



# Seizure and Epilepsy Certificate Program

Participant Handbook

American Association of Neuroscience Nurses and  
American Board of Neuroscience Nursing

June 2021

## PROGRAM DESCRIPTION

The *Certificate Program for the Seizure and Epilepsy Healthcare Professional* is an assessment-based certificate program that uses instructional design principles to deliver an online self-study educational course followed by post-assessments. This course will equip you with the tools you need to safely care for patients with Seizures and Epilepsy, while providing the type of quality care demanded by your institution. Participants will earn CE contact hours and an ABNN certificate of added qualification that indicates attainment of knowledge upon successful completion of the course.

The primary purpose of this certificate program is to provide foundational knowledge to provide evidence-based care to patients who have seizures and epilepsy, who are admitted to an Epilepsy Monitoring Unit and who are being evaluated for and/or undergoing surgery for medically refractory epilepsy.

**There are six (6) core online modules**, presented sequentially, to be completed to earn the certificate as a Seizure and Epilepsy Healthcare Professional. A detailed course outline is available at the end of the handbook. Customers who purchase and complete the 6, core module program will earn the certificate as a ***Seizure and Epilepsy Healthcare Professional***.

- **Module I** – Anatomy, Physiology, and Etiology of Epilepsy
- **Module II** – Seizures
- **Module III** – Diagnosis and Assessment
- **Module IV** – Treatment
- **Module V** – Education and Self-Management
- **Module VI** – Special Populations with Epilepsy

**2 additional, optional, modules were added to encompass information on a nurse's role in a Comprehensive Epilepsy Specialty Center and an Epilepsy Monitoring Unit.** Customers who purchase and complete all 8 modules will earn the certificate as a ***Seizure and Epilepsy Healthcare Professional in a Comprehensive Epilepsy Center***. The completion of the final two modules build on the foundation of knowledge from the previous 6 modules and describes an overview of advanced epilepsy care provided in NAEC accredited epilepsy centers. A detailed course outline is available at the end of the handbook.

- **Module VII** – Nursing Care in the Epilepsy Specialty Clinic
- **Module VIII** – Nursing Care in the Epilepsy Monitoring Unit (EMU)

Participants will have access to the modules, course, and post-assessments for **six (6) months**. There is no time limit to complete a module. You may navigate forward and backwards through the courses to review any content. PowerPoint slides are available for download once purchased. It is advisable to use these slides as you learn to compound your learning.

## PROGRAM DEVELOPMENT/HISTORY

In 2018, the American Association of Neuroscience Nurses (AANN) and the American Board of Neuroscience Nursing (ABNN) identified the need for an educational course and assessment specific to nurses working with Epilepsy patients. The 2 organizations approved the collaboration on the development of the Certificate Program for the Seizure and Epilepsy Healthcare Professional. AANN is solely responsible for the development of the educational content. ABNN is solely responsible for the development of the post-assessments and the certificate of added qualification.

The Editor and Mentee Editor were identified as Subject Matter Experts (SMEs) to develop the content outline of the program using their expertise and knowledge in the field as a basis for development. Additional SMEs were then selected as Contributors to re-validate that the content for the program was all encompassing of professionals working

in the Seizure and Epilepsy healthcare environment. AANN Contributors developed the modules based on the content outline using current references to ensure that program covers all fundamental seizure and epilepsy concepts.

Further deliberation and validation came from discussions with the National Association of Epilepsy Centers (NAEC) representatives as well as the American Society of Electroneurodiagnostic Technologist (ASET). With these discussions came 2 additional modules that are specific to nurses who are working in an NAEC accredited Epilepsy Center. These 2 additional modules give an in-depth education on the roles of nurses, EEG techs, and other healthcare professionals within these units.

Knowledge Checks and the Post-Assessment were developed by ABNN item writers who were selected based on their expertise in writing items for the CNRN and SCRN examinations. All item writers were trained on evaluation principles as well as writing sound items. Once items were developed, they were reviewed fully to ensure content accuracy, proper citation for each item, and appropriate number of items based on the length of each module. Items were also evaluated for terminology, phrases, idioms, and language that may be sexist or racist, or may offend or discriminate against any legally protected subgroup in the candidate population.

## **COURSE REQUIREMENTS**

There are no eligibility requirements to participate in the program, however, the target audience for this course are nurses who have an interest and understanding of seizures and epilepsy basics or involved in the care of people with Epilepsy and Seizure Disorders. It provides a comprehensive curriculum and builds on a foundation of seizure disorder and epilepsy knowledge, with the learner earning a certificate of added qualification upon successful completion.

## **LEARNING OBJECTIVES**

At the completion of this activity, the learner will be able to:

- Develop an understanding of the components of care and symptom management across the continuum of care.
- Identify the correlation between anatomy, physiology and etiology of seizure disorder and Epilepsy identification.
- Define key components of seizure recognition and assessment.
- Develop an understanding of the definition and description of seizure classification in the care and management of the person with Epilepsy.
- Identify essential steps and interventions to facilitate an accurate diagnosis.
- Identify the different pharmacological modalities available, along with awareness of key adverse events in certain medications.
- Understand neuromodulation and diet therapy options.
- Acquire an understanding of the importance of patient and family education across the continuum of care.
- Understand key differences in care management with special populations in people with Epilepsy and Seizure Disorders.

## **PROGRAM ADMINISTRATION**

- Self-paced online program with downloadable PDF files of presentations
- Access to the course and post-assessment throughout a 6-month window
- Knowledge-Checks at the end of each module to assess whether learning objectives have been met
- Final post-assessment when modules have been completed
- Final evaluation of the program upon completion

## KNOWLEDGE CHECKS/POST-ASSESSMENTS

At the end of each module, there is a “knowledge check” (5 questions) to see if the learning objectives for the course have been met. There will be a final post-assessment once all modules have been completed. The post-assessment questions are multiple-choice, single answer. Learners must pass the post-assessment with an average score of >80%. If the learner does not pass, they can access the modules again, going back to review materials and then test again. Participants will have three (3) chances to successfully pass the post-assessment. The post-assessment for those only taking the **core 6-module program will be 50 items** in length and only include content related to those modules. Those who purchase the **8-module program will be 70 items** in length. As a reminder, the 8-module program is specific to nurses in an NAEC accredited unit or if their unit is seeking NAEC accreditation.

## EXPECTED OUTCOMES

Upon completion of this activity, the learner will demonstrate knowledge of epilepsy care and symptom management by passing the post-assessments with a score of >80%. To obtain CE contact hours and the certificate of added qualification, course participants must:

- Complete all of the course modules
- Successfully complete the post-assessment with a score of 80% or higher
- Submit the course evaluation

It is important to adhere to all aspects of the AANN Educational Integrity statement as well.

## CERTIFICATE OF ADDED QUALIFICATION and CE

Participants who complete the **core 6 modules** and pass all assessments will have earned a **certificate of added qualification** as a ***Seizure and Epilepsy Healthcare Professional***. The recipients of this credential may represent themselves as a “certificate holder as a Seizure and Epilepsy Healthcare Professional.”

Participants will also receive **6 CE contact hours** and a certificate of completion from AANN upon completion of the program.\*

Participants who complete the **core 6 modules AND the 2 additional NAEC unit modules** and pass all assessments will have earned a **certificate of added qualification** as a ***Seizure and Epilepsy Healthcare Professional in a Comprehensive Epilepsy Center***. The recipients of this credential may represent themselves as a “certificate holder as a Seizure and Epilepsy Healthcare Professional in a Comprehensive Epilepsy Center.”

Participants will also receive **11 CE contact hours** and a certificate of completion from AANN upon completion of the program.\*

*\*The American Association of Neuroscience Nurses (AANN) is accredited as a provider of nursing continuing professional development by the American Nurses Credentialing Center’s Commission on Accreditation in Nursing Continuing Professional Development. The American Association of Neuroscience Nurses is accredited as a provider of continuing education by the California Board of Registered Nursing (CEP:13331)*

## RENEWAL

The Certificate for the Seizure and Epilepsy Healthcare Professional must be renewed every **three (3) years** to ensure that your epilepsy knowledge stays current and you are continuing to progress as an experienced epilepsy healthcare professional. The renewal course will be offered on demand followed by post-assessments. The course must be successfully completed by December 31<sup>st</sup> of your third (3<sup>rd</sup>) year.

AANN and ABNN will provide reminder information in the middle of the year that the candidate is due to recertify, however, it is ultimately the responsibility of the candidate to complete the renewal process. The renewal course will not be available until June of your third (3<sup>rd</sup>) year.

## FEES

### Individual –

Modules	Member Price	Non-member Price
Core 6 Modules	\$250.00	\$400.00
Core 6 Modules + 2 NAEC Unit Modules	\$300.00	\$450.00

**Facility/Group Purchases** – Institutions are eligible for a discount when you purchase 10 or more subscriptions to the Seizure/Epilepsy Certificate Program. All group purchasing prices are based off the member rate of \$250.00 for the Core 6 modules and \$300.00 for the 8-module course (Core 6 Modules + 2 NAEC Unit Modules.)

Number of Subscriptions	% discount	Price per participant (6 modules)	Price per participant (8 modules)
10-20	10% off member price	\$225.00	\$270.00
21-49	20% off member price	\$200.00	\$240.00
50+	40% off member price	\$150.00	\$180.00

## CANCELLATION/REFUND POLICY

Purchase of the Certificate Program for Seizure and Epilepsy Healthcare Professional is intended for single person use by the person who purchased the course. Once the review course is purchased, no refunds will be issued.

## COPYRIGHTED MATERIAL

All educational content and post-assessment questions are the copyrighted property of AANN and ABNN. All rights reserved. Any unauthorized reprint, use, distribution, or commercial exploitation of this material, in whole or in part, is strictly prohibited. No part of this publication or course may be stored, reproduced or transmitted in any form or by any means, electronic or mechanical, including copying, recording, or by any information storage and retrieval system without express written permission from the author/publisher. Doing so may subject the participant to severe civil and criminal penalties. For information, contact the AANN at 847-375-4733.

## CONTACT

If there are any questions about the Certificate Program or the information provided in this handbook, please contact AANN at [info@aann.org](mailto:info@aann.org).

## SEIZURE AND EPILEPSY CERTIFICATE PROGRAM OUTLINE

### MODULE I - ANATOMY, PHYSIOLOGY, AND ETIOLOGY OF EPILEPSY (9 POST-ASSESSMENT ITEMS)

- A. Epidemiology
  - 1. Incidence and Prevalence of epilepsy
  - 2. Cost Burden
  - 3. Definitions (**Seizures vs. epilepsy**, provoked seizures, unprovoked seizures, SE, PNES, SUDEP)
- B. Pathophysiology of seizures
  - 1. Excitation/Inhibition process in epilepsy
  - 2. Epileptogenesis
- C. Risk Factors (etiology) associated with the development of epilepsy
  - 1. Infection, TBI, stroke, genetics, fever, substance abuse, etc.
  - 2. Age More prone to falls, neurodegenerative processes, stroke
  - 3. Structural
- D. Epilepsy Classification System and brief review of chart
  - 1. Compare and contrasts 1989 and 2016 classification systems

### MODULE II – SEIZURES (8 POST-ASSESSMENT ITEMS)

- A. Classification
  - 1. Focal
  - 2. Aura
  - 3. Motor
  - 4. Autonomic
  - 5. Awareness/responsiveness
- B. Generalized
  - 1. Tonic
  - 2. Clonic
  - 3. Atonic
  - 4. Tonic/clonic
  - 5. Myoclonic
  - 6. Absence
- C. Unknown
  - 1. Epileptic spasms
  - 2. Other

### MODULE III – DIAGNOSIS AND ASSESSMENT (8 POST-ASSESSMENT ITEMS)

- A. Diagnosis
  - 1. Routine EEG
  - 2. Ambulatory (why is ambulatory helpful)
  - 3. Long term monitoring with video (why is video helpful)
  - 4. Labs to order with brief rationale
  - 5. Imaging to order and why
- B. Epilepsy Mimics
  - 1. Syncope, Hypoglycemia, PNES, toxicity, infection, head injury, TBI, sports injuries, strokes, other metabolic derangements
  - 2. Provoked vs. Unprovoked Seizures
- C. Assessment: Situation, Observation, Assessment of Consciousness Post Ictal State (SOAP mnemonic for nurses)

1. Epilepsy Monitoring Unit
  2. The General Neurological Floor
  3. Med/Surg floor
- D. Safety Considerations in Acute Care Settings

#### **MODULE IV – TREATMENT (10 POST-ASSESSMENT ITEMS)**

- A. Treatment of Epilepsy
1. Acute Treatment: Intubation, STAT pharmacy drugs, IV site considerations, AEDs (Ativan IV, for example)
  2. Status Epilepticus Protocol 2016 needs to be reviewed briefly.
  3. Chronic Treatment of epilepsy:
    - a. AED's (pharmacological management)
    - b. Surgery (TLE resection)
    - c. Device implantation (VNS)
    - d. Deep Brain Stimulation (DBS)
    - e. Ketogenic Diet (most effective in children)
  4. Anti-epileptic Drugs and drug chart and pharmacokinetics
  5. Side Effects of AEDs and drug-drug interactions

#### **MODULE V - EDUCATION AND SELF-MANAGEMENT (7 POST-ASSESSMENT ITEMS)**

- A. Patient and family teaching points to consider
1. Safety at home: Bathing, swimming, rugs, cooking, risk of falls, seizure dogs, SUDEP, brace watch
  2. Seizure diaries
  3. Medication adherence
  4. Emergency contacts
- B. Psychosocial considerations
1. Employment
  2. Stigma surrounding epilepsy population
  3. Driving and the law
  4. Family Dynamics (when and how is a caregiver indicated)
  5. Loss of independence
  6. Emotional health
  7. Cognitive issues
    - a. Memory
    - b. Behaviors
    - c. Aggression
    - d. Depression

#### **MODULE VI – SPECIAL POPULATIONS WITH EPILEPSY (8 POST-ASSESSMENT ITEMS)**

- A. Women
1. Medication choices
    - a. Initial pregnancy testing
    - b. Teratogenic (First Trimester)
    - c. Best medication for women of childbearing age
  2. Avoid older categories of AEDs (Phenytoin, Valproic acid, phenobarbital)
  3. Pre-pregnancy counseling (i.e. Use of folic acid and dosing requirement)
  4. Hormonal influences in the epileptic woman
    - a. Estrogen

- b. Progesterone
- 5. Breast feeding and epilepsy
- 6. Contraceptives
- B. Children
  - 1. Ketogenic diet
  - 2. School
  - 3. Stigma
  - 4. School nurse considerations (brief)
  - 5. Transition of care at age 18
  - 6. Pediatric patient medications
- C. Transgender
  - 1. Drug Management
  - 2. Resources

### **EPILEPSY RESOURCES (*References only*)**

- A. AANN – American Association of Neuroscience Nurses
- B. AES – American Epilepsy Society
- C. EF – Epilepsy Foundation
- D. Epilepsy.com
- E. ILAE – International League Against Epilepsy
- F. NAEC – National Association of Epilepsy Centers
- G. VA – Veterans Affairs



## Seizure/Epilepsy Healthcare Professional in a Comprehensive Epilepsy Center additional Modules:

### MODULE VII – NURSING CARE IN THE EPILEPSY SPECIALTY CLINIC (10 POST-ASSESSMENT ITEMS)

- A. NAEC Overview and Accreditation Process
- B. NAEC Guidelines and Protocols
- C. Comprehensive Epilepsy Team
- D. Epilepsy Nursing Communication Tool
- E. Phone Assessment
- F. Triageing
- G. Special Considerations for Pediatric Patients
- H. Education and Coordination of Care
  - 1. Advanced testing
    - a. Pre-admission education
    - b. Coordination with outpatient team for education
    - c. Other diagnostic testing: MRI, PET, SPECT, neuropsych, etc.
  - 2. Presurgical coordination and counseling
    - a. Resective/palliative surgery and other procedures
    - b. VNS
    - c. RNS
    - d. DBS
  - 3. Transitions
    - a. Inpatient to outpatient
    - b. Pediatric to adult
  - 4. Coordination of Referrals for Other Services
    - a. Primary care
    - b. Mental health
    - c. Social work
    - d. Epilepsy Foundation
    - e. Neuropsych
    - f. Support groups
- I. Self Management Education
  - 1. Seizure risks, safety and lifestyle, driving
  - 2. Tracking seizures, seizure diaries
  - 3. Medication management
    - a. Adherence
    - b. Titration / withdrawal schedules
    - c. Side effects
  - 4. Seizure emergencies
    - a. Action plans
    - b. Use of rescue medications
  - 5. Transition from pediatric to adult
  - 6. Patients with intellectual disabilities
  - 7. Pre-pregnancy counseling and pregnancy management
  - 8. Mental health
  - 9. Cognitive problems
  - 10. Community and other support
  - 11. Work and school issues

**MODULE VIII – NURSING CARE IN THE EPILEPSY MONITORING UNIT (EMU) (10 POST-ASSESSMENT ITEMS)**

- A. NAEC Guidelines and Protocols
- B. Comprehensive Epilepsy Team
- C. The EMU Admission: Scalp Recording
  - 1. Coordination with outpatient team for education
  - 2. Indications for inpatient monitoring
  - 3. Admission order sets (scalp and intracranial)
  - 4. Consent for recording
  - 5. Duration of monitoring
  - 6. Diagnostic yield
  - 7. Risk prevention
  - 8. Complications
  - 9. Invasive evaluations
  - 10. Discharge planning and education
    - a. Education about seizure risks, safety and lifestyle
    - b. Seizure action plan after discharge
    - c. New medications and side effects
    - d. Follow-up care
- D. The EMU Admission: Special Aspects of Invasive EEG Recording
  - 1. Indications and goals
  - 2. Dressing
  - 3. Risk prevention
  - 4. Complications
- E. Special Considerations for Pediatric Patients
- F. Video monitoring and equipment
  - 1. Electrical safety
  - 2. Electrodes, imaging safety
  - 3. Basic parts of EEG equipment (amps, etc.)
  - 4. Overview of equipment for continuous observation
- G. Seizure Provocation: Activation Techniques
  - 1. Medication tapers and resumption of medications
  - 2. Photic
  - 3. Hyperventilation
  - 4. Sleep deprivation
  - 5. Event induction
- H. Safety Measures: Environment and Activity
  - 1. Safety education
  - 2. Fall prevention
  - 3. Seizure precautions
    - a. Room
    - b. Bed
    - c. Activity restrictions
    - d. Supervision
    - e. Restraints
  - 4. Continuous observation for seizures
  - 5. Monitoring of cardiac and respiratory function
  - 6. Prevention and assessment of skin breakdown

7. Care of patients with intracranial electrodes
- I. Seizure Testing, Documentation, and Treatment
  1. Vital signs
  2. First aid response
  3. Neuro exam
  4. Ictal testing
  5. Documenting seizure frequency and duration
  6. Notifications of excessive seizure frequency, severity, and duration
  7. Prevention, recognition and treatment of seizure clusters and status epilepticus
- J. Behavioral Aspects
  1. Postictal agitation
  2. Postictal psychosis
  3. Depression and suicidality
  4. Anxiety
  5. Patients with intellectual disabilities
  6. Nonepileptic events
- K. Diagnostic Techniques
  1. Ictal SPECT
  2. Cortical stimulation mapping
  3. Neuropsychological testing