

American Board of Psychiatry & Neurology

Child Neurology Core Competencies

Outline

I. Child Neurology 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 family history²
 - f. A sociocultural history
 - 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 Child Neurology: Based on a comprehensive neurologic assessment, child neurologists 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 or are of another origin (e.g., of a systemic, psychiatric, or psychosomatic illness)
 - b. A formulation, anatomic localization, differential diagnosis, laboratory investigation, and management plan
 - 2. To develop and maintain the technical skills to:
 - a. Perform a comprehensive neurologic examination
 - b. Perform a screening mental status examination
 - c. Perform appropriate procedures, including lumbar punctures, pharmacologic testing of neuromuscular junction, caloric testing, skin biopsies, etc.
 - d. Identify and describe abnormalities seen in common childhood neurologic disorders with radiologic testing, including plain films, myelography, angiography, CT, isotope, and MRI
 - e. Evaluate the indication for, application and relevance of investigative procedures and interpretation in the diagnosis of neurologic disorders, including the following:

- (1) Audiometry
 - (2) Autonomic function testing
 - (3) CSF analysis
 - (4) Electroencephalography
 - (5) Electromyography
 - (6) Electronystagmography/Electroretinography
 - (7) Evoked potentials
 - (8) Genetic testing
 - (9) Imaging with ultrasound (duplex, transcranial Doppler)
 - (10) Motor and sensory nerve conduction studies
 - (11) Neurometabolic testing
 - (12) Perimetry
 - (13) Polysomnography
 - (14) Psychometrics
 - (15) Radiographic studies as outlined above
- f. Identify and describe gross and microscopic specimens of the central and peripheral nervous systems from patients with neurologic disorders

II. Child Neurology Medical Knowledge Core Competencies

- A. General: Physicians shall demonstrate the following:
1. Knowledge of general medical conditions, including considerations relating to age, gender, race, and ethnicity, based on the literature and standards of practice. This knowledge shall include:
 - a. The epidemiology of the disorder
 - b. The etiology of the disorder, including medical, genetic, and sociocultural factors
 - c. The phenomenology 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, based on the influence of cultural factors
 - f. Effective treatment strategies
 - g. Course and prognosis
 2. Knowledge of health care delivery systems, including patient and family counseling
 3. Systems-based practice
 4. Knowledge of the application of ethical principles in delivering medical care
 5. Ability to reference and utilize electronic systems to access medical, scientific, and patient information

- B. For Child Neurology: Child neurologists shall demonstrate knowledge of the following:
1. Basic neuroscience that is critical to the practice of neurology
 2. Pathophysiology and treatment of major childhood neurologic disorders and familiarity with the scientific basis of neurology, including:
 - a. Interventional neurology (basic principles only)
 - b. Neuroanatomy
 - c. Neurochemistry
 - d. Neuroendocrinology
 - e. Neuroepidemiology
 - f. Neurogenetics/molecular neurology
 - g. Neuroimaging
 - h. Neuroimmunology/neurovirology
 - i. Neurometabolism
 - j. Neuropathology
 - k. Neuropharmacology
 - l. Neurophysiology
 - m. Neuro-ophthalmology
 - n. Neuro-otology
 3. Childhood neurologic disorders and diseases, including treatment, for the following:
 - a. Paroxysmal disorders/epilepsy
 - b. Genetics/neurodegenerative and neurometabolic disorders
 - c. Headache and other pain syndromes
 - d. Intellectual disability and cognitive disorders
 - e. Neurobehavioral and psychiatric disorders, including ADHD
 - f. Congenital disorders
 - g. Abnormalities of brain development
 - h. Static encephalopathy and cerebral palsy, including rehabilitation
 - i. Toxic encephalopathy
 - j. Infection
 - k. Neuromuscular disorders
 - l. Neurology of systemic disease
 - m. Movement disorders, including Tourette disorder
 - n. Demyelinating disorders and abnormalities of white matter
 - o. Neuro-oncology
 - p. Vascular disorders
 - q. Trauma, child abuse, and critical care
 - r. Sleep disorders
 - s. Spinal cord and nerve root disorders
 4. Patient evaluation and treatment selection, including:

- a. The nature of patients' histories and physical findings and the ability to correlate the findings with a probable localization for neurologic dysfunction
 - b. Probable diagnoses and differential diagnoses of children (newborn through adolescence)
 - c. Planning for evaluation and management
 - d. Potential risks and benefits of potential therapies, including surgical procedures
5. Psychiatry, including:
- a. Psychopathology, epidemiology, diagnostic criteria, and clinical course for common psychiatric disorders, including:
 - (1) Neurodevelopmental disorders
 - (2) Schizophrenia spectrum and other psychotic disorders
 - (3) Bipolar and related disorders
 - (4) Depressive disorders
 - (5) Anxiety disorders
 - (6) Obsessive-compulsive and related disorders
 - (7) Trauma- and stressor-related disorders
 - (8) Dissociative disorders
 - (9) Somatic symptom and related disorders
 - (10) Feeding and eating disorders
 - (11) Elimination disorders
 - (12) Sleep-wake disorders
 - (13) Sexual dysfunctions
 - (14) Gender dysphoria
 - (15) Disruptive, impulse-control, and conduct disorders
 - (16) Substance-related and addictive disorders
 - (17) Neurocognitive disorders
 - (18) Personality disorders
 - (19) Paraphilic disorders
 - (20) Other mental disorders
 - (21) Medication-induced movement disorders and other adverse effects of medication
 - (22) Other conditions that may be a focus of clinical attention
 - b. Psychopharmacology
 - (1) Major drugs used for treatment (e.g., antipsychotics, antidepressants, anti-anxiety agents, mood stabilizers)
 - (2) Side effects of drugs used for treatment, e.g., acute, motor, neuroleptic malignant syndrome
 - (3) Iatrogenic disorders in neurology and psychiatry, changes in mental status, and movement disorders

- (4) Nonpharmacologic treatments and management
6. Employment of principles of quality improvement and patient safety in practice

III. Child Neurology Interpersonal and Communications Skills Core Competencies

- A. Child neurologists shall demonstrate the following competencies:
 1. To listen to and understand patients and their families and to attend to verbal and nonverbal communication
 2. To communicate effectively with patients and their families using verbal, nonverbal, and written skills as appropriate
 3. To develop and maintain a therapeutic alliance with patients and their families by instilling feelings of trust, honesty, openness, rapport, and comfort in their relationships with child neurologists
 4. To partner with patients' families to develop an agreed-upon health care management plan
 5. To transmit information to patients and their families and/or caregivers in a clear and meaningful fashion
 6. To understand the impact of the child neurologist's own feelings and behavior so that it does not interfere with appropriate treatment
 7. To communicate effectively and work collaboratively with other health care providers
 8. To educate patients, families, and professionals about medical, psychosocial, and behavioral issues
 9. To preserve patient confidentiality
- B. Child neurologists 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. Child neurologists shall serve as effective consultants to other medical specialists, and community agencies by demonstrating the abilities to:
 1. Communicate effectively with the requesting party
 2. Maintain the role of consultant
 3. Communicate clear and specific recommendations
 4. Respect the knowledge and expertise of the requesting professionals
- D. Child neurologists shall demonstrate the ability to communicate effectively with patients and their families by:

1. Matching all communication to the educational and intellectual levels of patients and their families
 2. Demonstrating sociocultural competence to patients and their families
 3. Providing explanations of neurologic disorders and treatment using language that is jargon free and matched to the educational/intellectual levels of patients and their families
 4. Providing preventive education that is understandable and practical
 5. Respecting 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 child neurologists and their patients and patients' families
- E. Child neurologists shall maintain up-to-date medical records and assure accurate prescriptions. These records must capture essential information while simultaneously respecting patient privacy, and they must be useful to health professionals outside neurology. Electronic prescriptions must be entered accurately and transmitted securely.
- F. Child neurologists shall demonstrate the ability to work effectively within 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 when appropriate
- G. Child neurologists 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, palliative care, and end-of-life issues when appropriate
 4. 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 non-pharmacologic treatments
 6. Alternatives (if any) to the proposed treatment plan

7. Appropriate education concerning the disorder, its prognosis, and prevention strategies

IV. Child Neurology Practice-Based Learning and Improvement Core Competencies

- A. Child neurologists shall recognize limitations in their own knowledge base and clinical skills and understand and address the need for lifelong learning.
- B. Child neurologists 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
 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 at both local and national levels
 5. Participation in lifelong learning and maintenance of certification
- C. Child neurologists 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. 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. Child neurologists shall demonstrate the ability to critically evaluate relevant medical literature. This 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. Child neurologists shall demonstrate the abilities to:
 1. Review and critically assess scientific literature to determine 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). Within this aim, child neurologists shall be able to assess the generalizability or applicability of research findings to their patients in relation to their sociodemographic and clinical characteristics

2. Develop and pursue effective remediation strategies that are based on critical review of the scientific literature

V. Child Neurology Professionalism Core Competencies

- A. Child neurologists shall demonstrate responsibility for their patients' care, including:
 1. Responding to communication from patients, families, 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 treatment
 4. Providing coverage if unavailable
 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. Child neurologists 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. Child neurologists shall demonstrate respect for patients and their families and caregivers, and their colleagues as persons, including their ages, cultures, disabilities, ethnicities, genders, socioeconomic backgrounds, religious beliefs, political leanings, and sexual orientations.
- D. Child neurologists shall demonstrate understanding of and sensitivity to end-of-life care and issues regarding provision of care and clinical competence.
- E. Child neurologists shall review their professional conduct and remediate when appropriate.
- F. Child neurologists shall participate in the review of the professional conduct of their colleagues.
- G. Child neurologists shall maintain an unrestricted state license.

VI. Child Neurology Systems-Based Practice Core Competencies

- A. Child neurologists shall have a working knowledge of the diverse systems involved in treating children 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. Evaluation and implementation, where indicated, of the 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 and psychiatric illnesses
 - 3. Demonstration of the ability to lead and work within health care teams needed to provide comprehensive care for patients with neurologic and psychiatric disease and respect professional boundaries
 - 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 complicated medical illness
 - 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

- B. In the community system, child neurologists 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. Child neurologists shall demonstrate a working knowledge of different health care systems, including:
 - 1. Working within the system of care to maximize cost-effective utilization of resources

2. Participating in utilization review communications and, when appropriate, advocating for quality patient care
 3. Educating patients concerning such systems of care
- D. Child neurologists 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, partial hospital, skilled care, rehabilitation, nursing homes and home care facilities, substance abuse facilities, and hospice organizations. Child neurologists 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. Child neurologists shall be aware of safety issues, including acknowledging and remediating 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.

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

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