

CERTIFICATION EXAMINATION IN RARE NEUROIMMUNOLOGIC DISORDERS

HANDBOOK FOR CANDIDATES

WINTER 2017 TESTING PERIOD

Application Deadline: December 1, 2016
Testing Begins: Saturday, January 7, 2017
Testing Ends: Saturday, January 21, 2017

SUMMER 2017 TESTING PERIOD

Application Deadline: June 1, 2017
Testing Begins: Saturday, July 8, 2017
Testing Ends: Saturday, July 22, 2017



PROFESSIONAL TESTING CORPORATION® 1350 BROADWAY • 17th FLOOR • NEW YORK, NY 10018

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This handbook contains necessary information about the Certification Examination in Rare Neuroimmunologic Disorders (CRND). Please retain it for future reference. Candidates are responsible for reading these instructions carefully. This handbook is subject to change.

PURPOSES OF CERTIFICATION IN RARE NEUROIMMUNOLOGIC DISORDERS

Rare neuroimmunologic disorders are complex with potentially lifelong complications that affect many aspects of an individual's life. These rare autoimmune disorders of the central nervous system include Neuromyelitis Optica Spectrum Disorder (NMOSD), Transverse Myelitis (TM), Optic Neuritis (ON), Acute Disseminated Encephalomyelitis (ADEM), and Anti-NMDA Receptor Encephalitis (NMDAR-Ab). Management of these disorders will require the expertise of multiple disciplines working together to meet the dynamic needs of the person and the family. Rapid advances in the treatment of rare neuroimmunologic disorders require that health professionals have the basic knowledge and skills necessary to provide optimal care. The Consortium of Multiple Sclerosis Centers supports a voluntary certification process that reflects the knowledge of multiple disciplines in the specialized care of rare neuroimmunologic disorders.

Certification is intended to promote quality and consistent care to those living with rare neuroimmunologic disorders by:

1. Formally recognizing knowledge across the multiple disciplines that are necessary for rare neuroimmunologic disorders care delivery.
2. Establishing a level of knowledge required for Certification in Rare Neuroimmunologic Disorders.
3. Providing encouragement for continued personal and professional growth in the care of individuals with rare neuroimmunologic disorders.
4. Providing a standard of knowledge requisite for certification, thereby assisting the employer, public, and members of the health professions in the assessment of healthcare professionals involved in the care of people with rare neuroimmunologic disorders.

DEFINITION OF CARE FOR RARE NEUROIMMUNOLOGIC DISORDERS

Rare neuroimmunologic disorders may cover clinical practice concepts underlying clinical practice, assessment and interventions in clinical practice, advocacy, education, and research. This may include but is not limited to health professionals who practice in the following settings:

- ◆ Private Medical Practices
- ◆ Rehabilitation Centers (acute or sub-acute)
- ◆ Hospitals
- ◆ Multiple Sclerosis Centers or Clinics
- ◆ Home or Community Care
- ◆ Long Term Care Facilities
- ◆ Assisted Living Facilities
- ◆ Pharmaceutical or other Commercial Organizations
- ◆ Educational Programs
- ◆ Research Facilities

ELIGIBILITY REQUIREMENTS

It is suggested that candidates have a minimum of one year of experience in providing services for or interacting with individuals with rare neuroimmunologic disorders. Candidates must meet the following requirements:

1. Be a currently licensed (or appropriate equivalent) healthcare professional. A copy of your license or certification must be submitted with your application.
2. Complete and file an Application for the Certification Examination in Rare Neuroimmunologic Disorders.
3. Pay the required fee.

ADMINISTRATION

The Certification Program is sponsored by the Consortium of Multiple Sclerosis Centers (CMSC). The Certification Examination in Rare Neuroimmunologic Disorders is administered for the CMSC by the Professional Testing Corporation (PTC), 1350 Broadway - 17th Floor, New York, New York 10018, (212) 356-0660, www.ptcny.com. Questions concerning the examination should be referred to PTC.

ATTAINMENT OF CERTIFICATION AND RECERTIFICATION

Eligible candidates who pass the Certification Examination in Rare Neuroimmunologic Disorders are eligible to use the registered designation CRND after their names and will receive certificates from the CMSC. A registry of Rare Neuroimmunologic Disorders Certificants will be maintained by the CMSC and may be reported in its publications.

Certification in Rare Neuroimmunologic Disorders is recognized for a period of five years at which time the candidate must retake and pass the current Certification Examination in Rare Neuroimmunologic Disorders or meet such alternative requirements as are in effect at that time in order to retain certification.

REVOCATION OF CERTIFICATION

Certification will be revoked for any of the following reasons:

1. Falsification of an Application.
2. Revocation of current healthcare credential or license.
3. Misrepresentation of certification status.

The Appeals Committee of the CMSC provides the appeal mechanism for challenging revocation of Board Certification. It is the responsibility of the individual to initiate this process.

APPLICATION PROCEDURE

1. Read and follow the directions on the application and in this handbook. All applications must be completed online. The application can be found on Professional Testing Corporation's website <http://www.ptcny.com/clients/CRND>.
2. The online application, supporting documentation, and appropriate fees for the examination must be received on or before the appropriate deadline listed in this handbook.
3. You will receive a Scheduling Authorization from PTC via email within 6 weeks prior to the start of the testing window. Follow the instructions in the email to schedule your examination appointment.

NOTE: The name you enter on your application must match exactly the name shown on your current government-issued photo ID, such as a driver's license or passport. Do not use nicknames or abbreviations.

Candidates should retain copies of uploaded documents submitted for eligibility requirements.

FEES

Please note: Fees are NOT refundable.

Application Fee for the Certification Examination in Rare Neuroimmunologic Disorders..... \$300

Visa, MasterCard, and American Express are accepted.

If payment is being made by check or money order, submit the online application, choose the check payment option and print the page and mail it with payment to:

CRND EXAMINATION
c/o Professional Testing Corporation
1350 Broadway, 17th Floor
New York, NY 10018

MAKE CHECK OR MONEY ORDER PAYABLE TO: **PROFESSIONAL TESTING CORPORATION**

DO NOT SEND CASH.

REFUNDS

There will be no refund of fees. Fees will not be transferred from one testing period to another.

EXAMINATION ADMINISTRATION

The Certification Examination in Rare Neuroimmunologic Disorders is administered during an established two-week testing period on a daily basis, Monday through Saturday, excluding holidays, at computer-based testing facilities managed by PSI. PSI has several hundred testing sites in the United States, as well as Canada. Scheduling is done on a first-come, first-serve basis. To find a testing center near you, visit www.ptcny.com/cbt/sites.htm or call PSI at (800) 733-9267. Please note: Hours and days of availability vary at different centers. ***You will not be able to schedule your examination appointment until you have received a Scheduling Authorization from PTC.***

TESTING SOFTWARE DEMO

A testing tutorial document can be viewed, free of charge, online. Please visit www.ptcny.com/cbt/demo.htm. This document can give you an idea about the features of online testing.

SCHEDULING YOUR EXAMINATION APPOINTMENT

Once your application has been received and processed and your eligibility verified, you will be sent a notice from PTC confirming receipt of payment and acceptance of application. Within six weeks prior to the first day of the testing period, you will be sent a Scheduling Authorization via email from notices@ptcny.com. Please ensure you enter your correct email address on the application and add the 'ptcny.com' domain to your email safe list. If you do not receive a Scheduling Authorization at least three weeks before the beginning of the testing period, contact the Professional Testing Corporation at (212) 356-0660.

The Scheduling Authorization will indicate how to schedule your examination appointment as well as the dates during which testing is available. Appointment times are first-come, first-serve, so schedule your appointment as soon as you receive your Scheduling Authorization in order to maximize your chance of testing at your preferred location and on your preferred date.

Your current government-issued photo identification, such as a driver's license or passport, must be presented in order to gain admission to the testing center. PTC also recommends you bring a paper copy of your Scheduling Authorization and your PSI appointment confirmation with you to the testing center.

After you make your test appointment, PSI will send you a confirmation email with the date, time and location of your exam. Please check this confirmation carefully for the correct date, time and location. Contact PSI at (800) 733-9267 if you do not receive this email confirmation or if there is a mistake with your appointment.

- **It is your responsibility as the candidate to call PSI to schedule the examination appointment.**
- **It is highly recommended that you become familiar with the testing site.**
- **Arrival at the testing site at the appointed time is the responsibility of the candidate. Please plan for weather, traffic, parking, and any security requirements that are specific to the testing location. Late arrival may prevent you from testing.**

CHANGING YOUR EXAMINATION APPOINTMENT

If you need to cancel your examination appointment or reschedule to a different date within the two-week testing period, you must contact PSI at (800) 733-9267 no later than noon, Eastern Standard Time, of the second business day PRIOR to your scheduled appointment. PSI does not have the authority to authorize refunds or transfers to another testing period.

If you fail to arrive for your appointment or cancel without the required notice, you will forfeit your testing fee.

SPECIAL NEEDS

The CMSC and PTC supports the intent of and complies with the Americans with Disabilities Act (ADA). PTC will take steps reasonably necessary to make certification accessible to persons with disabilities covered by the ADA. Special testing arrangements may be made upon receipt of the Application, examination fee, and a completed and signed Request for Special Needs Accommodations Form, available from www.ptcny.com or by calling PTC at (212) 356-0660. This form must be uploaded with the online application at least EIGHT weeks before the testing period begins. Please use this form if you need to bring a service dog, medicine, food or beverages needed for a medical condition with you to the testing center.

Information supplied on the Request for Special Accommodations form will only be used to determine the need for special accommodations and will be kept confidential

RULES FOR THE EXAMINATION

1. All electronic devices that can be used to record, transmit, receive, or play back audio, photographic, text, or video content, including but not limited to, cell phones, laptop computers, tablets, Bluetooth devices; wearable technology such as smart watches; MP3 players such as iPods; pagers, cameras and voice recorders are not permitted to be used and cannot be taken into the examination room.
2. No papers, books, or reference materials may be taken into or removed from the testing room.
3. No questions concerning content of the examination may be asked during the examination session. The candidate should read carefully the directions that are provided on screen at the beginning of the examination session.
4. Candidates are prohibited from leaving the testing room while their examination is in session, with the sole exception of going to the restroom.

Violation of any of the rules listed above may lead to forfeiture of fees, dismissal from testing room, and cancellation of your test scores.

REPORT OF RESULTS

Candidates will be notified in writing by PTC within four weeks of the close of the testing period whether they have passed or failed the examination. Scores on the major areas of the examination and on the total examination will be reported. Successful candidates will also receive certificates from the CMSC.

REEXAMINATION

The Certification Examination in Rare Neuroimmunologic Disorders may be taken as often as desired upon filing of a new application and fee. There is no limit to the number of times the examination may be repeated.

CONFIDENTIALITY

1. The CMSC will release the individual test scores ONLY to the individual candidate.
 2. Any questions concerning test results should be referred to CMSC or the Professional Testing Corporation.
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SCORING PROCEDURE

Prior to administration of the examination, representatives from the CRND Certification Committee and the Professional Testing Corporation meet to review all test items for accuracy. At this meeting, the passing score for the examination is set using recognized psychometric methods. The passing score represents the number of test items determined necessary for the candidate to answer correctly to be considered as having acceptable basic knowledge of rare neuroimmunologic disorders.

In order to protect the security and integrity of the certification examination, neither CRND Certification Committee nor the Professional Testing Corporation will release examination items, candidate responses, or keys to any candidate or agency.

CONTENT OF EXAMINATION

1. The Certification Examination in Rare Neuroimmunologic Disorders is a computer-based examination composed of a maximum of 175 multiple-choice, objective questions with a total testing time of three (3) hours.
2. The content for the examination is described in the Content Outline starting on page 8.
3. The questions for the examination are obtained from individuals with expertise in rare neuroimmunologic disorders and are reviewed for construction, accuracy, and appropriateness by CRNDs.
4. CRNDs, with the advice and assistance of the Professional Testing Corporation, prepare the examination.
5. The Certification Examination in Rare Neuroimmunologic Disorders will be weighted in approximately the following manner:
 - I. Scientific Basis for Rare Neuroimmunologic Disorders 20%
 - II. Diagnosis 25%
 - III. Treatment/Interventions 30%
 - IV. Health Maintenance 15%
 - V. Patient Empowerment..... 10%

CONTENT OUTLINE

Please note: The disorders covered in the Certification Examination in Rare Neuroimmunologic Disorders include the following:

- Neuromyelitis Optica Spectrum Disorder (NMOSD)**
- Transverse Myelitis (TM)**
- Optic Neuritis (ON)**
- Acute Disseminated Encephalomyelitis (ADEM)**
- Anti-NMDA Receptor Encephalitis (NMDAR-Ab)**

The Examination is based on research and information released as of March 2016.

I. SCIENTIFIC BASIS FOR RARE NEUROIMMUNOLOGIC DISORDERS

- A. Disease Process
 - 1. Pathophysiology
 - 2. Theories of Etiology
 - 3. Epidemiology
- B. Clinical Course
 - 1. Acute
 - 2. Chronic

II. DIAGNOSIS

- A. Diagnostic Criteria
- B. Symptoms
 - 1. Weakness/Paralysis
 - 2. Altered Sensation
 - 3. Pain
 - 4. Hiccups/Nausea/Vomiting
 - 5. Seizures
 - 6. Speech Impairment
 - 7. Cognitive Impairment
 - 8. Respiratory Dysfunction
 - 9. Emotional Problems
 - 10. Visual Problems
 - 11. Altered Mobility/Balance
 - 12. Altered Elimination
 - 13. Fatigue
 - 14. Altered Speech/Swallowing
 - 15. Psychotic Symptoms
 - 16. Sexual Dysfunction
 - 17. Spasticity
 - 18. Tremors
 - 19. Autonomic Dysreflexia
 - 20. Other
- C. Diagnostic Testing

III. TREATMENT/INTERVENTIONS

- A. Pharmacologic
 - 1. Steroids
 - 2. Intravenous Immunoglobulin
 - 3. Methotrexate
 - 4. Cyclophosphamide
 - 5. Azathioprine
 - 6. Rituximab
 - 7. Mycophenolate mofetil
 - 8. Other
- B. Procedural
 - 1. Plasma Exchange
 - 2. Oophorectomy/Orchiectomy
- C. Rehabilitation
 - 1. Physical Therapy
 - 2. Occupational Therapy
 - 3. Speech Therapy
 - 4. Cognitive Therapy
- D. Symptom Management

IV. HEALTH MAINTENANCE

- A. Wellness Strategies
 - 1. Nutrition
 - 2. Exercise
 - 3. Immunizations
 - 4. Recreation
 - 5. Health Screening
 - 6. Stress Management
 - 7. Spirituality
 - 8. Activities of Daily Living
 - 9. Reproductive Issues
- B. Prevention of Complications
 - 1. Osteoporosis
 - 2. Contractures
 - 3. Skin Breakdown
 - 4. Aspiration
 - 5. Sepsis
 - 6. Falls
 - 7. Trauma
 - 8. Scoliosis
- C. Adaptation
 - 1. Educational Concerns
 - 2. Vocational
 - 3. Assistive Technology
- D. Psychosocial Issues
 - 1. Response to Illness
 - 2. Anxiety
 - 3. Depression
 - 4. Support Network

5. Cultural Factors
 6. Family and Relationships
 7. Vocational
 8. Financial
 9. Abuse and Neglect
 10. End of Life
- E. Adherence to Treatment
 - F. Models of Care

V. PATIENT EMPOWERMENT

- A. Advocacy
 1. Patient Rights
 2. Navigating the Healthcare System
- B. Patient and Family Education
 1. Disease Specific
 2. Goal Setting
 3. Community Resources
 4. Legal/Regulatory Issues
 5. Advance Directives
 6. Clinical Research

SAMPLE EXAMINATION QUESTIONS

In the following questions, choose the one best answer.

1. Which of the following are characteristics of NMOSD that are similar to multiple sclerosis?

1. Onset in early adulthood
2. Characteristic periventricular lesions
3. Progression of symptoms between attacks
4. Sudden relapses followed by periods of stability

2. Which of the following is the most common sequellae seen in patients with ADEM?

1. Seizures
2. Weakness
3. Urinary retention
4. Bowel incontinence

3. Employment for patients who are capable of working is most beneficial because it

1. lowers risk of relapse.
2. guarantees access to a pension.
3. promotes selfworth and esteem.
4. increases effectiveness of therapy.

4. When explaining recovery from NMDAR-Ab encephalitis to a patient's family, which of the following is the most appropriate way to describe the process?

1. The majority of patients do not experience a relapse
2. Recovery can only occur if the patient receives cyclophosphamide
3. There is no recovery unless a teratoma is found and surgically removed
4. Clinical recovery will occur as the NMDA receptor antibody titer diminishes

5. In the treatment of acute TM, methylprednisolone may work in part by

1. increasing blood flow.
2. reducing inflammation.
3. decreasing neutrophil counts.
4. promoting remyelination in the spinal cord.

CORRECT ANSWERS TO SAMPLE QUESTIONS

1. 4, 2. 2, 3. 3, 4. 1, 5.2

ONLINE PRACTICE TEST IN RARE NEUROIMMUNOLOGIC DISORDERS

WHAT IS IT: A practice test consisting of 50 questions with a testing time of 2 hours taken over the internet

WHEN: Available now

WHY TAKE IT: To experience taking a computerized exam, to review an example of the type of content included in the Certification Examination in Rare Neuroimmunologic Disorders, and to learn more about question format, style, and level of difficulty

SCORE REPORT: After completing the online practice test, you will receive an instant score report showing test performance in each of the content areas. The score report does not provide correct answers or indicate which questions were answered correctly and incorrectly

NOTE: Performance on the online practice test may differ from actual performance on the Certification Examination. Thus, there is no guarantee that taking this practice test will help you pass the Certification Examination. Participants may, however, find it helpful to review content in any areas of weakness indicated on the score reports prior to taking the Certification Examination

FEE: \$75 by credit card

APPLY: Go to <https://secure.ptcny.com/webtest/> and select Online Practice Test in Rare Neuroimmunologic Disorders

FURTHER INFO: Visit www.ptcny.com or call Professional Testing Corporation at 212-356-0660

REFERENCES

The Consortium of Multiple Sclerosis Centers (CMSC) has prepared a suggested reference list to assist in preparing for the Certification Examination in Rare Neuroimmunologic Disorders. These references contain journals and textbooks which include information of significance to rare neuroimmunologic disorders care. Inclusion of certain journals and textbooks on this list does not constitute an endorsement by the CMSC of specific professional literature which, if used, would guarantee candidates successful passing of the certification examination.

Journals:

Alekna V., Tamulaitiene M., Sinevicius T., & Juocevicius, A. (2008). Effect of weight-bearing activities on bone mineral density in spinal cord injured patients during the period of the first two years. *Spinal Cord*, 46, 727-732.

Dale, R., Brilot, F., & Banwell, B. (2009). Pediatric central nervous system inflammatory demyelination: Acute disseminated encephalomyelitis, clinically isolated syndromes, neuromyelitis optica, and multiple sclerosis. *Current Opinion in Neurology*, 22(3), 233-240.

Greenberg, B. (2011). Treatment of Acute Transverse Myelitis and Its Early Complications. *CONTINUUM: Lifelong Learning in Neurology*, 17(4), 733-743.

Greenberg, B., & Frohman, E. (2015). Immune-Mediated Myelopathies. *CONTINUUM: Lifelong Learning in Neurology*, 21(1), 121–131.

Kimbrough, D., Fujihara, K., Jacob, A., Lana-Peixoto, M., Leite, M., Levy, M., Wingerchuk, D. (2012). Treatment of neuromyelitis optica: Review and recommendations. *Multiple Sclerosis and Related Disorders*, 180-187.

Leybold, F., Armangue, T., & Dalmau, J. (2014). Autoimmune encephalopathies. *Annals of the New York Academy of Sciences*, 1-21.

Mealy M. A., Wingerchuk D. M., Greenberg B. M., & Levy M. (2012). Epidemiology of neuromyelitis optica in the United States: multicenter analysis. *Archives of Neurology*, 69(9), 1176-1180.

Oh, J., & Levy, M. (2012). Neuromyelitis Optica: An Antibody-Mediated Disorder of the Central Nervous System. *Neurology Research International*, 2012, 1-13.

Stockton L., Gebhardt K. S., & Clark M. (2009). Seating and pressure ulcers: Clinical practice guideline. *Journal of Tissue Viability*, 18, 98-108.

Websites:

www.encephalitis.info

www.guthyjacksonfoundation.org

www.myelitis.org

www.spinalcordinjury.org

Books:

Multiple Sclerosis and Related Disorders Clinical Guide to Diagnosis, Medical Management, and Rehabilitation. (2013). New York, New York: Demos Medical.