

The 18th Annual

PENN NEUROLOGY BOARD REVIEW 2021

Available Online from March 8, 2021 – December 31, 2021

A CME-ACCREDITED COURSE

LIVE VIRTUAL

MOCK EXAM WITH DISCUSSION

Monday-Tuesday
June 7 – 8, 2021

Course Director
Raymond S. Price, MD

In Conjunction with:
Department of Neurology
Perelman School of Medicine
at the University of Pennsylvania

You may print the brochure and/or
register for the course online.
<https://upenn.cloud-cme.com/NBR2021>



THE 18TH PENN NEUROLOGY BOARD REVIEW 2021

Program Overview

This course is specifically designed for neurologists taking or retaking the Initial Certification Neurology Examination, the Initial Certification Neurology with Special Qualifications in Child Neurology Examination or the Recertification Examination.

Target Audience

This course is designed for neurology residents, fellows, and practicing neurologists.

Educational Goal

Upon completion of this activity, participants will be able to prepare for either the American Board of Neurology and Psychiatry (ABPN) Initial Certification Examination in Neurology, the Initial Certification Neurology with Special Qualifications in Child Neurology Examination, or the Recertification Examination.

Accreditation

Perelman School of Medicine at the University of Pennsylvania is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians.

Designation of Credit

Penn Medicine designates this live activity for a maximum of 13.0 *AMA PRA Category 1 Credits™*. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

Amount of Credit Available By Day:

Monday6.5 *AMA PRA Category 1 Credits™*

Tuesday6.5 *AMA PRA Category 1 Credits™*

Certificates and Transcripts: After the conference has concluded, all participants will receive a follow-up email with instructions and a link. Once participants submit the request for credit, the earned credits will be available for viewing on a transcript and certificates will be available for printing at <https://upenn.cloud-cme.com>. Please note that the individual certificate will not be mailed.

Hosting Institution

The *18th Penn Neurology Board Review 2021* is hosted by the Department of Neurology, University of Pennsylvania Health System. The department has a long tradition of excellence in the neurosciences and is internationally known for its strengths in many of the neurologic subspecialties. Other lecturers include those from the Departments of Psychiatry and Radiology.

Benefits of Attendance

Our course will provide an excellent review of board exam and recertification topics and help the learner identify areas that require further study. The learner can then review and prepare further in these areas prior to taking the examination.

Comments from past participants:

"I have absolutely enjoyed my experience and learning thus far. I have been to other neurology reviews and board reviews and this, in many ways, tops all of them."

"The best review course for the neurology board exam."

"Please allow me to thank you and your staff for helping me pass the Neuro Boards. I personally feel that the course made a difference."

THE 18TH PENN NEUROLOGY BOARD REVIEW 2021

Available Online from March 8, 2021 – December 31, 2021

We understand that preparing for the boards means spending many hours studying and reviewing. In an effort to provide our attendees with the comprehensive review needed to study for the boards within their own busy schedule, about 60 hours of pre-recorded video lectures are included in the course registration fee and are available online from 3/8/21 until 12/31/21 to all of our pre-registered and paid attendees. In addition to 45 hours of didactic lectures, there are an additional 15 hours of pre-recorded case-based discussions with multiple choice questions with 5 answer choices just like the ABPN examination. Attendees will be able to use these case-based sessions to assess their knowledge and then listen to a discussion about the reasoning behind the correct and incorrect answers. This will allow our attendees to review and study the videos at their own pace. The pre-recorded lectures are not approved for CME credit. The full list of pre-recorded lectures is listed on the agenda.

LIVE VIRTUAL MOCK EXAM | June 7-8, 2021

This course is designed based on adult learning principles to emphasize active learning and self assessment. Over 6/7 and 6/8, our course will simulate the ABPN examination with attendees taking a 400 question mock examination over the course of 420 minutes. The percentage of questions on a particular topic is identical to the ABPN initial certification examination content blueprint. Attendees will complete two 100-question blocks on 6/7 and another two 100-question blocks on 6/8. After each 100 question block, there will be a 75 minute discussion of those 100 questions based on which questions attendees would like reviewed. This allows for immediate reinforcement of key concepts and test-taking strategies that will optimally prepare you for the ABPN examination. You must register for the Online Course in order to register for and attend the Live Mock Exam.

There is an option to purchase 900 additional questions for self-study and to receive questions via email, or to your mobile device, three times per week from 3/8/21 until 12/31/21 to more continuously prepare you for the American Board of Psychiatry and Neurology Examination. Utilization of this technology has been shown to increase scores on National Board of Medicine examinations. For an additional fee, all preregistered, paid attendees can choose this option below:

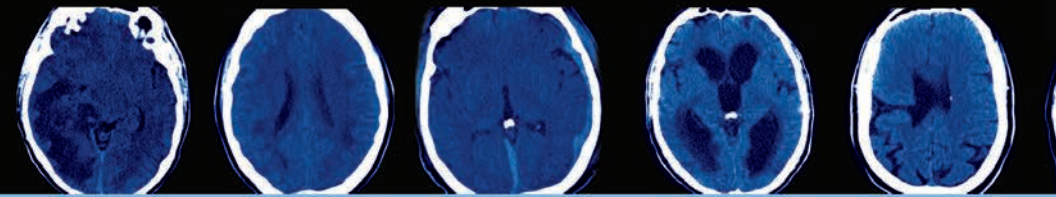
- **Additional Self-Study Option (1,000 additional questions):**
900 additional questions (including answers and explanations for self-study) and receive four (4) Board-style questions that will be sent to your email or mobile device every other day from the date you register until 12/31/21.

Live Stream Mock Exam Materials

All materials will be mailed to the address in your Penn Cloud CME profile. Be sure your correct mailing address is updated no later than May 18, 2021.

Limitations

It is impossible for us to cover all of the material necessary to answer every question on the board or recertification exams. Similarly, we cannot guarantee that attending this course will result in passing the board or the recertification exams.



Registration Fees

The registration fee for the *18th Penn Neurology Board Review 2021* are \$1,295 for physicians and \$995 for residents and fellows and includes access to about 60 hours of pre-recorded lectures and presentation slides online through December 31, 2021. The registration fee for those needing access to the pre-recorded presentations and Board-style questions through February 7, 2022 is an additional \$200.

The registration fee for the *Live Virtual Mock Exam* held on June 7-8, 2021 is \$500 and includes access to the mock examination, Q&A with the course director and moderators, and a hard-copy version of the mock exam. You must register for the *2021 Board Review* in order to register for the *Mock Exam*.

The Additional Study Option is \$825 and includes attendance to the *Mock Exam*, four daily board-style review questions (100 total) sent by text or email and 900 questions with answers and references for self-study.

Once you register for the *18th Annual Neurology Board Review 2021* you will have immediate access to the lectures and presentations. All pre-registered *Mock Exam* attendees will receive a link and instructions to sign-in and join the virtual mock exam by Thursday, June 3, 2021. **Be sure to check your spam box for emails regarding this conference.**

How to Register Online visit: <https://upenn.cloud-cme.com/nbr2021>

If you do not already have a UPenn Cloud CME profile, you will need to create one by visiting: <https://upenn.cloud-cme.com> and clicking "Sign-in" and sign-in using your email address and then selecting the "Don't have an account?" option.

Please be sure you do not already have an existing UPenn Cloud CME account before creating a new profile. All Penn Medicine employees, faculty and staff must sign-in using your UPenn ID.

If you are registering with a credit card, please register online at <https://upenn.cloud-cme.com/NBR21>. We cannot accept faxed or mailed registration forms with credit card information. To pay by check, complete the registration form and mail it in with your check. Please see the registration form for mailing information. Please note: mailed registrations can take up to 5-10 business days before they are received. All registrations will be confirmed by email as long as your registration is received no later than June 4, 2021.

Discount Policy

Individuals taking this 2021 course may take a future *Penn Neurology Board Review Course* and receive a discount of 25% off of a future Penn Neurology Board Review Course if they do not pass the 2021 board exam or 75% off of a future *Penn Neurology Board Review Course* if they do not pass the 2021 recertification exam. Proof of non-passing score will be required to be eligible for the discounted rate to attend a future course.

Cancellation and Refund Policy

Upon registration & payment, each attendee has access to the lectures and presentations. Therefore once you are enrolled, no refunds can be issued. If you register and then cannot attend, please contact us at penncme@pennmedicine.upenn.edu or 215-898-8005 so that we can ensure you receive your materials.

The University reserves the right to cancel or postpone any course due to unforeseen circumstances.

Disclosures

Perelman School of Medicine at the University of Pennsylvania, Office of Continuing Medical Education, adheres to the *ACCME Standards for Commercial Support*. Faculty disclosure information will be made available in the conference materials and syllabi. Faculty members are also expected to disclose to participants any discussions of off-label and/or investigational uses of pharmaceutical products within their presentations.



The 18th Annual

PENN NEUROLOGY BOARD REVIEW 2021

Available Online from March 8, 2021 – December 31, 2021

SESSION 1 – Case-based Learning

Neuroanatomy Through Clinical Cases

Raymond Price, MD

- Neuroanatomy Application of Recorded Talks

Neurovascular Through Clinical Cases

Steven R. Messé, MD

- Classic stroke syndromes
- Acute stroke therapy including an overview of ischemic penumbra and tPA
- Stroke prevention including an overview of antithrombotic medication and anticoagulation

Neuro-ophthalmology Through Clinical Cases

Ali Hamedani, MD

- Afferent Neuro-ophthalmology Application of Recorded Talks
- Efferent Neuro-ophthalmology Application of Recorded Talks

Neuropathology Through Clinical Cases

Raymond Price, MD

- Neuropathology Application of Recorded Talks

Sleep Through Clinical Cases

David Raizen, MD, PhD

- Normal Sleep Physiology
- Sleep Disorders and Treatment

Psychiatry and Substance Abuse

Robert M. Weinrieb, MD

- Phenomena of withdrawal, tolerance, etc.
- Therapy-medication and psychological
- Personality-genetic and environmental influences
- Neurologic side effects of alcohol and substance abuse

Epilepsy and EEG Through Clinical Cases

Sudha Kessler, MD

- Epileptic phenomena, pseudo-seizures
- Genetics of epilepsy
- Anticonvulsants

Neurophysiology (EMG, VEP, BAERS) Through Clinical Cases

Shawn Bird, MD

- Clinical
- EMG/NCV videos

Neuromuscular Junction Disease

Shawn Bird, MD

Neuromuscular Diseases Through Clinical Cases

Christyn Edmundson, MD

- Neuropathies
- Myopathies
- Disorders of neuromuscular transmission

Pediatric Neurology Through Clinical Cases I

Nicole Ryan, MD

- Complex molecules (lysosomal storage, peroxisomal, e.g.)
- Intoxication disorders (aminoacidopathies, organic acidemias, urea-cycle defects, and sugar intolerances, e.g.)
- Energy metabolism (lactic acidemias, mitochondrial, e.g.)

Pediatric Neurology Through Clinical Cases II

Marissa Digiovine, MD

- Mendelian-inherited diseases
- Mitochondrial disorders
- Trinucleotide repeat disorders
- Other genetic disorders/mechanisms
- Polymerase chain reaction



The 18th Annual

PENN NEUROLOGY BOARD REVIEW 2021

Available Online from March 8, 2021 – December 31, 2021

Neuro-Immunology Through Clinical Cases

Dina Jacobs, MD

- Molecular pathogenesis of multiple sclerosis
- Immunotherapy in multiple sclerosis

Neuroimaging Through Clinical Cases

John Woo, MD

- MRI, MRA, and MRV (exclusive of material in Neurovascular section)
- CT scan
- Angiography (exclusive of material in Neurovascular section)

Headache Through Clinical Cases

Katherine Hamilton, MD

- Migraine diagnosis and treatment (prophylactic and abortive)
- Other types (tension, cluster, chronic daily, medication overuse)

CNS and Systemic Infections/Virology/Psychiatric/ Neurologic Problems Associated with Medical Disease Through Clinical Cases

Amy Pruitt, MD

- Infections and CSF profiles
- Molecular neurology of prion diseases and slow viruses
- Antibiotics/antimicrobials/vaccines
- Cardiac
- Renal
- Hematologic
- Skin – except phakomatoses
- Effects of radiation and chemotherapy

Movement Disorders Through Clinical Cases

Nabila Dahodwala, MD

- Hyperkinetic disorders - including: tremor, tardive dyskinesia
- Hypokinetic disorders - Parkinson's disease, parkinsonism

Behavioral Neurology Through Clinical Cases

Geoffrey Aguirre, MD, PhD

- Behavioral Neurology Application



The 18th Annual

PENN NEUROLOGY BOARD REVIEW 2021

Available Online from March 8, 2021 – December 31, 2021

SESSION 2 – Didactics

Neuroanatomy

Neurochemistry

Neuroendocrinology

Neuropathology

Neurovascular

Neuro-ophthalmology

Neuromuscular

Neurophysiology

Neurogenetics

Neuroradiology

Neuro-oncology

Neuro-infectious

Metabolic Disorders

Phakomatoses

Development and Disorders of Childhood

Movement Disorders

Neuroimmunology/MS

Altered States of Consciousness

Neuropsychology

EEG/Epilepsy

Headache

Sleep

Psychiatry and Substance Abuse

Neurology and Systemic Disease

Cognitive

Topics Covered in Online Syllabus Without Talks

Cerebrospinal Fluid

Normal CSF Constituents and Volume
Ventricular System; CSF Pathways
Pathologic CSF Patterns (Cellular,
Chemical Enzymatic, Serologic)

Physician-patient Relationship

Interview Techniques and
Mental Status Testing
Management of Difficult Patients
Relationship with Other Professionals
Particularly Common “Errors”
Death and Dying,
Normal Grief vs. Depression
Role of Physician Attitudes in Therapy
Therapy in Liaison Psychiatry
Legal Responsibilities
Factitious Phenomena
Suicide

Neuropharmacology

Antioxidants
Autonomic Agents
Neurologic Side Effects of Systemic Drugs

Forensic Psychiatry and Neurology, Epidemiology, Transcultural Psychiatry, Public Mental Health, and Systems-based Practice

Forensic Psychiatry/Neurology
Epidemiology
Transcultural Psychiatry
Community Psychiatry, Public Mental Health
Systems-based Practice

Session 3 Didactic Faculty (See Faculty Listing for full credentials)

Geoffrey Aguirre, MD, PhD
Shawn J. Bird, MD
Nabila Dahodwala, MD
Marissa Digiovine, MD
Christyn Edmundson, MD
Lauren Elman, MD
Ali Hamedani, MD
Katherine Hamilton, MD
Dina Jacobs, MD
Sudha Kessler, MD
Eric Lancaster, MD, PhD
Kathy Lawler, DPhil
Louis Littman, MD, PhD

Grant T. Liu, MD
Eric Marsh, MD, PhD
Michael L. McGarvey, MD
Steven R. Messé, MD
James Morley, MD, PhD
John Pollard, MD
Raymond S. Price, MD
Amy Pruitt, MD
David Raizen, MD, PhD
Nicole Ryan, MD
Robert Weinrieb, MD
John Woo, MD



LIVE VIRTUAL

AGENDA

MOCK EXAMINATION/DISCUSSION

The Mock Exam is held in real-time according to the agenda.
All times are EDT.

Monday, June 7, 2021

7:45 AM – 8:00 AM

Sign-In

8:00 AM – 8:05 AM

Introduction – How this Course will Help you Study for the Written Board

Raymond Price, MD

8:05 AM – 8:20 AM

Description of the Board Exam – Content, Format of the Boards

Raymond Price, MD

8:20 AM – 8:30 AM

Description of the Recert. Exam

Raymond Price, MD

8:30 AM – 10:15 AM

Mock Examination Part I

100 Questions

10:15 AM – 10:30 AM

Self-scoring of Mock Examination Part I

10:30 AM – 10:45 AM

Break

10:45 AM – 12:00 NOON

Discussion

Sona Narula, MD

Raymond Price, MD

Laura Stein, MD

12:00 NOON – 1:00 PM

Lunch

1:00 PM – 2:45 PM

Mock Examination Part II

100 Questions

2:45 PM – 3:00 PM

Self-scoring of Mock Examination Part II

3:00 PM – 3:15 PM

Break

3:15 PM – 4:30 PM

Discussion

Ali Hamedani, MD

Raymond Price, MD

Christyn Edmundson, MD

Tuesday, June 8, 2021

7:45 AM – 8:00 AM

Sign-In

8:00 AM – 9:45 AM

Mock Examination Part I

100 Questions

9:45 AM – 10:00 AM

Self-scoring of Mock Examination Part I

10:00 AM – 10:15 AM

Break

10:15 AM – 11:30 PM

Discussion

Sara Manning, MD

Sona Narula, MD

Raymond Price, MD

11:30 PM – 12:30 PM

Lunch

12:30 PM – 2:15 PM

Mock Examination Part II

100 Questions

2:15 PM – 2:30 PM

Self-scoring of Mock Examination Part II

2:30 PM – 2:45 PM

Break

2:45 PM – 4:00 PM

Discussion

Whitley Aamodt, MD

Donna George, MD

Raymond Price, MD

Michael Rubenstein, MD



Course Director and Faculty are all part of the University of Pennsylvania Health System and Children's Hospital of Philadelphia, Philadelphia, PA

Course Director

Raymond S. Price, MD

*Associate Professor of Clinical Neurology
Director, Neurology Residency*

Faculty – Department of Neurology

Whitley Aamodt, MD

Fellow

Geoffrey K. Aguirre, MD, PhD

Associate Professor of Neurology

Shawn J. Bird, MD

*Professor of Neurology
Director, Electromyography Laboratory*

Nabila Dahodwala, MD

Associate Professor of Neurology

Marissa Digiovine, MD

Assistant Professor of Neurology and Pediatrics

Christyn Edmundson, MD

Assistant Professor of Clinical Neurology

Lauren B. Elman, MD

Associate Professor of Neurology

Donna George, MD

Assistant Professor of Clinical Neurology

Ali Hamedani, MD

Clinical Instructor

Katherine Hamilton, MD

Assistant Professor of Neurology

Dina A. Jacobs, MD

*Associate Professor of Neurology
Associate Director, MS Center*

Sudha Kessler, MD

Associate Professor of Neurology and Pediatrics

Eric Lancaster, MD, PhD

Assistant Professor of Neurology

Kathleen Lawler, DPhil, ABPP
*Clinical Assistant Professor of
Neuropsychology in Neurology*

Grant Liu, MD
*Professor of Neurology
and Ophthalmology*

Sara Manning, MD
Clinical Instructor

Eric Marsh, MD, PhD
*Associate Professor of Neurology
and Pediatrics*

Michael L. McGarvey, MD
Associate Professor of Neurology

Steven R. Messé, MD
Professor of Neurology

James Morley, MD, PhD
Assistant Professor of Neurology

Sona Narula, MD
Assistant Professor of Clinical Neurology

John Pollard, MD
Adjunct Professor of Neurology

Amy A. Pruitt, MD
*Professor of Neurology
Director, General Neurology Division*

David Raizen, MD, PhD
Associate Professor of Neurology

Michael Rubenstein, MD
Assistant Professor of Clinical Neurology

Nicole Ryan, MD
*Assistant Professor of Neurology
and Pediatrics*

Laura Stein, MD
Assistant Professor of Neurology

Faculty – Department of Psychiatry

Louis Littman, MD, PhD
Clinical Assistant Professor of Psychiatry

Robert M. Weinrieb, MD
*Associate Professor of Psychiatry
Chief Psychiatric Consultant,
Liver Transplant Service
Chief of Consultation Liaison Psychiatry*

Faculty – Department of Radiology

John H. Woo, MD
Associate Professor of Radiology

The 18th Annual
**PENN NEUROLOGY BOARD
REVIEW 2021**

LIVE VIRTUAL

Written Mock Exam with Discussion
June 7-8, 2021

You may register by credit card or check online at:

<https://upenn.cloud-cme.com/NBR2021>

Questions? Contact us at:

Phone: 215-898-6400 or 215-898-8005 • penncme@pennmedicine.upenn.edu

Please note we are unable to accept faxed or mailed registration forms with credit card payment.

Please print or type

Name (First) (Last)

Academic Degree

Medical Specialty

Affiliation (Hospital, Office, or Company)

Address (Affiliation or Home)

City State Zip

Phone Fax

E-mail

Registration Fees (pre-payment is required to be officially registered)

- \$1,295 for practicing physicians
- \$995 for residents and fellows

Optional Purchases:

(Must register and pay for course in order to purchase any additional options)

Option 1: Live Virtual Mock Exam – June 7-8, 2021

- \$500 for all registrants

Option 2: Mock exam, 4 board-style questions every other day, and 900 additional questions

- \$825 for all registrants

Option 3: Extended Access to the Pre-recorded and/or Board-Style Questions

- \$200 for access through February 7, 2022

Please total registration payment and optional purchases

Total: \$ _____

Payment Method

- If you are paying by check or credit card, register online at <https://upenn.cloud-cme.com/NBR2021>
- If you are paying by check, you may mail your completed registration form and check made payable to **The Trustees of the University of Pennsylvania/CME to:** Conference Manager, Office of Continuing Medical & Interprofessional Education, Academic Programs, Penn Medicine, JMCC, SPE, 6th floor 3400 Civic Center Blvd, Bldg. 421, Philadelphia, PA 19104-5162