

American Board of Psychiatry and Neurology Epilepsy Core Competencies Outline

I. Epilepsy Patient Care and Procedural Skills Core Competencies

- A. General: Physicians shall demonstrate the following abilities:
 - 1. To perform and document a relevant history and examination on culturally diverse patients¹ to include as appropriate:
 - a. Chief complaint
 - b. History of present illness
 - c. Medical history
 - d. A comprehensive review of systems
 - e. A biological family history
 - f. A sociocultural history²
 - g. A developmental history (especially for children)
 - h. A situationally germane general and neurologic examination
 - 2. To delineate appropriate differential diagnoses
 - 3. To determine appropriate evaluations for patients' differential diagnoses
 - 4. To recommend effective management of patients
- B. For Epilepsy: Based on a comprehensive neurologic assessment, epileptologists shall demonstrate the following abilities:
 - 1. To determine:
 - a. If a patient's symptoms are the result of a disease affecting the central and/or peripheral nervous system and/or are of another origin (e.g., of a systemic or psychiatric illness) by performing appropriate laboratory testing, genetics testing, radiologic testing, and/or electrophysiologic testing (e.g., electroencephalography [EEG] and magnetoencephalography [MEG])
 - b. A formulation, differential diagnosis, laboratory investigation, and management plan
 - c. Appropriate use of electrophysiologic testing (e.g., EEG, video EEG monitoring, electrocorticography [ECoG], neurodiagnostic studies, MEG, single-photon emission computed tomography [SPECT]) to evaluate and manage patients
 - 2. To develop and maintain the technical skills to:
 - a. Perform and/or interpret electrophysiologic testing
 - b. Identify and discriminate among the neurologic disorders of the central nervous systems that are diagnosed based on history, examination, and laboratory testing

3. To provide a compassionate and appropriate approach to investigation and management of patients with epilepsy

II. Epilepsy Medical Knowledge Core Competencies

1. General: Physicians shall demonstrate the following: Knowledge of major disorders, including considerations relating to age, gender, race, and ethnicity, based on the literature and standards of practice. This knowledge shall include:
 - a. The phenomenology of the disorder
 - b. The etiology of the disorder, including medical, genetic, and sociocultural factors
 - c. The epidemiology of the disorder
 - d. An understanding of the impact of physical illness on the patient's functioning
 - e. The experience, meaning, and explanation of the illness for the patient and family, including the influence of cultural factors and culture-bound syndromes
 - f. Effective treatment strategies
 - g. Course and prognosis
 2. Knowledge of health care delivery systems, including patient and family counseling
 3. Knowledge of the application of ethical principles in delivering medical care
 4. Ability to utilize electronic reference systems to access medical, scientific, and patient information
- B. For Epilepsy: Epileptologists shall demonstrate knowledge in the following areas:
1. Classification
 - a. Classification of the seizures
 - (1) Generalized
 - (a) Tonic-clonic (in any combination)
 - (b) Absence
 - (c) Myoclonic
 - (d) Clonic
 - (e) Tonic
 - (f) Atonic
 - (2) Focal
 - (a) Without impairment of consciousness/responsiveness
 - (b) With impairment of consciousness/responsiveness (roughly corresponds to the concept of "complex partial seizure")

- (c) Evolving to a bilateral, convulsive seizure (involving tonic, clonic or tonic and clonic components: replace the term “secondarily generalized seizure”)
 - (3) May be focal, generalized, or unclear
 - (a) Epileptic spasms
- b. Electro-clinical syndromes and other epilepsies
 - (1) By age of onset
 - (a) Neonatal period
 - (b) Infancy
 - (c) Childhood
 - (d) Adolescence to adult
- c. Less specific age relationship
 - (1) Familial focal epilepsy with variable foci (childhood to adult)
 - (2) Reflex epilepsies
- d. Distinctive constellations
 - (1) Mesial temporal lobe epilepsy with hippocampal sclerosis (MTLE with HS)
 - (2) Rasmussen syndrome
 - (3) Gelastic seizures with hypothalamic hamartoma
- e. Epilepsies attributed to and organized by structural-metabolic causes
 - (1) Structural (including tumors, vascular malformations)
 - (2) Infection
 - (3) Trauma
 - (4) Perinatal insults
 - (5) Stroke
 - (6) Malformations of cortical development
 - (7) Mitochondrial and metabolic disorders
- f. Epilepsies of unknown cause
- g. Conditions with epileptic seizures traditionally not diagnosed as a form of epilepsy
 - (1) Benign neonatal seizures (BNS)
 - (2) Febrile seizures (FS)
- h. Nonepileptic paroxysmal disorders:
 - (1) Breath holding spells
 - (2) Cardiac etiologies (e.g., prolonged QT intervals)
 - (3) Convulsive
 - (4) Reflux and Sandifer syndrome
 - (5) Syncopal events
 - (6) Gratification phenomena and masturbation
 - (7) Shuddering/shivering

- (8) Acute confusional migraine
 - (9) Benign infantile myoclonus
 - (10) Nonepileptic seizures
 - i. Epidemiology
- 2. Routine EEG
 - a. Normal
 - (1) Activation and procedures
 - (2) Benign variants
 - (3) Artifacts and technical issues
 - b. Interictal epileptiform patterns
 - c. Ictal patterns
 - d. Encephalopathic patterns
- 3. Evaluation
 - a. History, examination, and semiology
 - b. Chemical and metabolic screening
 - c. Specialized EEG
 - (1) Other supplementary and ambulatory
 - (2) Video EEG
 - (3) Invasive EEG recordings
 - (a) Depth electrodes
 - (b) Subdural grid electrodes
 - (c) Corticography, including functional mapping
 - d. Imaging
 - (1) Choice of structural imaging (CT, MRI)
 - (2) Functional imaging
 - (a) SPECT
 - (b) PET
 - (c) MEG
 - (d) MRS
 - (e) fMRI
 - (f) Diffusion tensor imaging
 - e. Neuropsychological testing
 - f. Spinal fluid analysis (lumbar puncture)
 - g. Genetic analysis
- 4. Management
 - a. Principles of management
 - (1) History of new-onset seizure(s)
 - (2) Acute seizure management
 - (3) Monotherapy vs. polytherapy
 - (4) Antiseizure drug selection
 - (5) Dosing and drug monitoring
 - (6) Comorbidities (e.g., psychiatric issues, cognitive issues)
 - (7) Special situations

- (a) Neonate
- (b) Developmental delay
- (c) Cognitively impaired
- (d) Women with epilepsy
- (e) Elderly
- (f) Systemic illness, including hypoxia-ischemia
- (8) Discontinuation of medication
- (9) Mortality, including SUDEP
- b. Antiepileptic therapies
 - (1) Specific drugs
 - (2) Mechanisms of action
 - (3) Drug interactions (pharmacokinetic/ pharmacodynamic)
 - (4) Drug toxicities and teratogenicity
 - (5) Monitoring principles
 - (6) Other therapies
 - (a) Diet therapies
 - (b) Hormonal therapies
 - (c) Immunoglobulin therapy
 - (d) Vagus nerve stimulation
 - (e) Other forms of stimulation
 - (f) Alternative and complementary therapies
- c. Surgical therapies
 - (1) Indications for referral
 - (a) Definition of intractable epilepsies
 - (b) Duration of epilepsy and failure of response to medication
 - (2) Evaluation for possible surgery
 - (3) Types of surgical procedure
 - (a) Focal resections
 - (b) Hemispherectomies
 - (c) Multiple subpial transections
 - (d) Corpus callosotomies
 - (e) Repeat surgical procedures
 - (f) Other
 - (4) Complications of surgery
- d. Status epilepticus
 - (1) Classification (types)
 - (a) Generalized convulsive
 - (b) Focal, including epilepsia partialis continua (EPC)
 - (c) Nonconvulsive
 - (d) Refractory
 - (2) Management
 - (a) Acute management

- (b) Drug therapy
 - (c) Anesthetic therapies
 - (d) Continuous EEG monitoring
 - (3) Systemic complications
 - (4) Outcome
- e. Psychosocial management
 - (1) Patient and family education
 - (a) Drug information
 - (b) Compliance
 - (c) Safety issues
 - i) Sleep deprivation
 - ii) Sports participation
 - iii) Drug and alcohol risks
 - iv) Driving regulations
 - v) Piloting regulations
 - (2) School and work situations
 - (a) IEPs
 - (b) ADA
 - (c) Disability
 - (3) Quality of life
 - (a) Dating
 - (b) Marriage
 - (c) Stigma
 - (4) Sleep and epilepsy
 - (5) Prognosis and counseling
- 5. Mechanisms of the epilepsies
 - a. Pathophysiology of the epilepsies
 - b. Animal models
 - c. Physiological basis of epileptic EEG patterns
 - d. Pathology of the epilepsies
 - e. Genetic basis of the epilepsies

III. Epilepsy Interpersonal and Communications Skills Core Competencies

- A. Epileptologists shall demonstrate the following abilities:
 - 1. To listen to and understand patients and to attend to nonverbal communication
 - 2. To communicate effectively with patients using verbal, nonverbal, and written skills as appropriate
 - 3. To develop and maintain a therapeutic alliance with patients by instilling feelings of trust, honesty, openness, rapport, and comfort in their relationships with epileptologists
 - 4. To partner with referring physicians and patients to develop a management plan

5. To transmit test results to referring physicians and patients clearly and in a timely manner
 6. To be aware of the potential impact of the epileptologist's own feelings and behavior so that these do not interfere with appropriate treatment
 7. To communicate effectively and work collaboratively with allied health care professionals and with other professionals involved in the care of patients and their families
 8. To educate patients, their families, and professionals about medical, psychosocial, and behavioral issues
- B. Epileptologists shall demonstrate the ability to obtain, interpret, and evaluate consultations from other medical specialties. This shall include:
1. Knowing when to solicit consultation and having the sensitivity to assess the need for consultation
 2. Formulating and clearly communicating the consultation question
 3. Discussing the consultation findings with the consultant
 4. Discussing the consultation findings with the patient and family
- C. Epileptologists shall serve as effective consultants to other medical specialists, mental health professionals, and community agencies by demonstrating the abilities to:
1. Communicate effectively with the requesting party to refine the consultation question
 2. Maintain the role of consultant
 3. Communicate clear and specific recommendations
 4. Respect the knowledge and expertise of the requesting professionals
 5. Provide timely access to neurologic consultations
- D. Epileptologists shall demonstrate the ability to communicate effectively with patients and their families by:
1. Gearing all communication to the educational and intellectual levels of patients and their families
 2. Demonstrating sociocultural sensitivity to patients and their families
 3. Providing explanations of neurologic disorders and treatment that are jargon-free and geared to the educational/intellectual levels of patients and their families
 4. Providing preventive education that is understandable and practical
 5. Respecting the patients' cultural, ethnic, religious, and economic backgrounds
 6. Developing and enhancing rapport and a working alliance with patients and their families
 7. Ensuring that the patient and/or family have understood the communication
 8. Responding promptly to electronic communications when used as a

communication method agreed upon by epileptologists and their patients and patients' families

- E. Epileptologists shall maintain up-to-date medical records and write legible prescriptions and other orders. These records must capture essential information while simultaneously respecting patient privacy, and they must be useful to health professionals outside neurology. They must provide timely and clinically useful reports, including neurologic evaluations, electrophysiologic tests, and management decisions, using language understandable to referring care providers. Electronic prescriptions must be entered accurately and transmitted securely.
- F. Epileptologists shall demonstrate the ability to effectively lead a multidisciplinary treatment team, including being able to:
 - 1. Listen effectively
 - 2. Elicit needed information from team members
 - 3. Integrate information from different disciplines
 - 4. Manage conflict
 - 5. Clearly communicate an integrated treatment plan
 - 6. Learn to organize, operate, and lead an epilepsy monitoring unit
 - 7. Communicate effectively with, and provide structured supervision and training of, epilepsy monitoring unit (EMU) personnel
 - 8. Promote a collegial relationship among all personnel, including technicians and/or trainees
- G. Epileptologists shall demonstrate the ability to communicate effectively with patients and their families while respecting confidentiality. Such communication may include:
 - 1. The results of the assessment
 - 2. Use of informed consent when considering investigative procedures
 - 3. Genetic counseling and palliative care when appropriate
 - 4. Use of consideration and compassion for the patient in providing accurate medical information and prognosis
 - 5. The risks and benefits of the proposed treatment plan, including possible side effects of medications and/or complications of nonpharmacologic treatments
 - 6. Alternatives (if any) to the proposed treatment plan
 - 7. Referral for second opinion when requested or appropriate
 - 8. Appropriate education concerning the disorder, its prognosis, and prevention strategies

IV. Epilepsy Practice-Based Learning and Improvement Core Competencies

- A. Epileptologists shall recognize limitations in their own knowledge base

and clinical skills and understand and address the need for lifelong learning.

- B. Epileptologists shall demonstrate appropriate skills for obtaining and evaluating up-to-date information from scientific and practice literature and other sources to assist in the quality care of patients. This shall include, but not be limited to:
 - 1. Use of medical libraries, including up-to-date core textbooks and core journals
 - 2. Use of information technology, including Internet-based searches and literature databases
 - 3. Use of drug information databases
 - 4. Active participation, as appropriate, in educational courses, conferences, and other organized educational activities both at the local and national levels
 - 5. Participation in lifelong learning and maintenance of certification

- C. Epileptologists shall evaluate caseload and practice experience in a systematic manner. This may include:
 - 1. Case-based learning
 - 2. Use of best practices through practice guidelines or clinical pathways
 - 3. The review of patient records
 - 4. Obtaining evaluations from patients (e.g., outcomes and patient satisfaction)
 - 5. Employment of principles of quality improvement and patient safety in practice
 - 6. Obtaining appropriate supervision and consultation
 - 7. Maintaining a system for examining errors in practice and initiating improvements to eliminate or reduce errors

- D. Epileptologists shall demonstrate the ability to critically evaluate relevant medical literature. This ability may include:
 - 1. Using knowledge of common methodologies employed in neurologic research
 - 2. Researching and summarizing a particular problem that derives from their own caseloads

- E. Epileptologists shall demonstrate the following abilities:
 - 1. Review and critical assessment of scientific literature for determining how quality of care can be improved in relation to one's practice (e.g., reliable and valid assessment techniques, treatment approaches with established effectiveness, practice parameter adherence)
 - a. Assessment of the generalizability or applicability of research findings to their patients in relation to their sociodemographic

and clinical characteristics.

2. Development and pursuit of effective remediation strategies that are based on critical review of the scientific literature
3. Knowledge and recognition of the normal and abnormal findings of electrophysiologic testing in patients of all ages
4. Use and interpretation of results of electrophysiologic tests in the evaluation of the patient's problem
5. Recognition of personal limitations and knowledge of patient evaluation and management of patients' disorders, and when to seek guidance
6. Continued acquisition of medical knowledge and the application of this knowledge to patient care
7. Continued improvement of skills in the evaluation and management of patients with epilepsy

V. Epilepsy Professionalism Core Competencies

- A. Epileptologists shall demonstrate responsibility for their patients' care, including:
 1. Responding to communication from patients and health professionals in a timely manner
 2. Establishing and communicating back-up arrangements, including how to seek emergent and urgent care when necessary
 3. Using medical records for appropriate documentation of the course of illness and its diagnosis and treatment
 4. Providing coverage if unavailable (e.g., when out of town or on vacation)
 5. Coordinating care with other members of the medical and/or multidisciplinary team
 6. Providing for continuity of care, including appropriate consultation, transfer, or referral if necessary
- B. Epileptologists shall demonstrate ethical behavior, integrity, honesty, compassion, and confidentiality in the delivery of care, including matters of informed consent/assent, professional conduct, and conflict of interest.
- C. Epileptologists shall demonstrate respect for patients and their families, and their colleagues as persons, including their ages, cultures, disabilities, ethnicities, genders, socioeconomic backgrounds, religious beliefs, political leanings, and sexual orientations.
- D. Epileptologists shall demonstrate understanding of and sensitivity to end-of-life care and issues regarding provision of care.
- E. Epileptologists shall review their professional conduct and remediate when appropriate.

- F. Epileptologists shall participate in the review of the professional conduct of their colleagues.

VI. Epilepsy Systems-Based Practice Core Competencies

- A. Epileptologists shall have a working knowledge of the diverse systems involved in treating patients of all ages and understand how to use the systems as part of a comprehensive system of care in general and as part of a comprehensive, individualized treatment plan. This shall include the:
 - 1. Use of practice guidelines
 - 2. Ability to access community, national, and allied health professional resources that may enhance the quality of life of patients with chronic neurologic disease
 - 3. Demonstration of the ability to lead and delegate authority to health care teams needed to provide comprehensive care for patients with neurologic disease
 - 4. Demonstration of skills for the practice of ambulatory medicine, including time management, clinical scheduling, and efficient communication with referring physicians
 - 5. Use of appropriate consultation and referral mechanisms for the optimal clinical management of patients with epilepsy
 - 6. Demonstration of awareness of the importance of adequate cross-coverage
 - 7. Use of accurate medical data in the communication with, and effective management of, patients
 - 8. Understanding of appropriate reasons for obtaining or performing electrophysiologic testing, and performing the studies that are appropriate for the patient's condition
 - 9. Understanding of practice parameters, resources, and costs of investigation and management (e.g., recommending or performing appropriate studies for the patient's condition)
 - 10. Understanding of ethical and legal implications of performing and interpreting studies
 - 11. Understanding of billing, coding, and documentation procedures
- B. In the community system, epileptologists shall:
 - 1. Recognize the availability and limitation of health care resources and demonstrate the ability to act as an advocate for patients within their sociocultural and financial constraints
 - 2. Demonstrate knowledge of the legal aspects of neurologic diseases as they impact patients and their families (e.g., relaying information to families regarding guardianship and/or power of attorney)
 - 3. Demonstrate an understanding of risk management

- C. Epileptologists shall demonstrate knowledge of, and interact with, managed health systems, including:
 - 1. Participating in utilization review communications and, when appropriate, advocating for quality patient care
 - 2. Educating patients concerning such systems of care

- D. Epileptologists shall demonstrate knowledge of community systems of care and assist patients to access appropriate care and other support services. This requires knowledge of treatment settings in the community, which include ambulatory, consulting, acute care, skilled care, rehabilitation, nursing homes and home care facilities, and hospice organizations. Epileptologists shall demonstrate knowledge of the organization of care in each relevant delivery setting and the ability to integrate the care of patients across such settings.

- E. Epileptologists shall be aware of safety issues, including acknowledging and remedying medical errors, should they occur.

¹Cultural diversity includes issues of race, gender, language, age, country of origin, sexual orientation, religious/spiritual beliefs, sociocultural class, educational/intellectual levels, and physical disability. Working with a culturally diverse population requires knowledge about cultural factors in the delivery of health care. For the purposes of this document, all patient and peer populations are to be considered culturally diverse.

²Regarding sociocultural issues, for the purposes of this document, “family” is defined as those having a biological or otherwise meaningful relationship with the patient. Such “significant others” are to be defined from the patient’s point of view.

Approved by the ABPN Board of Directors, April 27, 2013