

## Neurology

### Section 1: Administrative Information

**Rotation Director:** Charles Dreyer, MD

**Contact Information:** e-mail: [cfdreyer@utmb.edu](mailto:cfdreyer@utmb.edu) ; phone: 772-1592

**Required or Elective:** elective

**Where to show on first day of rotation : Clear Lake Specialty Clinic, Please call or e-mail beforehand**

**Faculty Responsibilities:**

1. At the beginning of the rotation, the rotation director (or attending physician) will review with the Resident the expectations and duties and the learning goals & objectives
2. During the rotation, faculty are expected to provide feedback to the resident to provide a tone of continuous review and improvement.
3. Faculty are expected to complete an end-of-rotation evaluation in the MyUTMB Evaluation system

**Resident Responsibilities:** It is the Resident's responsibility to do the following:

**Education-related activities**

1. read this curriculum prior to the start of the rotation.
2. determine personal learning goals, based on the self-assessment
3. review this curriculum and learning goals with the curriculum manager (or designee) on Day 1 of the rotation.
4. reflect on personal learning
5. present a child neurology patient at case conference, and review the current literature
6. provide evaluation of the experience and of the faculty at the conclusion of the rotation.

**Clinical responsibilities:**

1. Evaluate and manage, with appropriate supervision, children with neurological problems.

**Supervision responsibilities:** Assist in instructing other learners on the same rotation

### Section 2: Educational and Clinical Activities

Recommended readings

**Clinical Pediatric Neurology: A Signs and Symptoms Approach by Gerald Fenichel MD,**

	Mon	Tue	Wed	Thu	Fri
<b>&lt;8:00</b>					
<b>8:00</b>	<b>Neurology Clinic</b>	Morning Report	Morning Report	<b>Neurology Clinic</b>	Grand Rounds
<b>8:30</b>		<b>Continuity Clinic</b>	<b>Consults/Teaching per Dr. Dreyer</b>		<b>Neurology Clinic</b>
<b>12:00</b>			Noon conference		
<b>1:00</b>	<b>Neurology Clinic</b>	<b>Consults/Teaching per Dr. Dreyer</b>	<b>Neurology Clinic</b>	<b>Neurology Clinic</b>	<b>Neurology Clinic</b>

**Section 3: Evaluation Methods**

1. Every Resident will receive an evaluation of competency in the 6 ACGME-defined competency domains, from at least one Faculty using the UTMB-GME tool at MyUTMB.
2. Every Resident is expected to evaluate the supervising Faculty in the 6 ACGME-defined competency domains, using the UTMB-GME tool at MyUTMB.

**Section 4: Rotation-specific Learning Goals and Objectives**

<p>At the <b>BEGINNING</b> of the rotation, determine which of these objectives will be your primary focus and guide the development of your learning goals. ✓</p>	<p>At the <b>END</b> of the rotation, self-assess your competency on each of the objectives. circle number ○</p> <p>PRE ✓</p>	<p>POST ○</p> <p>1 = I still have a lot to learn 2 = 3 = I am <i>moderately</i> confident I have met this objective 4 = 5 = I am <i>very</i> confident I have met this objective</p>
<b>GOAL 1: Prevention. Understand the role of the pediatrician in preventing neurological diseases.</b>		
Objective 1.1 Provide routine neurological prevention counseling to parents and patients about:		1 2 3 4 5
a. In health supervision visits, provide counseling on prevention of head and spinal cord trauma through use of seat belts, car seats, helmets, firearm safety, playground safety, and diving injuries		1 2 3 4 5
b. In health supervision visits, provide counseling on avoidance of environmental toxins including lead, insecticides and other household poisons		1 2 3 4 5
Objective 1.2. Discuss the role of Pediatrics in public health and legislative strategies to reduce head and spinal cord injury		1 2 3 4 5
<b>GOAL 2: Identification of neuropathological conditions.</b>		
Objective 2.1. Describe normal neurological development, including language acquisition, cognition, motor development, executive function, and socialization.		1 2 3 4 5
Objective 2.2. Explain the findings on clinical history and examination that suggest neurologic dysfunction that requires further evaluation and treatment		1 2 3 4 5
Objective 2.3. Differentiate a peripheral from a central nervous system lesion, diffuse from focal, and static from progressive neurologic dysfunction. Using this knowledge, correctly localize the site of any lesion.		1 2 3 4 5
Objective 2.4. Distinguish between a temporary neurological dysfunction (e.g., ataxia or lethargy due to anticonvulsant loading dose) from a pathological dysfunction (e.g., trauma, poisoning, severe infection, hypoglycemia, electrolyte imbalance).		1 2 3 4 5
Objective 2.5. Discuss the diagnostic value of tests to aid in the diagnosis of neurologic diseases, including indications, limitations, and costs. Discuss the following tests: electroencephalogram (EEG), head computerized tomography scan (CT), head magnetic resonance scan (MR), lumbar puncture, psychometric testing, electromyography (EMG) and nerve conduction velocity (NCV) genetic testing of neurological disease.		1 2 3 4 5

<b>GOAL 3: Undifferentiated Signs and Symptoms. Demonstrate competency, by discussion or patient care, at assessing these presenting signs and symptoms that may indicate a neurologic or neuromuscular disease process.</b>						
a. Abnormal movements (chorea, athetosis, tics, dystonia)		1	2	3	4	5
b. Alterations of consciousness		1	2	3	4	5
c.		1	2	3	4	5
d. Feeding difficulties		1	2	3	4	5
e. Hypotonia, hypertonia		1	2	3	4	5
f. Increased intracranial pressure		1	2	3	4	5
g. Muscle weakness, flaccidity, or paralysis suggestive of Guillain Barre, muscular dystrophy or hypotonia		1	2	3	4	5
h. Sleep difficulties		1	2	3	4	5
i. Spasticity		1	2	3	4	5
j. Vomiting		1	2	3	4	5
k.		1	2	3	4	5

<b>GOAL 4: Seizures. Evaluate, manage, and refer patients with seizures.</b>						
Objective 4.1. Explain the findings on clinical history, examination and investigation that suggest a seizure disorder and classify the seizure as generalized or partial.		1	2	3	4	5
Objective 4.2. Manage uncomplicated seizures using a step-wise approach.		1	2	3	4	5
Objective 4.3. Develop a step-wise plan for evaluation and treatment for a patient in status epilepticus.		1	2	3	4	5
Objective 4.4. Identify the indicators that would lead to a neurology referral for a child with seizures, including infantile onset seizures, seizures that are complicated, intractable, or difficult to diagnose or manage, and status epilepticus.		1	2	3	4	5
Objective 4.5. Explain the characteristics of febrile seizures, including epidemiology, genetic predisposition, natural history, risk factors for a seizure disorder and treatment options.		1	2	3	4	5
Objective 4.6. Discuss common episodic events that may mimic seizures and the findings on history and examination that suggest that the event is not epileptic in origin (e.g., breath-holding spells, benign movement disorders, pseudoseizures, common sleep disorders).		1	2	3	4	5

<b>GOAL 5: Headaches. Evaluate and manage headaches.</b>						
Objective 5.1. Take a thorough headache history including family history of headaches, location, duration, frequency, character, triggers and associated symptoms.		1	2	3	4	5
Objective 5.2. Compare and contrast the symptoms associated with primary versus secondary headache.		1	2	3	4	5
Objective 5.3. Compare the therapeutic options, both pharmacologic and non-pharmacologic, for treatment of migraine and tension headaches in children. Include mechanism of action, effectiveness, side effects, and costs.		1	2	3	4	5
Objective 5.4. Identify the indicators for radiologic imaging (CT or MRI) in a patient with headaches.		1	2	3	4	5
Objective 5.5. Identify the indicators for a neurology consult or referral in a child with headaches.		1	2	3	4	5
Objective 5.6. Counsel families about strategies for helping children with headaches of possible psychosomatic or psychosocial origin.		1	2	3	4	5

<b>GOAL 6: For these common conditions, demonstrate by discussion or patient care, competency at identification, initial management by a primary care physician, and understanding of how the pediatric neurologist might further assess and manage.</b>						
a. Acute encephalopathy such as that caused by metabolic disturbances, lead ingestion, hypertension, anoxia, or drug/toxin overdose or ingestion		1	2	3	4	5
b. Attention problems including ADHD		1	2	3	4	5
c. Bacterial meningitis		1	2	3	4	5
d. Cerebral palsy initial evaluation and follow-up		1	2	3	4	5
e. Closed head trauma and simple linear skull fractures without evidence of concussion		1	2	3	4	5
f. Neurocutaneous syndromes		1	2	3	4	5
g. Stroke		1	2	3	4	5
h. Tics		1	2	3	4	5
i. Transient neurological disturbances due to drug ingestions (e.g., antihistamines, benzodiazepams)		1	2	3	4	5
j. Viral meningitis		1	2	3	4	5

<b>GOAL 7: Neurological Pharmacology. Understand the indications for the use, side effects, and mode of action of commonly used neurological drugs.</b>						
Objective 7.1. Compare and contrast the indications, contraindications, side effects and common drug interactions of the most commonly used neurological drugs.		1	2	3	4	5
Objective 7.2. For each neurological drug, describe the laboratory tests needed to follow drug therapy, side effects and drug interactions.		1	2	3	4	5
Objective 7.3. Describe the effect on the CNS of other commonly used drugs with known CNS action, including: antihistamines, antidepressants, stimulants for attention deficit disorder, over-the-counter cold preparations, and tranquilizers.		1	2	3	4	5

<b>GOAL 8: Diagnostic procedures.</b> Describe the following tests or procedures, including how they work and when they should be used; competently perform those commonly used by the pediatrician in practice.						
a. Developmental screening tests		1	2	3	4	5
b. Electroencephalogram (EEG)		1	2	3	4	5
c. Electromyography (EMG), Nerve conduction velocity (NCV)		1	2	3	4	5
d. Lumbar puncture		1	2	3	4	5
e.		1	2	3	4	5
f. Radiologic interpretation: CT of head		1	2	3	4	5
g. Radiologic interpretation: MRI of head		1	2	3	4	5

<b>GOAL 9: Understand the specialty of Child Neurology</b>						
Objective 9.1. Identify the role and scope of practice of neurology; recognize situations where children benefit from the skills of specialists trained in the care of children; and learn how to work effectively with neurologists to care for children with neurologic disorders.		1	2	3	4	5
Objective 9.2. Identify the roles of other specialists (e.g., neurosurgery, rehabilitative medicine, psychology, psychiatry and neuropsychology) necessary for optimal treatment of children with neurological disorders.		1	2	3	4	5
Objective 9.3. Identify the training and certification processes needed to become a child neurologist.		1	2	3	4	5


<b>Systems-Based Practice</b>						
1.	For patients seen on this rotation, how do different models of healthcare financing impact access to and delivery of care.		1	2	3	4 5
2.	Relative to this rotation, determine how much one diagnostic procedure or treatment costs and determine if/how this is covered by most 3 <sup>rd</sup> -party insurances and Medicaid.		1	2	3	4 5
3.			1	2	3	4 5
4.	Describe strategies you observed on this rotation that demonstrate inter-professional coordination of care; and/or recommend additional strategies which might be implemented to improve care.		1	2	3	4 5
5.	Related to clinical conditions you encountered on this rotation, discuss ways in which pediatricians can advocate for the promotion of health and the prevention of disease or injury in <i>populations</i> .		1	2	3	4 5

<b>Practice Based Learning and Improvement</b>						
1.	During this rotation, what resources did you learn about and/or practice using that you might use again?		1	2	3	4 5
2.	During this rotation, what did you read that helped you with your learning?		1	2	3	4 5
3.	Consider how what you have learned on this rotation impacts your own practice in your Continuity Practice.		1	2	3	4 5

<b>Section 5: PROFESSIONALISM</b>		
Throughout this rotation, demonstrate professionalism by showing the following CHARACTER attributes:		✓ Check here which ones you demonstrated during the rotation*
1.	Compassion (empathy; awareness of other's feelings and experiences)	
2.	Honesty (truthfulness, including admission of mistakes)	
3.	Altruism (unselfish concern for the welfare of others)	
4.	Responsibility (for conduct, work obligations, and self-improvement)	
5.	Aiming for excellence (in self, others, and the system of healthcare)	
6.	Confidentiality	
7.	Team Player	
8.	Ethical approach	
9.	Respect to patients/families, colleagues, team members and faculty (including respect and sensitivity for diversity)	
<b>Comments or examples:</b>		

\*note: not demonstrating this during the rotation does not mean that you do not possess these qualities. It just means that it is not likely that your faculty would have seen observable behaviors on which to evaluate this aspect of professionalism.

<b>Section 6: Personal Learning Goals or Targets</b> (we provide 5 boxes, but you can decide how many targets you want to identify )		
At the <b>BEGINNING</b> of the rotation, design your personal learning goals - what to you really want to focus on during this rotation	At the <b>END</b> of the rotation, self-assess your competency on each of goals.	POST-ROTATION 1 not met 2 met partially 3 accomplished
		1 2 3
		1 2 3
		1 2 3
		1 2 3
		1 2 3

<b>Section 7: Resident-Faculty Agreement</b>	
	<p>It is expected that <b>Resident and Faculty will meet</b> at the <b>beginning of the rotation</b> to review expectations and learning goals and again at the <b>end of the rotation</b> to review learning accomplishments and competencies.</p> <p>The Resident is expected to submit on-line confirmation of these two meetings:  <a href="http://www.utmb.edu/pedi_ed/CURRICULUM/CurriculumReviewConfirmation.asp">http://www.utmb.edu/pedi_ed/CURRICULUM/CurriculumReviewConfirmation.asp</a></p>

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For electronic version of this document, go to Pediatric Dept. Education website or contact V. Niebuhr.