Board Review Course & Update 2011 Online

Course Description
Each BRCU topic section and its applicable time allocation are patterned after the ABIM nephrology examination blueprint. Lectures, interactive case discussions, and panel Q&A sessions are integral parts of the BRCU program. Relevant physiology and pathophysiology are blended with clinical discussions aimed at reviewing, updating, and preparing for the Board Certification and MOC Examinations.

Statement from ABIM
This course has been developed as an original and independent educational offering based on the public ABIM examination blueprint and is not approved or endorsed by ABIM. In accordance with ABIM policy, no ABIM Board members have been involved in the development of this course. ASN cannot guarantee that attending this course will result in passing the ABIM examination.

Accreditation Statement
ASN is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians.

AMA Credit Designation Statement
ASN designates this enduring material for a maximum of 63.25 AMA PRA Category 1 Credits™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

Important: In accordance with regulations by the American Medical Association (AMA), participants of enduring/online activities must pass that activity's post-test in order to claim CME credit. If you do not pass the post-test within 2 attempts, you cannot claim CME credit for that activity. Please read the policy change from AMA below.

Assessment of Learning
The American Medical Association (AMA) has announced a modification in the AMA Physician’s Recognition Award (PRA) and credit system effective July 1, 2011. A certified CME activity that endures over a specified time is considered enduring material. According to AMA, enduring materials released after July 1, 2011 must “provide an assessment of the learner that measures achievement of the educational purpose and/or objective(s) of the activity with an established minimum performance level…”[1]

This means that ASN-sponsored enduring materials will include a post-test based upon the material’s education purpose and/or learning objectives. Physicians participating in the learning activity will be given two (2) attempts to pass the post-test (minimum performance level = 70% correct).

Important: The Accreditation Council for Continuing Medical Education (ACCME) prohibits physicians from claiming CME credits for activities identical in educational material. This includes enduring activities derived from live activities. Participants of the BRCU 2011 Live course cannot claim CME credits for BRCU 2011 Online.

Original Release and Last Review Date
September 2011

CME and Post-test Termination Date
September 30, 2012

Estimated Time for Completion
64 hours

Fees
ASN Member = $1200

ASN Fellow-in-Training (Nephrology) = $975
Nonmember = $1450

Refund Policy
All sales are final.

Lectures Included
Assessment of Kidney Function and Structure
GFR, Performance Equations, Monitoring Progression of CKD, and Interpretation of Proteinuria, Albuminuria, and the Urinary Sediment
Richard J. Glassock, MD

Imaging the Kidney and Urinary Tract and Urologic Conditions that the Nephrologist Must Know
Marshall L. Stoller, MD

Perturbations in the Distribution of the Body Fluid Compartments
Physiology of Volume and Sodium Regulation: Edema, Hypovolemia, and Hypervolemia
John B. Stokes, III, MD, FASN

Relationship between Sodium and Water: Principles of Hyponatremia and Hypernatremia
Burton D. Rose, MD

Breakout Sessions: Volume, Sodium, and Water Disorders
Case Discussions: Session I
Burton D. Rose, MD and John B. Stokes, III, MD, FASN

Case Discussions: Session II
Tomas Berl, MD and Richard H. Sterns, MD

Glomerular and Vascular Disorders
Pathogenesis and Mechanisms of Glomerular Injury
William G. Couser, MD, FASN

Pathology of Glomerulonephritides
Helmut G. Rennke, MD

Idiopathic or Primary Glomerulonephritides
Stephen M. Korbet, MD, FASN

Secondary Glomerulonephritides and Vasculitis
Richard J. Glassock, MD

Viral Nephritides, including HIV, CMV, and Hepatitis
Warren L. Kupin, MD

How to Treat Refractory Glomerular Diseases
Richard J. Glassock, MD, and Stephen M. Korbet, MD, FASN

Diabetic Nephropathy
Julia Lewis, MD

Selective Genetic Diseases of the Kidney
Agnes B. Fogo, MD

Dysproteinemias, Amyloid, Fibrillary Glomerulonephritis, and Thrombotic Angiopathies
Richard J. Glassock, MD

Renal Biopsy Case-Based Workshop
Agnes B. Fogo, MD, Richard J. Glassock, MD, Stephen M. Korbet, MD, Julia Lewis, MD, and Helmut G. Rennke, MD

**Potassium and Acid Base**
Breakfast Session: Potassium: Key Physiologic Principles, Hypokalemia and Hyperkalemia
Michael Emmett, MD

Acid-Base Disorders: Basic Physiology, Definitions, and Compensation
Thomas D. DuBose, Jr., MD, FASN

Non-Anion Gap Metabolic Acidosis
Thomas D. DuBose, Jr., MD, FASN

Increased Anion Gap Metabolic Acidosis
Michael Emmett, MD

Metabolic Alkalosis
Thomas D. DuBose, Jr., MD, FASN

Respiratory Acidosis and Alkalosis
F. John Gennari, MD

**Tubulo-Interstitial Disorders and Nephrolithiasis**
Acute and Chronic Interstitial Diseases
Warren L. Kupin, MD

Herbs, NSAIDs, and Heavy Metals: A Recipe for Kidney Failure
Warren L. Kupin, MD

**Electrolyte and Acid Base Disorders**
Case Discussions: Session I
Michael Emmett, MD and Asghar Rastegar, MD

Case Discussions: Session II
Thomas D. DuBose, Jr., MD and F. John Gennari, MD

**Bone and Mineral Metabolism and Stones**
Calcium, Phosphorus, PTH, FGF 23, and Vitamin D: Key Physiologic Principles
David A. Bushinsky, MD

Disorders of Calcium and Phosphorous
David A. Bushinsky, MD

Pathogenesis of Metabolic Bone Diseases
Stuart M. Sprague, DO, FASN

Magnesium: Normal Physiology, Hypomagnesemia, and Hypermagnesemia
Zalman S. Agus, MD

Treatment Options for Patients with Metabolic Bone Diseases

Stuart M. Sprague, DO, FASN

Case-Based Workshop for Bone and Mineral Metabolism
Zalman S. Agus, MD, David A. Bushinsky, MD, and Stuart M. Sprague, DO, FASN

Nephrolithiasis: Pathogenesis, Diagnosis, and Medical Management
David A. Bushinsky, MD

Nephrolithiasis: Urologic Management of Stone Disease, Imaging, and Surgical Intervention
Marshall L. Stoller, MD

**Hypertension**
Pathophysiology and Treatment of Essential Hypertension
Phyllis August, MD

Secondary Hypertension: Clinical Syndromes, Diagnostic Workup, and Management
Joseph V. Nally, MD

Drug-Induced Hypertension
Raymond R. Townsend, MD

Renal Artery Stenosis, Renovascular Hypertension, and Ischemic Nephropathy
Marc A. Pohl, MD

Hypertensive Urgencies and Emergencies: Clinical Presentations and Therapy
Raymond R. Townsend, MD

Panel: Questions & Answers
Phyllis August, MD, Joseph V. Nally, MD, Marc A. Pohl, MD, and Raymond R. Townsend, MD

Pregnancy: Hypertension and Kidney Disease
Phyllis August, MD

**Acute Kidney Injury, ICU Nephrology, and Pharmacology**
Acute Kidney Injury: Pathogenesis, Diagnosis, Biomarkers, and Risk Assessment
Charuhas V. Thakar, MD

Acute Kidney Injury: Prevention and Non-Dialytic Therapy
Paul M. Palevsky, MD, FASN

Acute Renal Replacement Therapies
Ashita J. Tolwani, MD

Case Discussions: Acute Kidney Injury, Hepatorenal Syndrome, Cardiorenal Syndrome and ICU Nephrology
Paul M. Palevsky, MD, FASN, Charuhas V. Thakar, MD, and Ashita J. Tolwani, MD

**CKD, ESRD, Anemia, Basic Principles and Therapeutic Interventions**
Hemodialysis: Basic Principles, Diffusion, Convection, and Ultrafiltration
Thomas A. Depner, MD

Principles of Drug Prescribing in Acute and Chronic Kidney Disease
William M. Bennett, MD, FASN

Drug Intoxications

Paul M. Palevsky, MD, FASN

Hemodialysis Adequacy: Home and In-Center
Thomas A. Depner, MD

Peritoneal Dialysis: Physiology and Clinical Approach to Blood Pressure and Volume Control
John M. Burkart, MD

Management of Selected Issues (Anemia, Nutrition, Vitamin D, Blood Pressure and Acidosis) in Patients with CKD: What You Should Be Doing in Your CKD Clinic
Joseph V. Nally, MD

Peritoneal Dialysis: Adequacy Issues
Beth M. Piraino, MD

Hemodialysis: Access Issues, Thrombosis, Stenosis and Infections
Charmaine E. Lok, MD

Hemodialysis: Blood Pressure, Volume Control, and Cardiovascular Comorbidities
William L. Henrich, MD, FASN

Infectious and Non-Infectious Complications of Peritoneal Dialysis: A Case-Based Approach
Beth M. Piraino, MD

Selected Complications of Hemodialysis: A Case-Based Approach
John M. Burkart, MD

Cystic Diseases
William M. Bennett, MD, FASN

Transplantation

Principles of Transplant Immunobiology: HLA Matching and Mechanisms of Immunosuppressive Drugs
Douglas J. Norman, MD

Evaluation of a Potential Transplant Recipient
Donald E. Hricik, MD

Medical and Immunosuppressive Management: A Case-Based Approach
William M. Bennett, MD, FASN, and Douglas J. Norman, MD

Post-Transplant Infectious Complications
Ajit Limaye, MD

Transplant Biopsy: Indications and Findings
Jean L. Olson, MD

Post Transplant Non-Infectious Complications: Early and Late (Rejection, Metabolic, and Surgical Complications of Transplant)
Donald E. Hricik, MD

Evaluation of the Living Donor
Stephen J. Tomlanovich, MD

Panel Discussion: Questions & Answers

*Donald E. Hricik, MD, Douglas J. Norman, MD, and Stephen J. Tomlanovich, MD*

**Target Audience**
- Re-certifying Nephrologists
- Board Examination Participants
- Fellows-in-Training
- Fellowship in ASN (FASN)

**Educational Objectives**
At the conclusion of this activity, the participant will be able to: 1) interpret the fundamental concepts of nephrology in the areas of kidney function/structure; fluid and electrolytes; glomerular/vascular disorders; tubulointerstitial disorders; bone/mineral metabolism, and stones; hypertension; AKI and ICU nephrology; CKD, ESRD, and dialysis; and transplantation 2) formulate diagnostic and therapeutic options for the management of kidney disease 3) test individual medical practice competence against a series of simulated patient/case scenarios.

**BRCU Education Directors**
- John M. Burkart, MD
- Marc A. Pohl, MD

**Disclosure Statement**

Faculty, Planner, and Staff Disclosure
It is the policy of American Society of Nephrology (ASN) that all individuals in a position to control the content of ASN’s sponsored CME activities are expected to provide full disclosure for both themselves and their spouse/partner, and to indicate to the activity audience any financial or other relationship held by themselves or their spouse/partner 1) with the manufacturer(s) of any commercial product(s) and/or provider(s) of commercial service(s) discussed in an educational presentation; and 2) with any commercial supporter(s) of the activity. All responses should reflect activities within the previous 12 months. This disclosure information is collected in accordance with Accreditation Council for Continuing Medical Education (ACCME). Furthermore, ASN requires all faculty to disclose at the time of their lecture any planned discussion of investigational and/or off-label use of pharmaceutical products or devices within their presentation. Participants should note that the use of products outside U.S. Food and Drug Administration (FDA) approved labeling should be considered experimental and are advised to consult current prescribing information for approval indications.

The intent of this policy is not to prevent expert faculty with relevant relationship(s) with commercial interest(s) from involvement in Continuing Medical Education (CME), but rather to ensure that ASN CME activities promote quality and safety, are effective in improving medical practice, are based on valid content, and are independent of control from commercial interests and free of commercial bias. In addition, all faculty members were instructed to provide balanced, scientifically rigorous, and evidence-based presentations.

ASN requires all individuals in a position to control content for the ASN Board Review Course & Update 2011 (August 27 – September 2, 2011, in San Francisco, California) to complete faculty disclosure forms on ASN’s "Expert Website." Responses are listed below.

**Faculty Disclosure Statements**

Agus, Zalman—Honoraria: UpToDate.

Appel, Gerald—Current Employer: Columbia Univ College of Physicians and Surgeons; Consultancy Agreements: Amgen, Bristol-Myers Squibb, Centocor, Genentech, Genzyme, Merck, Ortho, Pfizer, Questcor, Roche, Takeda, Teva; Research Funding: Genentech, Questcor, Vifor, Teva; Honoraria: Amgen, ASN, AstraZeneca, Genentech, Genzyme, Merck, Novartis, Ortho, Pfizer, Questcor, Roche, Takeda, UpToDate; Scientific Advisor or Membership: UpToDate.

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The Physician's Recognition Award and credit system, Information for accredited providers and physicians 2010 revision. www.ama-assn.org/go/pra.

August, Phyllis—Current Employer: Cornell Univ Weill Medical College; Consultancy: Otsuka; Honoraria: Otsuka; Scientific Advisory or Membership: CJASN.

Bennett, William—Current Employer: Legacy Good Samaritan Hospital; Research Funding: Otsuka, NIH; Scientific Advisory or Membership: Genzyme.

Berl, Tomas—Current Employer: Univ of Colorado Health Sciences Center; Honoraria: Otsuka; Scientific Advisor or Membership: BMS.

Burkart, John—Current Employer: Wake Forest Univ Health Systems Management; Consultancy: Ad Hoc: Baxter, NxStage, Amgen; Honoraria: FMC, Amgen; Scientific Advisor or Membership: NxStage; Other Interests/Relationships: Unrestricted educational grants to ISPD or Wake Forest for HDUS from Baxter, NxStage, Medigroup, Davita.

Bushinsky, David—Current Employer: Univ of Rochester Medical Center; Consultancy Agreements: Amgen, Cytochroma, Genzyme, KAI, Relypsa; Ownership Interest/Agreement: Amgen, Relypsa; Honoraria: Amgen, Cytochroma, Genzyme, KAI, Relypsa; Scientific Advisor or Membership: Amgen, Relypsa, Genzyme, KAI; Honoraria: Amgen, Cytochroma, Genzyme, KAI, Relypsa.

Couser, William—Consultancy Agreements: Questcor.

Depner, Thomas—Current Employer: Univ of California, Davis.

DuBose, Thomas—Current Employer: Wake Forest Univ School of Medicine; Consultancy: Heparin Scientific; Ownership Interest: Heparin Scientific; Honoraria: ASN, MGH Nephrology Update.

Emmett, Michael—Current Employer: Baylor Univ Medical Center; Honoraria: Fresenius Braintree Laboratories; Scientific Advisor or Membership: American Journal of Cardiology.

Falk, Ronald—Current Employer: Univ of North Carolina at Chapel Hill; Research Funding: SQI Diagnostics, Toronto, Canada (research grant); Honoraria: GlaxoSmithKline, Sanofi-Aventis.

Fogo, Agnes—Current Employer: Vanderbilt Univ Medical Center; Consultancy Agreements: Abbott, Boehringer Ingelheim, Gilead; Research Funding: Boehringer Ingelheim, Gilead, Takeda, Roche; Honoraria: Abbott, Boehringer Ingelheim, Gilead, Takeda.


Glassock, Richard—Consultancy Agreements: Aspreva (Vifor), Bio-marin, Bristol-Myers Squibb, ChemoCentrix, Eli Lilly, Genentech, Novartis, Questcor; Ownership Interest/Agreement: La Jolla Pharm, Reata; Honoraria: ASN, LightHouse Learning, UpToDate, Various Universities; Scientific Advisor or Membership: Los Angeles Biomedical Institute, University Kidney Research Organization.

Henrich, William—Honoraria: Harvard Univ (Annual Nephrology Course), UpToDate.

Hricik, Donald—Current Employer: Univ Hospitals Case Medical Center; Research Funding: Astellas; Honoraria: Genentech, Novartis.

Korbet, Stephen—Current Employer: Rush Univ Medical Center.

Kupin, Warren—Current Employer: Univ of Miami School of Medicine.

Lewis, Julia – Current Employer: Vanderbilt Univ Medical Center; Ownership Interest/ Agreement: Lilly, Nephrogenix, Pharmanet; Research Funding: AstraZeneca, Keryx, Lilly, Pharmanet, Honoraria: Amira, AstraZeneca; Patent and Inventions: Duke.

Limaye, Ajit—Current Employer: Univ of Washington; Consultancy Agreement: Amgen, BioRad, Genentech, Vical; Research Funding: Genentech; Honoraria: Astellas, Genentech.

Lok, Charmaine—Current Employer: Univ Health Network – Toronto General Hospital; Consultancy Agreements: CorMedix; Research Funding: Astellas; Honoraria: Amgen, Cormedix, Gore; Scientific Advisor or Membership: Advance in Chronic Kidney Disease, CIHR Grant review committee, CJASN, Journal of Vascular Access, National Kidney Foundation.

Nally, Joseph—Current Employer: Cleveland Clinic Q7; Consultancy Agreements: Amgen, Covidien, Genzyme; Research Funding: Amgen, Genzyme; Honoraria: ASN; Scientific Advisor or Membership: National Kidney Foundation (Vice-Chair), Kidney Disease Outcomes Quality Initiative (Public Policy).

Norman, Douglas—Current Employer: Oregon Health and Science Univ; Consultancy: Amgen; Research Funding: Novartis, Astellas, Genentech.

Olson, Jean—Current Employer: Univ of California San Francisco; Honoraria: ASN.

Palevsky, Paul—Current Employer: VA Pittsburgh Healthcare System; Consultancy: Sanofi-Aventis, Cytophryx; Research Funding: Spectral Diagnostics; Scientific Advisor or Membership: Quality, Safety, and Accountability Committee (Chair), RPA, The Renal Network (Vice President), CJASN (Deputy Editor), Renal Failure (Editor), UpToDate; Other Interests/Relationships: UpToDate (Editorial Board).

Piraino, Beth—Current Employer: Univ of Pittsburgh; Honoraria: Univ of Missouri – Annual Dialysis Conference; Scientific Advisor or Membership: National Kidney Foundation (Board of Directors).

Pohl, Marc—Current Employer: Cleveland Clinic; Honoraria: Novartis; Scientific Advisor or Membership: ASN Board Review Course & Update (Co-Chair).

Rastegar, Asghar—Honoraria: ASN.


Rose, Burton—Current Employer: UpToDate.

Sprague, Stuart—Current Employer: North Shore Univ Health System, Univ of Chicago Pritzker School of Medicine; Consultancy Agreements: Cytochroma, Shire; Research Funding: Abbott, Amgen, Cytochroma, Ineos, Mitsubishi, Shire; Honoraria: Abbott, Amgen, Baxter, Shire; Scientific Advisor or Membership: National Kidney Foundation of Illinois, American Journal of Nephrology, CJASN, JASN.

Sterns, Richard—Honoraria: Astellas, Otsuka, Merck; Scientific Advisory or Membership: Merck (Renal Safety Committee).

Stokes, John—Current Employer: Univ of Iowa, Dept of Veteran Affairs; Honoraria: Univ of California at San Diego, Stanford Univ, Univ of Virginia, ASN.


Thakar, Charuhas—Current Employer: Univ of Cincinnati, Dept of Veterans Affairs; Honoraria: ASN, Baystate Medical Center, Univ of Miami.


Tomlanovich, Stephen—Current Employer: Bristol-Myers Squibb; Research Funding: Novartis.

Townsend, Raymond—Current Employer: Univ of Pennsylvania School of Medicine; Consultancy Agreements: Endo, GlaxoSmithKline, Merck, Novartis; Honoraria: Pfizer; Patent and Inventions: Jones & Bartlett (Books), UpToDate.

**Staff Disclosure Statements**
The following ASN staff do not have anything to disclose:
Kara Davis
Charyl Delaney
Cara Hill
Angela Kim
Jin Soo Kim
Phillip Kokemueller
Ryan Russell
Alisha Workman

View the full ASN [Conflict of Interest and Disclosure Policy](#).

**Hardware/Software Requirements**
**Computers**
Any computer running Windows and Mac OS machines are supported.

**System Requirements**
For a successful viewing experience, the following hardware and software are required:
Broadband cable, DSL or high-speed Internet connection
Internet Explorer (IE) version 7 or higher or equivalent modern browser (such as Firefox) for streaming
533 MHz or faster processor
At least 512 MB RAM
Adobe Reader 9 or latest (download for free at [www.adobe.com](http://www.adobe.com))
Adobe Flash Player v. 9 or higher (download for free at [www.adobe.com](http://www.adobe.com))

**Method of Participation**
Listen and view the streaming media with slides.
Complete the CME evaluation.

**Medium or Combination of Media Used**
Streaming media of slides with audio

**Privacy Policy/Confidentiality**
As a condition of your access and use of the Website, you agree not to use the Website for any purpose that is unlawful or inconsistent with the Agreement. ASN, in its sole discretion, is authorized to remove or delete any entries, information, materials, or other content that violates these Terms of Use or that is otherwise objectionable. ASN reserves the right to investigate and prosecute violations of any of these Terms of Use to the fullest extent of the law. If Users fail to comply with these Terms of Use, ASN in its sole discretion may terminate the User's access to the website immediately without advance notice. These terms of use comprise an Agreement that is governed by the laws of the District of Columbia, which shall be the forum for any disputes.

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Contact Information
For any questions concerning this activity, please contact ASN at 202-640-4660 or via email to email@asn-online.org.