

The 16th Annual PENN NEUROLOGY BOARD REVIEW 2019

A CME-ACCREDITED COURSE

Monday-Tuesday June 3 - 4, 2019

Mock Exam with Discussion – Optional Wednesday, June 5, 2019

LIVE STREAM OPTION AND PRE-RECORDED PRESENTATIONS WILL BE AVAILABLE

> The Study at University City Hotel 20 South 33rd Street Philadelphia, PA 19104

> > 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/NBR2019

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 16TH PENN NEUROLOGY BOARD REVIEW 2019

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 24.0 *AMA PRA Category 1 Credits*TM. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

Amount of Credit Available By Day: Monday8.25 AMA PRA Category 1 CreditsTM Tuesday......8.25 AMA PRA Category 1 CreditsTM Wednesday7.5 AMA PRA Category 1 CreditsTM

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.

Benefits of Attendance

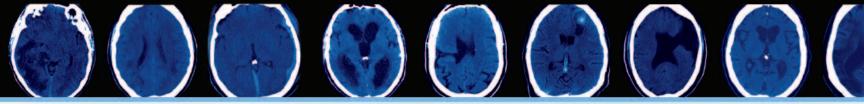
The list of course topics and subtopics was adapted from the ABPN's description of the board and recertification examinations. The time allotted for each topic is based upon the approximate distribution of the subject matter as given by the ABPN.

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.

Pre-recorded Presentations: 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 40 hours of pre-recorded video lectures are included in the course registration fee and will only be available online from 2/28/19 until 11/1/19 to all of our pre-registered and paid attendees. The pre-recorded lectures are different lectures from the live board review course. This will allow our attendees to review and study the videos at their own pace. Please note that the videos are available only to those pre-registered, paid, and are attending in-person or by Live Stream. The pre-recorded lectures are not approved for CME credit. The full list of pre-recorded lectures is listed on the agenda.

Problem-based Learning: The Problem-based Learning modules are designed to optimally prepare you for the American Board of Psychiatry and Neurology Examination by assessing your ability to apply your fund of knowledge to board-style questions and identify concepts for further study. There is a live mock-examination on Wednesday, June 5th with discussion of challenging questions. There is an option to purchase 2 additional mock examinations for self-study. Lastly, there is an option to receive questions via email, or to your mobile device, three times per week from 2/28/19 until 11/1/19 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 one of the three options below for additional studying:

- Option 1 (300 questions): 2019 Mock Exam register and attend the optional live mock exam session (please see Mock Exam under Registration Fees for additional information). For live-stream participants, they can purchase this examination for self-assessment but the discussion of challenging questions on Wednesday 6/5/19 WILL NOT BE LIVE-STREAMED.
- Option 2 (700 questions): 2019 Mock Exam, an additional different mock exam (including answers and explanations for self-study), and receive two (2) Board-style questions that will be sent to your email or mobile device every other day for 3 months prior to and 5 months after the Review concludes.
- Option 3 (1100 questions): 2019 Mock Exam, two additional different mock exams (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 11/1/19.



Live Stream Option

Can't attend in person? Watch the *16th Annual Penn Neurology Board Review 2019* in real-time online (eastern standard time). Purchase and have full access to the course which will be live streamed from the The Study at University City Hotel, 20 South 33rd Street, Philadelphia on June 3-4, 2019. The Mock Exam is not available for Live Stream. By registering for the live stream, you will:

- Receive two days of live streaming. You will have access to watch the
 presenters live through your computer while the course is being conducted.
- Receive the same course materials and access to the more than 40 hours of pre-recorded lectures as those attending in person
- Have the option of purchasing the 2019 Mock Exam (not available for live streaming) or other problem-based learning options and the audio files from Day One and Day Two
- Participation is required in real time (please see course schedule)
- Save over \$1,000 in travel and hotel costs!

Discount Policy

Individuals taking this 2019 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 2019 board exam or 75% off of a future *Penn Neurology Board Review Course* if they do not pass the 2019 recertification exam. Proof of non-passing score will be required to be eligible for the discounted rate to attend a future course.

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.

Personal recording Devices

Due to the copyright issues of this course, personal recording devices are not permitted for any reason. Anyone found using any personal recording device will be asked to leave the course and no refund will be issued.

Registration Fees

The registration fee for the 16th Penn Neurology Board Review 2019 includes attendance to the 2-day board review, access to pre-recorded lectures, presentation slides available online only through November 1, 2019, a black & white reduced-size syllabus, continental breakfast, mid-morning and afternoon breaks each day. Lunch, dinner and parking fees are not included.

The registration fees for in person or Live Stream are \$1,295 for physicians and \$995 for residents and fellows. The registration fee for those needing access to the pre-recorded presentations and Board-style questions through February 10, 2020 is an additional \$100.

Presentation Slides (available online only) and Reduced-size Printed Version

Registration is required to view the presentation slides (available online only). All participants are strongly encouraged to bring their laptop or mobile device in order to access the slides while on-site and follow the presentations electronically. Participants should be sure to download the latest free Adobe Reader software in order to open the files. Power stations are provided for charging needs.

The course syllabus will be printed as a black & white reduced-size version for convenient storage and travel.

Optional Written Mock Examination with Discussion

The 2019 Mock Exam will consist of 300 new questions written especially for this course. On Wednesday, June 5, the mock examination will be administered to participants who register additionally for this part of the course. In addition, the answers will be given and a discussion will follow. The registration fee for the optional mock examination is \$500 and only available to those who register and pay for the full course. This fee includes additional course materials, continental breakfast and mid-morning break. If interested, select this option on the registration form.

Audio Files

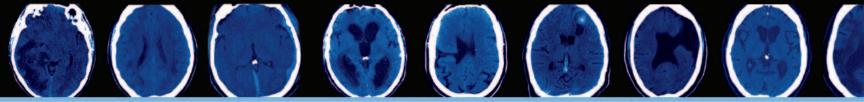
The live course will be professionally recorded (audio only) and available online to those who order the files. Together with the presentation slides, the audio recordings will allow participants to review the course material in detail after the course concludes. The audio files do not include the pre-recorded lectures. All lectures from the live course will be recorded and a link to the files will be sent only to those who ordered the files. You will be able to listen to the files through your computer or any mobile device. The audio files are for sale only to those who register and pay for the course. Those who pre-order the files will receive a discounted price of \$300. On-site orders will cost \$350. Please use the registration form to pre-order the audio files. The files will be available approximately one week after the review concludes.

If you are registering with a credit card, please register online at https://upenn.cloud-cme.com/NBR19. 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 May 25, 2019.

Cancellation and Refund Policy

In order to process refunds for course withdrawals, cancellations must be received in writing no later than March 1, 2019. Cancellation refunds issued before March 1, 2019 are subject to a service charge equivalent to 10% of the registration fee. No refunds will be issued on or after March 1, 2019.

The University reserves the right to cancel or postpone any course due to unforeseen circumstances. In the event of cancellation or postponement, the University will refund registration fees but is not responsible for related costs or expenses to participants, including cancellation fees assessed by hotels, airlines, and travel agencies.



Hosting Institution

The 16th Penn Neurology Board Review 2019 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.

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.

Conference Location

The 16th Penn Neurology Board Review 2019 will be held at the The Study at University City Hotel, 20 South 33rd Street, Philadelphia, PA 19104, 215-387-1400

The hotel is within walking distance of the Drexel and University of Pennsylvania campuses and moments from the shopping, restaurants, local attractions and farmers' markets of University City.

Deadline for Reservations is May 14, 2019 at the reduced rate or subject to availability, whichever comes first.

Overnight Accommodations

A block of rooms has been reserved at the Study Hotel at University City at a special group rate of \$209 per night (single or double occupancy). Taxes are 16.36% per room per night and are subject to change. The Study Hotel requires a credit card to hold the reservation. They accept all major credit cards. Hotel check-in is at 3 pm, check-out is at noon.

To make hotel reservations, please contact the Study Hotel at University City at 215-387-1400 or make your reservation online using this link: http://bookings.ihotelier.com/bookings.jsp?groupID=2288042&hotelID=99716

Deadline for Reservations: May 14, 2019

Parking: The Study offers valet-parking for \$20 per car for the day or \$42 for overnight guests. Parking costs are not validated or reimbursed. The following self-parking garages are within 1-2 blocks of The Study (rates subject to availability):

Chestnut 34 Garage

3335 Chestnut Street Philadelphia, PA 19104 \$19 for daily parking

Drexel University

Drexel University Lot G (Parking Garage) 3398 Ludlow Street Philadelphia, PA 19104 \$15 for daily parking



AGENDA

Day 1 – Monday, June 3

7:30 AM – 8:00 AM Registration & Continental Breakfast

8:00 AM – 8:05 AM Introduction Raymond Price, MD • How This Course Will Help You Study for the Board Exam

8:05 AM – 8:20 AM Description of the ABPN Initial Certification Exam Raymond Price, MD • Content, Format of the Boards

8:20 AM – 9:30 AM Neuroanatomy Through Clinical Cases Raymond Price, MD

 Neuroanatomy Application of Recorded Talks

9:30 AM – 10:15 AM Sleep Through Clinical Cases David Raizen, MD, PhD

 Sleep Disorders Application of Recorded Talks

10:15 AM – 10:30 AM Break (Coffee & Snack Provided)

10:30 AM – 11:15 AM Movement Disorders Through Clinical Cases Nabila Dahodwala, MD • Movement Disorders Application of Recorded Talks

11:15 AM – 12:00 PM **Neurovascular Through Clinical Cases** *Steven R. Messé, MD* • Neurovascular Disorders Application of Recorded Talks

12:00 PM - 1:00 PM Lunch (On Your Own)

1:00 PM – 1:30 PM Neuropathology Through Clinical Cases Raymond Price, MD • Neuropathology Application of Recorded Talks 1:30 PM – 2:00 PM **Headache Through Clinical Cases** *Katherine Hamilton, MD* • Headache Application of Recorded Talks

2:00 PM – 3:15 PM Psychiatry and Substance Abuse through Clinical Cases Robert M. Weinrieb, MD • Psychiatry and Substance Abuse Application of Recorded Talks.

3:15 рм – 3:30 рм Break (Coffee & Snacks Provided)

3:30 PM – 4:15 PM **Epilepsy and EEG Through Clinical Cases** *Sudha Kessler, MD* • Epilepsy and EEG Application of Recorded Talks

4:15 PM – 4:50 PM Neurophysiology (EMG, VEP, BAERS) Through Clinical Cases Shawn Bird, MD • EMG and Evoked potentials Application of Recorded Talks

4:50 PM – 5:10 PM **Neuromuscular Disease Through Clinical Cases** *Shawn Bird, MD* • Disorders of Neuromuscular Transmission

5:10 PM – 5:45 PM Neuromuscular Diseases Through Clinical Cases Christyn Edmundson, MD • Neuropathies • Myopathies

Day 2 – Tuesday, June 4

7:30 AM – 8:00 AM Course Sign-in & Continental Breakfast

8:00 AM – 8:10 AM Description of the Recertification Exam Raymond Price, MD

8:10 AM – 8:40 AM **Neurochemistry** *Eric Lancaster, MD, PhD* • Neurotransmitters and Receptors

 8:40 AM – 9:10 AM
 Pediatric Neurology Through Clinical Cases I Nicole Ryan, MD

 Pediatric Neurology Application of Recorded Talks

9:10 AM – 9:50 AM **Pediatric Neurology Through Clinical Cases II** *Eric Marsh, MD, PhD* • Pediatric Neurology Application of Recorded Talks

9:50 AM – 10:05 AM Break (Coffee & Snack Provided)

10:05 AM – 10:45 AM **Neuro-Immunology Through Clinical Cases** *Dina Jacobs, MD* • Neuro-immunology Application of Recorded Talks.

10:45 AM – 12:00 PM Neuroimaging Through Clinical Cases John Woo, MD • Neuroimaging Application of Recorded Talks

12:00 рм – 1:00 рм Lunch (On Your Own)

1:00 PM – 1:30 PM Afferent Neuro-ophthalmology Through Clinical Cases Ali Hamedani, MD • Neuro-ophthalmology Application of Recorded Talks 1:30 PM – 2:20 PM Efferent Neuro-ophthalmology Through Clinical Cases Ali Hamedani, MD • Neuro-ophthalmology Application of Recorded Talks

2:20 PM – 3:30 PM Neuro-infectious Disease, Neuro-oncology, and Neurologic Complications of Medical Disease Through Clinical Cases Amy Pruitt, MD

 Neuro-infectious Disease, Neuro-oncology, and Neurologic Complications of Medical Disease Application of Recorded Talks

3:30 рм – 3:45 рм Break (Coffee & Snacks Provided)

3:45 PM – 4:30 PM Behavioral and Personality Changes Associated With Structural Changes Geoffrey Aguirre, MD, PhD

The Big Picture

- Aphasias and Apraxias
- Disorders of Attention/Neglect
- Agnosias
- Cognitive Effects of Head Trauma

4:30 PM – 5:15 PM

Memory Disorders and Cortical Changes With Dysfunction Geoffrey Aguirre, MD, PhD

- Memory and Amnesias
- Mild Cognitive Impairment
- Dementias Including Alzheimer's,
- Frontotemporal, and Vascular
 Delirium
- Delirium

5:15 AM – 5:45 PM Behavioral Neurology Through Clinical Cases

Geoffrey Aguirre, MD, PhD • Behavioral Neurology Application of Live talks

Day 3 – Wednesday, June 5 Mock Examination/Discussion

7:30 am - 7:45 am Sign-In

7:45 AM – 10:00 AM Mock Examination Part I 150 Questions

10:00 AM – 10:15 AM Break (Coffee & Snack Provided)

10:15 am - 11:45 am Discussion Sona Narula, MD

Sola Natula, MD Sudha Kessler, MD Colin Quinn, MD Michael Mullen, MD Laura Stein, MD Sanjeev Vaishnavi, MD, PhD Raymond Price, MD

11:45 ам – 12:30 рм Lunch (On Your Own)

12:30 PM – 2:45 PM Mock Examination Part II 150 Questions

2:45 рм – 3:00 рм Break (Coffee & Snacks Provided)

3:00 PM – 4:30 PM **Discussion** Ali Hamedani, MD Christyn Edmundson, MD David Coughlin, MD Donna Kurowski, MD Michael Rubenstein, MD Raymond Price, MD

4:30 PM Adjournment

40 Hours of Pre-recorded Presentations Available Only to Pre-registered Live or Live-Stream Attendees:

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

Pre-recorded Presentation Faculty (See Faculty Listing for full credentials):

Shawn J. Bird, MD Nabila Dahodwala, MD Lauren Elman, MD Katherine Hamilton, MD Dina Jacobs, MD 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

Services for the Disabled If special arrangements are required for an individual with a disability to attend this meeting, please contact the Office of Continuing Medical and Interprofessional Education no later than May 25, 2019, at 215-898-6400.

Nondiscrimination Statement The University of Pennsylvania values diversity and seeks talented students, faculty, and staff from diverse backgrounds. The University of Pennsylvania does not discriminate on the basis of race, sex, sexual orientation, gender identity, religion, color, national or ethnic origin, age, disability, or status as a Vietnam Era Veteran or disabled veteran in the administration of educational policies, programs or activities; admissions policies; scholarship and loan awards; athletic, or other University administered programs or employment. Questions or complaints regarding this policy should be directed to Executive Director, Office of Affirmative Action and Equal Opportunity Programs, 3600 Chestnut Street, Sansom Place East Suite 228, Philadelphia PA 19104-6106 or 215-898-6993 (Voice) or 215-898-7803 (TDD). www.upenn.edu/affirm-action.

Topics Covered in Appendices 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



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 Geoffrey K. Aguirre, MD, PhD Associate Professor of Neurology

Shawn J. Bird, MD Professor of Neurology Director, Electromyography Laboratory

David Coughlin, MD Neurology Clinical Instructor

Nabila Dahodwala, MD Associate Professor of Neurology

Christyn Edmundson, MD Assistant Professor of Neurology

Lauren B. Elman, MD Associate Professor of Neurology

Ali Hamedani, MD Neurology 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

Donna Kurowski, MD Assistant Professor of Clinical Neurology

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

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

Michael L. McGarvey, MD Associate Professor of Neurology

Steven R. Messé, MD Associate Professor of Neurology

James Morley, MD, PhD Assistant Professor of Neurology

Michael Mullen, MD 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

Colin Quinn, MD Assistant Professor of Clinical Neurology

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

Sanjeev Vaishnavi, MD, PhD Assistant Professor of Clinical 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

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	Written Mock Exam with Discussion – Optional June 5, 2019
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Questions? Contact us at:	
Phone: 215-898-6400 or 215-898-8005 • p	enncme@pennmedicine.upenn.edu
Please note we are unable to accept faxed	l registration forms.
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	
Optional Purchases: (Must register and pay for course in order to Option 1 (300 questions): 2019 Option \$500 for all registrants	
Option 2 (700 questions): 2 Board Style 2019 Optional Mock Exam registration \$725 for all registrants	
Option 3 (1100 questions): 4 board styl 2019 Optional Mock Exam registration \$825 for all registrants	
Pre-order for Audio-only Files \$300 for complete two-day set	(On-site purchase will be \$350)
Extended Access to the Pre-recorded an	
Please total registration payment and optiona Total: \$	l purchases
 Payment Method If you are paying by credit card, please reg https://upenn.cloud-cme.com/NBR2019 If you are paying by check, you may mail y check made payable to The Trustees of the Conference Coordinator, Penn Medicin and Interprofessional Education, 150 A 3620 Hamilton Walk, Philadelphia, PA Do not include any credit card informatior any credit card information 	your completed registration form and University of Pennsylvania/CME to: e, Office of Continuing Medical natomy/Chemistry Building 19104-6061
Please Note: Seating may be li	imited for walk-in registrants.

Registration Form

You may print the brochure and/or register for the course online.