Overall Competencies for the Pediatric Residency Training Program

NEUROLOGY

Goals and Competencies

PC: Patient Care; MK: Medical Knowledge; PBLI: Practice-Based Learning & Improvement;
IC: Interpersonal & Communication Skills; P: Professionalism; SBP: Systems-Based Practice

GOAL 1: Normal Versus Abnormal (Neurology): Understand how to identify whether a child is normal or suffers from a neuropathological condition

COMPETENCIES: (PC, MK)	**<25%**	**25-50%**	**50-75%**	**75-100%**
1. Identify normal and abnormal neurologic development including language, cognition, motor development, reflexes, socialization.			1	2,3
2. Demonstrate a skillful neurologic history and exam which can distinguish normal from abnormal findings, peripheral from central nervous system lesions, and static from progressive neurologic dysfunction.			1	2,3
3. Identify temporary neurological dysfunction (e.g. ataxia or lethargy due to anticonvulsant loading dose) from dysfunction due to pathological conditions (e.g., traum, poisoning, severe infection, hypoglycemia, electrolyte imbalance).		1	2	3
4. Describe those symptoms of neurologic diseases manifested outside the central nervous system (e.g., vomiting, weakness, precocious puberty, polyuria), and explain how the CNS dysfunction produces the symptoms.		1	2	3

GOAL 2: Common Conditions Not Referred (Neurology): Understand how to recognize and manage neurological disease conditions which generally do not require referral.

COMPETENCIES: (PC, MK)	**<25%**	**25-50%**	**50-75%**	**75-100%**
Diagnose, describe pathophysiology of, and manage these conditions:				
1. Absence seizures.		1	2	3
2. Febrile seizures.			1	2,3
3. Follow-up for static encephalopathy.			1	2,3
4. Migraine and tension headaches.		1	2	3
5. Transient neurological disturbances due to drug ingestions (e.g., benzodiazepams).		1	2	3
6. Simple generalized tonic-clonic seizures.			1	2,3
7. Viral meningitis.			1	2,3
8. Attention deficit disorder, uncomplicated.		1	2	3

GOAL 3: Conditions Generally Referred (Neurology/Neurosurgery): Understand how to recognize and initiate management of neurological conditions which generally require referral.

COMPETENCIES: (PC, MK)	**<25%**	**25-50%**	**50-75%**	**75-100%**
Recognize, provide initial treatment for, and appropriately refer these conditions.				
1. Acute encephalopathy (e.g., metabolic, lead, hypertensive, anoxic, drug/toxin indiced).		1	2	3
2. Bacterial meningitis.			1	2,3
3. Brain tumor.			1	2,3
4. Cerebral palsy.			1	2,3
5. Coma, increased intracranial pressure.		1	2	3
6. Craniosynostosis.		1	2	3
7. Encephalitis.		1	2	3
8. Headaches which are severe, progressive, or refractory to simple therapy, or suggestive of malignancy (e.g., early morning).		1	2	3
9. Hydrocephalus.			1	2,3
10. Movement disorders (chorea, ataxia, tics).		1	2	3
11. Mental retardation, loss of neurologic skills, autism.		1	2	3
12. Muscle weakness or flaccidity (e.g., Guillain-Barre, muscular dystrophy, hypotonia).		1	2	3
13. Neurocutaneous diseases.		1	2	3
14. Seizures (which are difficult to diagnose, manage, or associated with progressive neurologic impairment or in status epilepticus).		1	2	3
15. Severe head trauma, complicated skull fractures, spinal cord injuries.		1	2	3
16. Ventriculoperitoneal shunt infection and dysfunction.			1	2,3

GOAL 4: Seizures: Understand how to evaluate, manage, and refer patients with seizures.				
COMPETENCIES: (PC, MK, PBLI, IC, P)	<25%	25-50%	50-75%	75-100%
1. Differentiate the various seizure types (e.g., generalized, focal, complex, partial, absence).		1	2	3
2. Manage uncomplicated seizures effectively using a step-wise approach starting with the appropriate anticonvulsant for the type of seizure, and drug monitoring.		1	2	3
3. List the indications for referral for patients with seizures (complicated, difficult to diagnose or manage, intractable, in status epilepticus).		1	2	3
4. Develop a step-wise plan for evaluation and management for a patient in status epilepticus.		1	2	3
5. Demonstrate an understanding of and counsel parents about febrile seizures including epidemiology, natural history, risk factors for afebrile seizures, and treatment options.			1	2,3

GOAL 5: Headaches: Understand how to evaluate and manage headaches.				
COMPETENCIES: (PC, MK)	**<25%**	**25-50%**	**50-75%**	**75-100%**
1. Identify the historical features which help to differentiate tension or migraine headaches from those caused by increased intracranial pressure.		1	2	3
2. Describe the therapeutic options available for benign, migraine, or tension headaches in children.		1	2	3
3. Identify the indications for radiologic imaging (CT, MRI) in patients with headaches.		1	2	3

GOAL 6: Complex Neurological Testing: Understand the indications for neurologic testing which requires complex or expensive equipment or procedures.				
COMPETENCIES: (PC, MK, SBP)	**<25%**	**25-50%**	**50-75%**	**75-100%**
Describe the indications for, the limitations of, and the relative cost of these neurological tests:				
1. Electroencephalogram (EEG).		1	2	3
2. Head computerized tomography scan (CT).		1	2	3
3. Head magnetic resonance scan (MR).		1	2	3
4. Lumbar puncture.			1	2,3
5. Psychometric testing.		1	2,3	
6. Electromyography (EMG) and nerve conduction velocity (NCV).		1	2	3

GOAL 7: Neurological Pharmacology: Understand the indications for use, the side effects, and the mode of action of commonly used neurological drugs.				
COMPETENCIES: (PC, MK)	<25%	25-50%	50-75%	75-100%
For commonly used anticonvulsants: describe indications and contraindications, side effects, and appropriate laboratory tests to follow drug therapy and side effects, and drug interactions with common drugs (e.g., erythromycin).		1	2	3

GOAL 8: Prevention (Neurology): Understand the pediatrician's role in prevention of neurologic disorders in children.				
COMPETENCIES: (PC, MK, PBLI, IC, P, SBP)	**<25%**	**25-50%**	**50-75%**	**75-100%**
1. Counsel parents/patients about prevention of head and spinal cord trauma (seat belts, car seats, helmets, firearm safety, driving injuries).			1	2,3
2. Counsel parents about prevention related to environmental toxins (e.g., lead) and household poisonings.			1	2,3
3. Describe public health and legislative strategies to reduce head and spinal cord injury.		1	2,3	
4. Describe how rehabilitation and early intervention can reduce long-term sequela from neurologic injury or congenital CNS disorders.		1	2	3
5. Counsel parents and patients about precautions to be taken in children with epilepsy.		1	2	3