DISCLOSURE OF POTENTIAL CONFLICTS OF INTEREST

Consultancies: John B. Bossaer (ASHP/ACCP); Mariann D. Churchwell (MAFEREB LLC); Sandra Cuellar (Merck); Julianne O. Darling (Bayer; Eli Lilly; BeiGene; Incyte; Kyowa Kirin); Gabriella A. Douglass (Sanofi); Beatrice Drambarean (AMGEN Inc.); Heidi D. Finnes (Alliance for Clinical Trials in Oncology; UpToDate; Hematology Oncology Pharmacy Association; National Cancer Comprehensive Network; Pharmacy Times); LeAnne Kennedy (HOPA; Pharmacy Times; Incyte; Oncopeptides); Elizabeth Koselke (Westminster Village North BOD); Christopher A. Fausel (Hoosier Cancer Research Network; ASHP/ACCP); Rebecca Maxson (Wolters-Kluwer, Inc, Vifor Pharma); Heather Moore (Novaro's; Seattle Genetics; Daiichi Sankyo/Astra Zeneca); Rowena N. Schwartz (Oncology Nursing Society); Rachel Selinger (College Diabetes Network); Mary Vilay (Wolters-Kluwer); Kellie Jones Weddle (Pfizer); Megan Wesling (Sanofi)

Stock Ownership: Rhenda Harris (BioDelivery Sciences); Erin Thompson (Gilead, Becton Dickinson and Co., Invitae Corp., Pfizer, Inc.)

Royalties: Stacey Dull (CEImpact)

Grants: Rebecca Maxson (Alabama Pharmacy Association)

Honoraria: Sandra Cuellar (Genentech); Julianne O. Darling (Merck; AstraZeneca; Eisai); Christopher A. Fausel (Postgraduate Healthcare Education; Impact Education); Heidi D. Finnes (JADPRO Live; McCreadie Group Inc.); Elizabeth Koselke (Jazz Pharmaceuticals; Rigel Pharmaceuticals); Rowena N. Schwartz (Horizon)

Other:

Nothing to disclose: Erica Anderson; Adenike I. Atanda; Sally Barbour; Emily B. Borders; Estella M. Davis; Kathlene A. DeGregory; B. DeeAnn Dugan; Bryan Feagan; Joanna Ferraro; Sarah Hull; Hany Basiouny Ibrahim; Cynthia A. King; Rita Morelli; Lalita Prasad-Reddy; Roger Iain Pritchard; Shelly Rutledge; Eve Segal

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

Questions regarding BCACP recertification should be directed to:

Board of Pharmacy Specialties 2215 Constitution Avenue NW Washington, DC 20037

(202) 429-7591

Oncology and Nephrology Care I Panel

Series Editors:

Dave L. Dixon, Pharm.D., BCACP, BCPS, CDCES, CLS, FNLA, FCCP, FACC

Associate Professor

Department of Pharmacotherapy and Outcomes Sciences Virginia Commonwealth University School of Pharmacy Richmond, Virginia

Ila M. Harris, Pharm.D., FCCP, BCPS

Professor

Department of Family Medicine and Community Health University of Minnesota Medical School Minneapolis, Minnesota

Faculty Panel Chair:

LeAnne Kennedy, Pharm.D., FHOPA, BCOP, CPP

Clinical Specialist–Adult Stem Cell Transplantation Director, PGY2 Oncology Residency Wake Forest Baptist Health Winston-Salem, North Carolina

Multiple Myeloma

Authors

Elizabeth Koselke, Pharm.D., BCOP

Oncology Clinical Pharmacist IU Health Ball Memorial Hospital Muncie, Indiana

Christopher A. Fausel, Pharm.D., FHOPA, BCOP

Senior Pharmacist, Precision Genomics Indiana University Health Indianapolis, Indiana

Reviewers

Kathlene DeGregory, Pharm.D., BCOP

Clinical Pharmacist, Stem cell transplant Department of Pharmacy Services University of Virginia Health Charlottesville, Virginia

R. Iain Pritchard, Pharm.D., BCACP

Assistant Professor
Department of Pharmacy Practice
Shenandoah University
Winchester, Virginia

Rhenda Harris, Pharm.D., MBA, BCACP

Pharmacist Walgreens Elkin, North Carolina

Breast Cancer

Authors

Kellie Jones Weddle, Pharm.D., FCCP, FHOPA, BCOP

Clinical Professor
Department of Pharmacy Practice
Purdue University
Indianapolis, Indiana

Reviewers

Heather Moore, Pharm.D., BCOP, CPP

Clinical Oncology Pharmacist, Breast Oncology
Department of Pharmacy
Duke University Hospital/Duke Cancer Institute
Durham. North Carolina

Gabriella Douglass, Pharm.D., BCACP, AAHIVP, BC-ADM

Residency Program Director Clinical Pharmacist Department of Pharmacy ARcare Searcy, Arkansas

Joanna Ferraro, Pharm.D., BCACP

Pharmacy Director Indian Health Service Cass Lake, Minnesota

The American College of Clinical Pharmacy and the authors thank the following individuals for their careful review of the Oncology and Nephrology Care I chapters:

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

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

Oncology and Nephrology Care II Panel

Series Editors:

Dave L. Dixon, Pharm.D., BCACP, BCPS, CDE, CLS, FNLA, FCCP, FACC

Associate Professor

Department of Pharmacotherapy and Outcomes Sciences Virginia Commonwealth University School of Pharmacy Richmond, Virginia

Ila M. Harris, Pharm.D., FCCP, BCPS

Professor

Department of Family Medicine and Community Health University of Minnesota Medical School Minneapolis, Minnesota

Faculty Panel Chair:

LeAnne Kennedy, Pharm.D., FHOPA, BCOP, CPP

Clinical Specialist - Adult Stem Cell Transplantation Director, PGY2 Oncology Residency Wake Forest Baptist Health Winston-Salem, North Carolina

Anticancer Therapy-Induced Nausea and Vomiting

Author

Rowena N. Schwartz, Pharm.D., FHOPA, BCOP

Professor of Pharmacy Practice
James L. Winkle College of Pharmacy
University of Cincinnati
Cincinnati, Ohio

Reviewers

Sally Barbour, Pharm.D., BCOP, CPP, FHOPA

Director of Oncology Pharmacy Programs
Director, PGY2 Oncology Residency
Clinical Pharmacist Practitioner
Department of Pharmacy
Duke University Medical Center
Durham, North Carolina

Megan Wesling, Pharm.D., BCPS, BCACP

Assistant Professor
Department of Pharmacotherapy
University of North Texas Health Science Center College
of Pharmacy
Clinical Pharmacist—Ambulatory Care
Department of Family Medicine
HSC Health
Fort Worth, Texas

Rachel Selinger, Pharm.D., BCACP

Clinical Pharmacist Practitioner UNC Campus Health

University of North Carolina at Chapel Hill Adjunct Assistant Professor of Clinical Education Department of Practice Advancement and Clinical

Education
UNC Eshelman School of Pharmacy

Chapel Hill, North Carolina

Anemia Management in the Biosimilar Era

Author

John B. Bossaer, Pharm.D., BCPS, BCOP

Professor

Department of Pharmacy Practice Bill Gatton College of Pharmacy, East Tennessee St. University Johnson City, Tennessee

Reviewers

Sandra Cuellar, Pharm.D., FHOPA, FASHP, BCOP

Clinical Associate Professor
Department of Pharmacy Practice
University of Illinois at Chicago College of Pharmacy
Chicago, Illinois

Adenike Atanda-Oshikoya, Pharm.D., BCACP, CDCES, CTTS

Assistant Professor of Pharmacotherapy
Residency Program Director—PGY2 Ambulatory Care
Pharmacy
Department of Pharmacotherapy
HSC College of Pharmacy
Fort Worth, Texas

Shelly Rutledge, Pharm.D., BCACP

Senior Clinical Pharmacy Specialist—Managed Care
Department of Pharmacy
Providence Health Plan
Beaverton, Oregon

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

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

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

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

Oncology and Nephrology Care III Panel

Series Editors:

Dave L. Dixon, Pharm.D., BCACP, BCPS, CDE, CLS, FNLA, FCCP, FACC

Associate Professor

Department of Pharmacotherapy and Outcomes Sciences Virginia Commonwealth university School of Pharmacy Richmond, Virginia

Ila M. Harris, Pharm.D., FCCP, BCPS

Professor

Department of Family Medicine and Community Health University of Minnesota Medical School Minneapolis, Minnesota

Faculty Panel Chair:

LeAnne Kennedy, Pharm.D., FHOPA, BCOP, CPP

Clinical Specialist—Adult Stem Cell Transplantation Director, PGY2 Oncology Residency Wake Forest Baptist Health Winston-Salem, North Carolina

Nephrotic Syndrome

Authors

Estella M. Davis, Pharm.D., FCCP, BCPS

Associate Professor
Department of Pharmacy Practice
Creighton University School of Pharmacy and Health
Professions
Omaha, Nebraska

Stacey K. Dull, Pharm.D., BCPS

Associate Professor
Department of Pharmacy Practice and Surgery
Creighton University School of Pharmacy and Health
Professions
Omaha, Nebraska

Reviewers

A. Mary Vilay, Pharm.D.

Associate Professor

Department of Pharmacy Practice and Administrative Sciences

University of New Mexico College of Pharmacy Albuquerque, New Mexico

Erin L. Thompson, Pharm.D., BCPS, BCACP

Clinical Pharmacist
Quality Programs Department
The Toledo Clinic, Inc./Northwest Ohio Accountable Care
Organization
Toledo, Ohio

Hany Basiouny Ibrahim Shehab, BCACP

Pharmacist 1
Department of Pharmacy
SEHA—Abu Dhabi Health Services Co.
Abu Dhabi, Al Ain, UAE

Drug-Induced Kidney Injury

Author

Mariann D. Churchwell Pharm.D., FCCP, BCPS

Professor
Department of Pharmacy Practice
University of Toledo College of Pharmacy and
Pharmaceutical Sciences
Toledo, Ohio

Reviewers

Beatrice Drambarean, Pharm.D., BCPS, BCACP

Clinical Pharmacist
Clinical Assistant Professor
Department of Pharmacy Practice
University of Illinois at Chicago, College of Pharmacy
Chicago, Illinois

Rita Morelli, Pharm.D., BCACP

Associate Professor of Pharmacy Practice
Department of Pharmacy Practice
Coordinator of Experiential Education
Department of Experiential Education
Massachusetts College of Pharmacy and Health Sciences
Boston, Massachusetts

The American College of Clinical Pharmacy and the authors thank the following individuals for their careful review of the Oncology and Nephrology Care III chapters:

Dave L. Dixon, Pharm.D., BCACP, BCPS, CDE, CLS, FNLA, FCCP, FACC

Associate Professor

Department of Pharmacotherapy and Outcomes Sciences Virginia Commonwealth University School of Pharmacy Richmond, Virginia

Ila M. Harris, Pharm.D., FCCP, BCPS

Professor

Department of Family Medicine and Community Health University of Minnesota Medical School Minneapolis, Minnesota

Oncology and Nephrology Care IV Panel

Series Editors:

Dave L. Dixon, Pharm.D., BCACP, BCPS, CDE, CLS, FNLA, FCCP. FACC

Associate Professor

Department of Pharmacotherapy and Outcomes Sciences Virginia Commonwealth university School of Pharmacy Richmond, Virginia

Ila M. Harris, Pharm.D., FCCP, BCPS

Professor

Department of Family Medicine and Community Health University of Minnesota Medical School Minneapolis, Minnesota

Faculty Panel Chair:

LeAnne Kennedy, Pharm.D., FHOPA, BCOP, CPP

Clinical Specialist–Adult Stem Cell Transplantation Director, PGY2 Oncology Residency Wake Forest Baptist Health Winston-Salem, North Carolina

Interactive Case: Monitoring Patients on Oral Chemotherapy

Author

Julianne O. Darling, Pharm.D., BCOP

Manager of Clinical Initiatives National Community Oncology Dispensing Association Cazenovia, New York

Reviewers

Eve M. Segal, Pharm.D., BCOP

Lead Clinical Pharmacist, Hematology/Oncology Department of Pharmacy University of Washington Medical Center Seattle, Washington

Cynthia A. King, Pharm.D., BCACP

Ambulatory Care Pharmacy Specialist
PGY1 Residency Program Director
PGY2 Ambulatory Care Residency Program Director
Department of Pharmacy
MetroHealth System
Cleveland Ohio
Assistant Professor
Department of Pharmacy Practice
Northeast Ohio Medical University
Rootstown Ohio

Lalita Prasad-Reddy, Pharm.D., MS, FCCP, BCPS, BCACP, CDCES

Assistant Dean for Student Affairs
Chicago State University College of Pharmacy
Clinical Pharmacy Specialist
Rush University Internists
Assistant Professor of Internal Medicine
Associate Director of Pharmacology
Rush Medical College
Chicago, Illinois

Interactive Case: Cancer Immunotherapy and Long-Term Toxicity

Author

Heidi D. Finnes, Pharm.D., FHOPA, BCOP

Senior Manager Pharmacy Cancer Research Director Pharmacy Shared Resource Assistant Professor of Pharmacy Mayo Clinic Alix School of Medicine Department of Pharmacy Mayo Clinic Rochester, Minnesota

Reviewers

Emily Borders, Pharm.D., M.S., BCOP

Assistant Professor
Department of Pharmacy Practice
Southwestern Oklahoma State University
Oklahoma City, Oklahoma

Bryan Feagan, Pharm.D., BCPS, BCACP

Oncology Clinical Pharmacist Cornell-Beshore Cancer Institute Freeman Health System Joplin, Missouri

Interactive Case: Drug Dosing in Kidney Disease

Author

Rebecca Maxson, Pharm.D., BCPS

Associate Clinical Professor
Department of Pharmacy Practice
Auburn University Harrison School of Pharmacy
Auburn, Alabama

Reviewers

Erica Anderson, Pharm.D., BCPS

Clinical Pharmacist—Nephrology
Department of Pharmacy
Atrium Health Wake Forest Baptist Medical Center
Winston-Salem, North Carolina

Sarah Hull, Pharm.D., BCACP, BCGP

Clinical Pharmacy Specialist, Ambulatory Care Community Health Network Indianapolis, Indiana

B. DeeAnn Dugan, Pharm.D., BCACP

Professor
Department of Pharmacy Practice
Samford University McWhorter School of Pharmacy
Clinical Pharmacy Specialist
Alabama Regional Medical Services
Birmingham, Alabama

The American College of Clinical Pharmacy and the authors thank the following individuals for their careful review of the Oncology and Nephrology Care IV chapters:

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

Ishaq Lat, Pharm.D., MBA, FCCP, FCCM, BCCCP

Director of Pharmacy
Shirley Ryan Ability Lab
(Formerly the Rehabilitation Institute of Chicago)
Chicago, Illinois

Mary Wun-Len Lee, Pharm.D., FCCP, BCPS

Vice President and Special Assistant to the President Midwestern University Professor of Pharmacy Practice Chicago College of Pharmacy Downers Grove, Illinois