas Jefferson University
Philadelphia, Pennsylvania

Venous Thromboembolism

Authors

Nathan P. Clark, Pharm.D., FCCP, BCPS

Clinical Pharmacy Manager
Clinical Pharmacy Anticoagulation Service
Kaiser Permanente Colorado
Aurora, Colorado
Clinical Assistant Professor
Skaggs School of Pharmacy and Pharmaceutical Sciences
Denver, Colorado

Naomi Y. Yates, Pharm.D., BCACP

Manager
Department of Clinical Pharmacy Services
Kaiser Permanente
Atlanta, Georgia

Reviewers

Snehal Bhatt, Pharm.D., BCPS

Professor of Pharmacy Practice
Department of Pharmacy Practice
Massachusetts College of Pharmacy and Health Sciences
Boston, Massachusetts

Joseph J. Zieminski, Pharm.D., BCCP

Cardiology Pharmacist
Department of Pharmacy
Mayo Clinic
Rochester, Minnesota

Salem Kamalay, Pharm.D., BCPS, BCPPS, BCCP, BCGP

Clinical Pharmacist
Department of Pharmacy
University of California, San Francisco
San Francisco, California

Bridging Anticoagulant Therapy

Authors

James C. Coons, Pharm.D., FCCP, FACC, BCCP

Professor

Department of Pharmacy and Therapeutics University of Pittsburgh School of Pharmacy Clinical Pharmacist, Cardiology UPMC Presbyterial Hospital Pittsburgh, Pennsylvania

Taylor Miller, Pharm.D.

Clinical Pharmacist
PGY1 Residency Program Director
UPMC Mercy
Pittsburgh, Pennsylvania

Reviewers

Paul P. Dobesh, Pharm.D., FCCP, FAHA, BCPS, BCCP

Professor
Department of Pharmacy Practice and Science
University of Nebraska Medical Center College of
Pharmacy
Omaha, Nebraska

Lindsey E. Greiner, Pharm.D., BCPS, BCCP

Ambulatory Care Cardiology Pharmacy
Department of Pharmacy
Community Health Network
Indianapolis, Indiana

The American College of Clinical Pharmacy and the authors thank the following individuals for their careful review of the Arrhythmias and Thrombosis III chapters:

Olga Hilas, Pharm.D., MPH, BCPS, BCGP, FASCP

Associate Professor, Clinical Health Professions College of Pharmacy & Health Sciences St. John's University Queens, New York

Lisa C. Hutchison, Pharm.D., MPH, FCCP, BCPS, BCGP

Professor Pharmacy Practice University of Arkansas for Medical Sciences Little Rock, Arkansas

Arrhythmias and Thrombosis IV Panel

Series Editors:

Cynthia A. Jackevicius, Pharm.D., M.Sc., FCCP, FCSHP, FAHA, FCCS, FACC, BCPS-AQ Cardiology, BCCP

Professor, Pharmacy Practice
College of Pharmacy
Western University of Health Sciences
Clinical Pharmacy Specialist, Cardiology
VA Greater Los Angeles Healthcare System
Los Angeles, California

J. Herbert Patterson, Pharm.D., FCCP, FHFSA

Professor of Pharmacy
Research Professor of Medicine
Executive Vice Chair, Division of Pharmacotherapy and
Experimental Therapeutics
UNC Eshelman School of Pharmacy
University of North Carolina at Chapel Hill
Chapel Hill, North Carolina

Faculty Panel Chair:

Cynthia A. Sanoski, Pharm.D., FCCP, BCPS

Department Chair Associate Professor of Pharmacy Practice Thomas Jefferson University Philadelphia, Pennsylvania

Recorded Webcast: Physical Examinations for Cardiovascular Medication Management

Author

Kristin Watson, Pharm.D., BCCP

Associate Professor
Department of Pharmacy Practice and Science
University of Maryland School of Pharmacy
Baltimore, Maryland

Reviewers

Joel C. Marrs, Pharm.D., MPH, BCACP, BCCP, BCPS, CHC, CLS

Visiting Clinical Associate Professor Child Health Associate Physician Assistant Program University of Colorado School of Medicine Aurora, Colorado

Michelle J. Lew, Pharm.D., BCCP, BCPS

Clinical Pharmacist Scripps Memorial Hospital, La Jolla La Jolla, California

Interactive Case: Shared Decisionmaking in the Management of CV Disorders

Author

Tracy E. Macaulay, Pharm.D., FCCP, FACC, BCCP

Associate Clinical Professor

Department of Pharmacy Practice and Science
University of Kentucky College of Pharmacy
Lexington, Kentucky

Reviewers

Barbara S. Wiggins, Pharm.D., FCCP, FACC, FNLA, BCPS, BCCP, BCCCP, CLS

Clinical Pharmacy Specialist—Cardiology
Department of Pharmacy
Medical University of South Carolina
Charleston, South Carolina

Hua Ling, Pharm.D., MS, BCCP, BCPS, AACC, CLS

Associate Professor
Department of Pharmacy Practice
Philadelphia College of Osteopathic Medicine
Philadelphia, Pennsylvania

Melanie R. Madorsky, Pharm.D., BCPS, BCCCP, BCCP

Clinical Pharmacy Specialist, Cardiac Care Unit Department of Pharmacy Memorial Hermann-Texas Medical Center Houston, Texas

Interactive Case: Management of Atrial Fibrillation in Patients Undergoing PCI

Author

Jessica Chasler, Pharm.D., MPH, BCCP

Clinical Pharmacy Specialist, Cardiology The Johns Hopkins Hospital Baltimore, Maryland

Reviewers

Nathan J. Verlinden, Pharm.D., BCPS, BCCP

Cardiology Clinical Pharmacy Specialist PGY2 Cardiology Pharmacy Residency Program Director Allegheny General Hospital Pittsburgh, Pennsylvania

Mary B. Covell, Pharm.D., MPH, BCPS, BCCP

Pharmacy Clinical Coordinator
Ephraim McDowell Regional medical Center
Danville, Kentucky

The American College of Clinical Pharmacy and the authors thank the following individuals for their careful review of the Arrhythmias and Thrombosis IV chapters:

Judy Cheng, Pharm.D., MPH, FCCP, BCPS (AQ Cardiology)

Professor and Chair of Pharmacy Practice
Department of Pharmacy Practice
MCPHS University
Clinical Pharmacy Specialist
Department of Pharmacy
Brigham and Women's Hospital
Boston, Massachusetts

Lynn Kassel, Pharm.D., BCPS

Associate Professor of Clinical Sciences
Department of Clinical Sciences
Drake University College of Pharmacy & Health Sciences
Des Moines, Iowa
Acute Care Pharmacist
MercyOne West Des Moines Hospital
West Des Moines, Iowa

J. Herbert Patterson, Pharm.D., FCCP, FHFSA

Professor of Pharmacy
Research Professor of Medicine
Executive Vice Chair, Division of Pharmacotherapy and
Experimental Therapeutics
UNC Eshelman School of Pharmacy
University of North Carolina at Chapel Hill
Chapel Hill, North Carolina