

# CHILD NEUROLOGY PROGRAM HANDBOOK AND POLICY MANUAL 2020-2021

## Program Personnel and Contact Information

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## Faculty Listing and Clinical/Research Interests

<b><u>Faculty</u></b>	<b><u>Clinical / Research Interests</u></b>
<b>Jennifer Armstrong, MD</b> Assistant Professor of Pediatrics	Pediatric stroke
<b>Megan Barry, DO</b> Assistant Professor of Pediatrics	Stroke
<b>Joshua Bear, MD</b> Assistant Professor of Pediatrics and Neurology	Research: MEG
<b>Timothy A. Benke, MD, PhD</b> Associate Professor of Pediatrics, Neurology and Pharmacology	Synaptic development, neonatal seizures
<b>Timothy Bernard, MD</b> Associate Professor of Pediatrics, Neurology	Pediatric Stroke
<b>John Binder, MD</b> <b>Residency Associate Program Director</b> Assistant Professor of Pediatrics	
<b>Richard Boada, PhD</b> Assistant Professor of Pediatrics Clinical Neuropsychologist	Stroke
<b>Mario Coleman</b> Assistant Professor of Pediatrics	

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<b>Kathleen Curry</b> Associate Professor of Pediatrics	
<b>Scott Demarest, MD</b> Assistant Professor of Pediatrics	Neurogenetics
<b>Andra Dingman, MD</b> Assistant Professor of Pediatrics and Neurology	Neonatal
<b>Elizabeth Dubow, MD</b> Assistant Professor of Pediatrics	
<b>Krista Eschbach, MD</b> <b>Residency Associate Program Director</b> Assistant Professor of Pediatrics and Neurology	
<b>Jennifer Hranilovich, MD</b> Assistant Professor of Pediatrics and Neurology	Headache Disorders
<b>Joanne Janas, MD</b> Associate Professor of Pediatrics and Neurology	Neuromuscular Disorders
<b>Jennifer Janusz, PsyD</b> Assistant Professor of Pediatrics Clinical Neuropsychologist	Neurodegenerative disorders, Neurofibromatosis
<b>Charuta Joshi, MD</b> Professor of Pediatric Neurology	Program Director Pediatric Epilepsy Fellowship
<b>Kelly Knupp, MD</b> Assistant Professor of Pediatrics and Neurology	Epilepsy
<b>Susan Koh, MD</b> Associate Professor of Pediatrics Director – Epilepsy Unit	Epilepsy
<b>Timothy Luebbert, MD</b> Assistant Professor of Pediatrics	
<b>Jan Martin, MD</b> <b>Residency Program Director</b> Assistant Professor of Pediatrics	Associate Director, Pediatric Neurology
<b>Ricka Messer, MD</b> Assistant Professor of Pediatrics	
<b>Bradford R. Miller, MD</b> Professor of Pediatrics and Neurology	
<b>Padmini Palat, MD</b> Medical Student Clerkship Director	
<b>Kristen Park, MD</b> Associate Professor of Pediatrics and Neurology	Epilepsy
<b>Julie A. Parsons, MD</b> Professor Pediatrics & Neurology	Muscle disorders, Medical Education
<b>Pinar Polat, MD</b> Assistant Professor of Pediatrics	
<b>Teri Schreiner, MD</b> Associate Director -Adult Neurology Residency	MS
<b>Elizabeth Troy, MD</b> Assistant Professor of Pediatrics	
<b>Diana Walleigh, MD</b> Assistant Professor of Pediatrics	
<b>Greta N. Wilkening, PsyD</b> Associate Professor of Pediatrics; Director, Neuropsychology; Clinical Neuropsychologist	Memory disorders in children with brain disorders

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<b>Andy White, MD</b> Assistant Professor of Pediatrics and Neurology	
<b>Melissa Wright, MD, PhD</b> Assistant Professor of Pediatrics and Neurology	Neuromuscular Disease
<b>Michele Yang, MD</b> Senior Instructor of Pediatrics and Neurology	Neuromuscular Disease
<b>Marcy Yonker, MD</b> Professor of Pediatrics	

## Program Aims

- Train residents to provide world class neurological pediatric care to our patients
- Produce residents that enhance the program's goal toward facilitating scholarly investigations in the areas of basic science, clinical science, educational and quality improvement research.
- Promote the personal and professional growth of the residents through mentorship, acknowledgment and promotion of work-life balance, and a supportive and challenging learning environment.
- Provide multiple avenues for communication with the residency and department leadership and create a process for ongoing self-improvement as our program changes over time.
- Promote the health and wellbeing of residents throughout their training.
- Foster a culture of diversity and inclusion among our faculty, residents, staff, and patients.

## Program Curriculum

### General Principles and Program Structure

The program is set up to complete the length of training in child neurology as required by the American Board of Psychiatry and Neurology and the ACGME:

- One year must be adult clinical neurology
- One year must be clinical child neurology with a minimum of 4 months' outpatient experience
- Participation in a Resident longitudinal/continuity clinic at least one half day weekly is required throughout the program.
- One year is referred to as "flexible" and the resident must learn "principles of neuropathology, neuroradiology, neuro-ophthalmology, psychiatry, rehabilitation, neurological surgery, neurodevelopment, and the basic sciences.

The curriculum is established to provide a framework to meet these goals. Patient care responsibilities are meant to ensure a balance between patient care and education that achieves for the trainee an optimal educational experience consistent with the best medical care. Patient care responsibilities include inpatient, outpatient, critical care and consultation experiences.

Teaching is provided by the program director and teaching staff. Teaching staff are certified by the ABPN with special qualification in child neurology and have diverse interests and skills to meet the broad needs to provide the breadth of teaching necessary. The teaching staff actively pursues scholarly activities in the neurosciences and encourages residents to do the same. An **Education Committee** comprised of the teaching staff and at least one of the child neurology residents

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regularly (bi-annually) reviews various aspects of the training program as well as materials in this manual.

There is always a designated member of the teaching staff available to assume the responsibilities of the day-to-day activities of the program. Clinical teaching rounds are at least 5 days per week. The teaching staff regularly discusses the program's progress, effectiveness and use of resources at faculty meetings. Resident participation on an annual basis at these meetings is encouraged.

Other faculty available for teaching includes those with expertise in neuropsychology, child psychiatry, neuro-oncology, neuroradiology, neuropathology, neurosurgery, genetics, child development, epilepsy, movement disorders, critical care, neuro-ophthalmology, metabolic disease, neuroimmunology, infectious diseases, neuromuscular diseases, rehabilitation, clinical neurophysiology palliative care and pain management. All Goals and Objectives can be found in Appendix 2.

**1st  
Year**

**PGY 3**

Per the adult neurology 1<sup>st</sup> year core. Typically:

7 blocks: Adult Neurology inpatient ward service at University Hospital & Denver Health Medical Center; Night Float schedule at University Hospital. Call schedule typically every 4th night in house at Denver Health Medical Center

2 blocks: Adult Neurology ambulatory services at University Hospital

2 blocks: adult electives in Neuromuscular and Neurophysiology

*1 block: Inpatient & emergency consult service at Children's Hospital Colorado*

*1 block: Dedicated research elective at Children's Hospital Colorado*

Continuity Clinic in Child Neurology at CHC; one-half day weekly, mandatory attendance

**2nd  
Year**

**PGY 4**

4 blocks: Child Neurology inpatient & emergency consult service

4 blocks: Core Electives (neurophysiology [2 in years 4/5], neuroradiology [2 in years 4/5], neuro-oncology [1 in years 4/5])

2 blocks: Rotating clinics (child neurology, genetics, rehabilitation, neuromuscular, development, psychiatry, metabolic disease)

2 blocks: Electives (research or outpatient clinical)

*1 block: Adult elective in Pathology/Anatomy*

Continuity clinic in Child Neurology at CHC; one-half day weekly, mandatory attendance

**3rd  
Year**

**PGY 5**

3 blocks: Child Neurology inpatient & emergency consult service

1 block: Core Electives (neuroradiology [2 in years 4/5], neuro-oncology [1 in years 4/5])

3 blocks: Rotating clinics (child neurology, genetics, rehabilitation, neuromuscular, development, psychiatry)

1 month: Inpatient Psychiatry (3 weeks) & COPIC- Risk Management (1 week)

4 blocks: Electives (research, outpatient/inpatient clinical)

*1 block: Adult Outpatient*

Continuity clinic in Child Neurology at CHC; one-half day weekly, mandatory attendance

Above is structured to meet the Residency Review Committee (RRC) requirements. RRC requirements note:

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At least 12 FTE months of adult neurology that do not need to be contiguous, including: <sup>(Core)</sup>

- six months on inpatient rotations (an inpatient rotation is defined as one that requires more than 50 percent of time spent managing patients admitted to an inpatient service requiring neurologic care (Detail))
- three months of outpatient clinical adult neurology (an outpatient rotation is defined as any rotation that requires more than 50 percent of time spent managing patients in an outpatient clinic setting); and, (Core)
- three months of elective adult neurology clinical experiences. Rotations on subspecialty areas of neurology, including neuroradiology, neuropathology, and neurophysiology, may be counted toward this requirement. <sup>(Detail)</sup>

At least 12 FTE months of clinical child neurology; <sup>(Core)</sup>

- This must include at least four FTE months of outpatient experience. <sup>(Core)</sup>
- at least a one-month FTE experience under the supervision of a qualified child and adolescent psychiatrist; (Core)
- a minimum of three months' elective time with assignments that accommodate individual resident interests and previous education; <sup>(Detail)</sup>
- management responsibility for hospitalized patients with neurological disorders, including pediatric patients with acute neurological disorders, in an intensive care unit and in an emergency department; <sup>(Detail)</sup>
- experience in the evaluation and management of patients with disorders of the nervous system requiring surgical management; and, <sup>(Detail)</sup>
- assignment on a consultation service to the medical, surgical, and psychiatric services. <sup>(Detail)</sup>
- Residents must attend a longitudinal/continuity clinic at least one half-day weekly throughout the duration of the program. (Core)

**Program Specifics for PGY 3-5:**

Continuity clinic will be attended weekly for ½ day throughout the 3 years of the program. This is mandatory. Certain program requirements are (partially) met through documented attendance at lectures. This includes basic science teaching, bioethics, palliative care, neuroradiology, neurosurgery, neuro-oncology, neuro-ophthalmology, psychiatry, neurodevelopment, rehabilitation, neuropsychology and neurophysiology

*In ACGME block diagram form:*

BLOCK ROTATIONS – Program Year 1 (PGY3)

Block 1	Block 2	Block 3	Block 4	Block 5	Block 6	Block 7	Block 8	Block 9	Block 10	Block 11	Block 12	Block 13
Adult IP Neurology UCH	Adult IP Neurology UCH	Adult IP Neurology UCH	Adult IP Neurology UCH	Adult IP Neurology UCH	Adult OP Neurology DHMC	Adult OP Neurology DHMC	Adult IP Neurology DHMC	Adult OP Neurology Elective	Adult OP Neurology Elective	CHCO Inpatient	CHCO Inpatient	CHCO Research

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LONGITUDINAL EXPERIENCES - Program Year 1

Type Of Experience*	Weekly Structured	Number Of Weeks	Amount Of Time (FTE)
Child Neurology Continuity Clinic (CHC)	½ day each week	44 per year	24

**Program Specifics PG3:**

Details of the adult program are more closely detailed in the adult program training manual

Specific knowledge base gained: Diagnosis and management of inpatient and outpatient emergent, acute and chronic neurological disorders in adults.

Specific techniques learned: Use of the history and physical examination to diagnose and treat inpatient and outpatient emergent, acute and chronic neurological disorders in adults.

Assessment of competence: Direct observation by faculty including final written assessment at the end of the rotation.

During the adult year, residents will be trained on how to recognize and treat neurological disorders in adults. This training, supervised and detailed in the adult training manual, provides an opportunity to elicit by history and physical examination neuropathology in mature patients.

BLOCK ROTATIONS - Program Year 2 (PGY4)

Block 1	Block 2	Block 3	Block 4	Block 5	Block 6	Block 7	Block 8	Block 9	Block 10	Block 11	Block 12	Block 13
CHC Inpatient Service	CHC Inpatient Service	CHC Inpatient Service	CHC Inpatient Service	CHC Neuro-radiology	CHC Neuro-physiology	CHC Neuro-physiology	CHC Neuro-oncology	CHC Outpatient Service/ Rotating Clinics	CHC Outpatient Service/ Rotating Clinics	Elective-Research or Community or Multi-specialty Clinics	Elective-Research or Community or Multi-specialty Clinics	<i>Adult Elective: Neuro-pathology</i>

LONGITUDINAL EXPERIENCES – Program Year 2

Type Of Experience*	Weekly Structured	Number Of Weeks
Child Neurology Continuity Clinic (CHC)	½ day each week	44 per year
Child Developmental Disorders and Behaviors clinic (CHC)	½ day each week during outpatient months	6
Genetics clinic & Metabolic (CHC)	½ day each week during outpatient months	6
Rehabilitation/MDA clinic (CHC)	1 day each week during outpatient months	6

BLOCK ROTATIONS - Program Year 3 (PGY5)

Block 1	Block 2	Block 3	Block 4	Block 5	Block 6	Block 7	Block 8	Block 9	Block 10	Block 11	Block 12	Block 13
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CHC Inpatient Service	CHC Inpatient Service	CHC Inpatient Service	CHC Neuro-radiology	Inpatient Psychiatry /COPIC	CHC OP Service/ Rotating Clinics	CHC OP Service/ Rotating Clinics	CHC OP Service/ Rotating Clinics	Elective-Research or Community or Multi-specialty Clinics	Elective-Research or Community or Multi-specialty Clinics	Elective-Research or Community or Multi-specialty Clinics	Elective-Research or Community or Multi-specialty Clinics	<i>Adult Neurology UCH subspecialty clinics</i>
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LONGITUDINAL EXPERIENCES - Program Year 3

Type Of Experience*	Weekly Structured	Number Of Weeks
Child Neurology Continuity Clinic (CHC)	½ day each week	42 per year
Child Developmental Disorders and Behaviors clinic (CHC)	½ day every other week during outpatient months	8
Genetics clinic (CHC)	½ day each week during outpatient months	8
Rehabilitation/MDA clinic (CHC)	1 day each week during outpatient months	8

**Program Specifics:**

Electives are approved and discussed with the program director at least 1 month prior to the beginning of the rotation to ensure that an outline of the specific knowledge gained, techniques learned, and assessment strategies are in place. These can include basic or clinical science **research training**, epilepsy, neuromuscular, genetics, neurovascular/stroke, physical medicine, epidemiology, neuro-immunology, neuro-ophthalmology, neurosurgery, neuroradiology, neuro-oncology, neuropsychology and neurodevelopment.

Specific knowledge gained, techniques learned, and assessment will depend on each rotation and will be determined prior to each rotation. Typically, assessment will be undertaken by the use of a written evaluation performed by the faculty person primarily involved in mentoring the resident for the rotation; clinical rotations will assess the 6 core ACGME competencies in regard to the specific rotation.

## Program Manual Statement

The training program complies with Accreditation Council for Graduate Medical Education (ACGME) and CUSOM Graduate Medical Education (GME) policies, procedures and processes that are available on the [GME website](#). In addition, direct access is available by clicking the hyperlinks below. The program reviews all GME and program policies, procedures and processes at least annually with residents/fellows.

**GME Policies**

**[Additional Pay for Additional Work Policy](#)**

- [Additional Pay for Additional Work Form](#)  
**(MedHub → GME Resources and Documents → Finance Forms)**

**[Concern/Complaint Policy](#)**

**[Remediation and Disciplinary Action Policy](#)**

**[Clinical & Educational Work Hours Policy](#)**

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[Eligibility and Selection Policy](#)

[Evaluation and Promotion Policy](#)

[Grievance Policy](#)

[International Residency Rotations Policy](#)

[Leave Policy](#)

[Medical Records Policy](#)

[Moonlighting Policy](#)

- [Moonlighting Approval Form](#)

(MedHub → GME Resources and Documents → Finance Forms)

[Non-Compete Policy](#)

[Physician Well-Being & Impairment Policy](#)

[Prescriptions: Residents Writing for Staff, Family & Friends Policy](#)

[Professionalism Policy](#)

[Quality Improvement and Patient Safety Policy](#)

[Supervision Policy](#)

[Transitions of Care \(Structured Patient Hand-off\) Policy](#)

[USMLE, COMLEX, & LLMC Examinations Policy](#)

[Work and Learning Environment Policy](#)

**Key University of Colorado Policies**

[Disability Accommodation Policy](#)

[HIPAA Compliance](#)

[Sexual Misconduct Policy](#)



## **PROGRAM-SPECIFIC POLICIES**

### **Clinical and Educational Work Hours Policy**

#### **Clinical and Educational Work Hours Policy**

The Child Neurology Residency program complies with the ACGME Common and *specialty-specific* Requirements.

### **Concern/Complaint Policy**

#### **Concern/Complaint Policy**

To ensure that Residents have a mechanism through which to express concerns and complaints.

Note: For purposes of this policy, a complaint should involve issues relating to personnel, patient care and program or hospital training environment matters.

#### **Policy:**

The University of Colorado School of Medicine and Affiliated Hospitals encourage the participation of residents in decisions involving educational processes and the learning environment. Such participation should occur in formal and informal interactions with peers, faculty and attending staff.

Efforts should be undertaken to resolve questions, problems and misunderstandings as soon as they may arise. Residents are encouraged to initiate discussions with appropriate parties for the purpose of resolving issues in an informal and expeditious manner.

With respect to formal processes designated to address issues deemed as complaints under the provisions of this policy, each program must have an internal process, known to Residents, through which Residents may address concerns. The Program Director should be designated as the first point of contact for this process.

If the Resident is not satisfied with the program level resolution, the individual should discuss the matter with the Chair or Division Chief or Section Chief. If no solution is achieved, the Resident may seek assistance from the Graduate Medical Education (GME) Designated Institutional Official (DIO).

1. GME DIO should be consulted. [Carol.rumack@cuanschutz.edu](mailto:Carol.rumack@cuanschutz.edu) or 303-724-6027 (by phone is best for confidential reporting)
2. Housestaff Association (303-724-3039)
3. CUSOM Office of Professional Excellence (303-724-7854)

In addition to complying with the GME [Concern/Complaint Policy](#), the Child Neurology Residency program's policies and procedures are:

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The following options and resources are available and communicated to residents, fellows, and faculty annually:

**Step One**

Discuss the concern or complaint to the program's Chief Resident, Service Director, Associate Program Director and/or Program Director, or Program Coordinator as appropriate.

**Step Two**

If the concern or complaint involves the Program Director and/or cannot be addressed in option one, residents and fellows have the option of discussing issues with the section heads, division chiefs, internal program ombudsperson and department chairs as appropriate.

**Step Three**

If residents are not able to resolve their concerns or complaints within the program, they may contact the GME Designated Institutional Official (DIO) via one of the following:

- Confidential email - [gme@ucdenver.edu](mailto:gme@ucdenver.edu)
- Anonymous Reporting Form on the GME website:  
<http://www.ucdenver.edu/academics/colleges/medicalschoo/education/graduatemedicaleducation/concerns/Pages/form.aspx>
- GME Confidential Hotline at 303-724-5918

**Ombudsman (Ombudsfolk) Role**

Goal of role:

The role of ombudsfolk is to provide an additional pathway for residents in pediatric neurology to explore next steps and/or to seek advice about how to escalate ethical, safety and interpersonal concerns. Ombudsfolk act as a nonbiased resource to provide a safe and confidential means for pediatric neurology residents and residents rotating in pediatric neurology to voice and discuss concerns. They can suggest options for resolving those concerns.

Background:

There are many pathways for residents to explore and escalate concerns. The paths are not hierarchical and do not need to be followed in a linear fashion. First line resources to explore or escalate concerns include: faculty supervising a case, Chief Residents, Pediatric Neurology Residency Associate Program Director or Program Director (as well as neurology and pediatrics directors), Pediatric Neurology Program Coordinators, Quality and Safety leadership at Children's Hospital Colorado, and ethics team through Children's Hospital Colorado.

If the first line options are not successful or desirable, other options include: Pediatric Neurology Medical Director or Section Chief, and School of Medicine ombudsperson.

Ombudsfolk can assist with these discussions as a coach, mediator or advisor. For example, a resident might meet with an ombudsfolk to explore the options for escalating concerns, practice a difficult discussion prior to embarking on a crucial conversation, use an ombudsfolk as a mediator, or if they are uncomfortable with their options, strategize an alternative approach.

If residents are not able to resolve their concerns within resources available on Anschutz Campus, they may contact the Graduate Medical Education (GME) Designated Institutional Official (DIO) via one of the following:

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- Confidential email - [gme@ucdenver.edu](mailto:gme@ucdenver.edu)
- Anonymous Reporting Form on the GME website:  
<http://www.ucdenver.edu/academics/colleges/medicalschoo/education/graduatemedicaleducation/concerns/Pages/form.aspx>
- GME Confidential Hotline at 303-724-5918

The scope of the position:

For all pediatric neurology residents in their neurology years, or residents rotating in pediatric neurology.

This role does not include other types of learners, such as medical students or advanced practice providers.

Qualifications:

Faculty with the U C School of Medicine working in the section of Pediatric Neurology. Preferably faculty who interact with the pediatric neurology residents enough that they are familiar to the residents.

Selection and Timeline

- volunteer position
- two simultaneous positions without hierarchy
- not part of a formal reporting structure
- no funding attached for salary support or for time spent
- Pediatric Neurology Residency Director and Chiefs identify and invites candidates
- Two-year position, staggered by one year from July to June.

Duties:

In the course of patient care, residents might encounter situations that concern them from a medical, safety, personal or ethical standpoint. Ombudsfolk's main role is to actively listen to matters brought to them. They will not act on any of the information unless given permission to do so by the resident, with the exception of imminent concern for the safety of the individual or another person. Unless specifically waived, the ombudsfolk will keep the resident identity confidential. If requested, the Ombudsfolk may inquire about a specific policy or procedure, discuss the issue with other individuals directly involved with the problem, assist the resident in evaluating options, and offer to mediate if necessary. Not all conversations need to lead to additional action.

In addition, they will:

- be familiar with the resources listed under "related positions and resources"
- attend resident meeting twice a year as invited and arranged by the pediatric neurology education program coordinator
- orient incoming ombudsfolk
- review this role description annually
  - with input from residents about what worked and lessons learned
  - with role alignment to UCSOM and department of neurology
- maintain confidentiality

Training:

The Pediatric Neurology Residency Program Coordinator and Director/Associate Director are responsible to identify and provide resources for suggested training in keeping with ACGME guidelines.

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Related positions and resources:

- ACGME guidelines
- U Colorado School Ombuds office Anschutz campus <https://www1.ucdenver.edu/offices/ombudsoffice>
- U Colorado department of neurology Vice Chair of Education
- U Colorado Pediatrics training program  
<http://www.ucdenver.edu/academics/colleges/medicalschoo/departments/pediatrics/meded/residency/Pages/PediatricResidencyProgram.aspx>
- Quality and Safety department at Children's Hospital Colorado  
<https://info.childrenscolorado.org/dept/home/QPS/Pages/default.aspx>

## Eligibility and Selection Policy

### Eligibility and Selection Policy

In addition to complying with GME [Eligibility and Selection Policy](#), the Child Neurology Residency program's policies and procedures are:

The Pediatric Neurology Residency Program participates in the National Residency Matching Program (NRMP) and is currently approved to accept three trainees per year

1. Each applicant must:
  - a. be a graduate of an LCME (Liaison Committee on Medical Education) accredited medical school, or
  - b. be a graduate of an AOA (American Osteopathic Association) accredited college of osteopathic medicine, or
  - c. be an international medical graduate who holds a valid ECFMG (Education Commission for Foreign Medical Graduates) certificate, or
  - d. have a full, unrestricted license to practice medicine in a US licensing jurisdiction, or
  - e. have completed a fifth pathway program provided by a LCME-accredited medical school
2. The University of Colorado School Of Medicine (UCSOM) recognizes that Housestaff enrolled in UCSOM programs are trainees, not employees. As such, applicants must also be able to meet the conditions of the UCSOM House officer Training Agreement. Specifically, each Housestaff must meet the following criteria:  
Residents in our program must be a U. S. Citizen, lawful permanent resident, refugee, asylee, or possess the appropriate documentation to allow Resident to legally train at the University Of Colorado Denver School Of Medicine. (Canadian citizens must receive a letter from their province stating the province's willingness to allow the resident to obtain a job in Neurology in Canada upon completion of Neurology residency training in the USA.)
3. Applicants must have documented strong interest in Neurology, as judged by statement, prior training, or research experience.
4. Applicants must have passed USMLE Parts I and II, or the equivalent, with a minimum average score on both tests that is typically between 200 and 220.

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Satisfactory results on Part III must be submitted to the department prior to beginning PGY3.

5. Excellent references are required from a minimum of three physicians or researchers with whom the applicant has worked on a regular basis for at least one month. For individuals who have had prior training in another residency program, this must include a letter from the previous program director.
6. For individuals who have had prior training in another training program, successful completion of that year (or years) of the program, and receipt of certification, are required.
7. Applicants must have a Dean's letter or equivalent, and documented grades from medical school. Graduation in the top 2/3 of the class is preferred.
8. Applicants must have the ability to hear, understand, speak, read, and write the English language, including English medical jargon, exceeding conversational level. Visually and hearing impaired applicants will be considered based on GME policy, the requirements of the program, the availability of resources and federal requirements.
9. Applicants must have the ability to comprehend and utilize computer software typically used in a USA hospital setting.
10. Continuous medical treatment of patients, with lapses not to exceed three years, must be documented (exceptions may be made for pregnancy and related child-care activities, or for obtaining a PhD). Patient treatment may include medical school and/or prior residency training.
11. Prerequisite training outlined as follows which can be initiated following one of three options:
  - a. 2 years of residency training in pediatrics in the United States or Canada;
  - b. one PG-1 year (as described in the Program Requirements for Residency Education in Neurology, Section I.A.1) and 1 year of residency training in pediatrics; or
  - c. 1 year of pediatrics plus 1 year of basic neuroscience training. The program director must review and determine the acceptability of these initial 2 years of training.

## **Evaluation and Promotion Policy**

### **Evaluation and Promotion Policy**

#### **Criteria for Promotion & Graduation**

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In addition to complying with the GME [Evaluation and Promotion Policy](#), the Child Neurology Residency program's policies and procedures are:

**Evaluation of Residents**

Residents are given an assessment of competence using ACGME competencies, evaluations by multiple evaluators, and documented progressive resident performance improvement appropriate to educational level.

The Program Director meets each resident for a formal **semi-annual evaluation** meeting which includes incorporation of quarterly reviews. The Program Director reviews the past 3-month block rotation evaluation, case logs, duty hours, research projects, quality and patient safety projects, the residents individual learning plan (self-evaluation) and fatigue/wellness are discussed. Residents are also required to complete a self-evaluation which is sent annually through Medhub.

Supervising **faculty evaluates** the resident's performance in a timely manner during each rotation, and documents the evaluation at the completion of the assignment using the GME residency management system. Faculty are sent an email reminder everyday they are delinquent with their evaluations. The program gives up to 10 days after the due date for faculty to complete the resident evaluation. If the evaluation is not completed in a timely manner, the Program Director will meet with the faculty immediately to find out if there are issues regarding completion.

The program uses **multi-source evaluations** by the nurses, patients and administrative teams to also evaluate the residents. These evaluations are obtained semi-annually.

A **summative evaluation** for each resident completing the program is conducted and documented by the Program Director.

**Evaluation of Faculty:**

Faculty are evaluated annually by the department chair and program. The faculty evaluation includes summarized written confidential evaluations completed by the residents after every rotation block. Resident evaluations are de-identified and accrued for at least six months to preserve confidentiality.

**Evaluation of Program:**

The residents and faculty evaluate the program confidentially using the residency management system annually. The residents and faculty meet yearly to evaluate the overall program which includes a systemic review of the above, the curriculum, faculty development and graduate performance. An **annual program improvement plan** is created with input from the faculty and residents.

Residents are always encouraged to provide feedback of the program. Residents are provided an opportunity to evaluate the residency program formally on an annual basis and to evaluate all faculty bi-annually. Evaluations are kept with the programs records. Resident concerns are discussed at the monthly faculty meetings of the teaching staff. Resident participation in these meetings when confidential matters are not being discussed is encouraged.

The Training Director serves as the primary contact and means of resolving any problem issues as they arise.

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See Appendix 1 for sample evaluations forms.

**Program Advancement/Promotion**

- 1) Proof of successful completion of USMLE Parts I, II, and III must be submitted to the Program Director and Coordinator prior to the beginning of PGY3.
- 2) Satisfactory completion of curricular activities. Residents are instructed and evaluated with documentation by faculty in the following areas:
  - a) History taking
  - b) Organizing and recording data
  - c) Using the history and data to form a differential diagnosis and plan
- 3) Attendance at the rotating series, seminars, basic science and core lectures scheduled by the child and adult neurology program. Attendance will be monitored.
- 4) Attendance at the pediatrics neurology journal club. Attendance will be monitored.
- 5) Core required “electives”: 2 months of neuroradiology, 2 months of neurophysiology, 1 month of neuropathology, and 1 month of Neuro-Oncology (see *Outline of Program* above).
- 6) Attendance at weekly continuity clinic ½ day for full 3 years (see *Outline of Program* above).
- 7) One month FTE of outpatient psychiatry (see *Outline of Program* above).
- 8) Attendance at weekly neurosurgical/neuro-radiological/neuro-oncology case conferences to participate in the evaluation and management of neurosurgical diseases in children. Attendance will be monitored.
- 9) Regular participation in the rotating clinics: child neurology, genetics, metabolic, neuromuscular, rehabilitation and development (see *Outline of Program* above).
- 10) Attendance at weekly pediatric neurology conferences including EEG, electrophysiology, stroke, selected neurology topics of general interest and addressing bioethics, palliative care, pain relief, and cost-effective medical management. Attendance will be monitored.
- 11) Participation in teaching of other residents, medical students and allied health care personnel. Teaching will be evaluated by teaching staff.
- 12) Satisfactory professional and ethical behavior throughout the training program. These attitudes and behaviors are described in the UCDSOM House Staff Manual and the CHC Manual for Residents and Fellows.
- 13) Satisfactory performance on the residency in-service training exam.
- 14) Presentation of at least two M&M conferences during the residency
- 15) Successful completion of at least one scholarly activity, i.e., a poster, a research project, an original research paper, etc.

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16) Successful completion of the [ABPN exam requirements](#).

Residents are evaluated at least monthly by teaching faculty and these evaluations are placed in a confidential file that is accessible to the resident. Included in these evaluations are observations by teaching faculty of the resident's ability to obtain a patient history, examine patients of various ages, discuss the findings, assessment and plan with the patient and family and to counsel the patient and family effectively.

Residents are also evaluated by other members of the child neurology staff including nurses, technicians, and support staff, as well as by patients and families (see sample evaluation forms in Appendix 1).

Resident evaluations are viewed by the program director and are evaluated within a month of being completed. These are then initialed by the program director and the original sent to the resident while a copy is placed in the resident's permanent file. Any deficiencies or problems are identified and brought to the next monthly faculty meeting of the teaching staff which includes time for discussion of the residency program. Minutes of these meetings are kept on file with the residency program. Plans to address these deficiencies or problems are then brought to the resident's attention with a special meeting within the next month. A summary of the meeting is placed in the resident's permanent file.

Residents are formally evaluated semiannually by the program director, and are provided with written feedback regarding progress and attainment of objectives. Deficiencies are addressed if necessary. Residents are asked to sign the evaluations following any necessary corrections. The evaluations are then placed in their permanent files. Residents may append a written response to their evaluations. Residents are also evaluated formally at the end of the program. This final evaluation addresses and verifies the resident possesses sufficient professional ability to practice competently and independently.

Evaluations are kept with the resident's permanent record. This record is available for resident review.

## **Clinical Competency Committee**

The Child Neurology Residency **Clinical Competency Committee (CCC)**, is appointed by the program director and meets semi-annually, prior to the residents' semi-annual evaluations. The CCC reviews all resident evaluations, determines each resident's progress on achievement of the specialty-specific Milestones, and advises the program director regarding each resident's progress.

CCC Membership includes:

- Dr. Julie Parsons (Chair - core)
- Dr. Timothy Bernard (Program Director)
- Dr. Padmini Palat (Medical Clerkship Director - core)
- Dr. Scott Demarest (Research Mentor - core)
- Dr. Jan Martin (Neurohospitalist - core)



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- Dr. Karen Orjuela (Adult Program)

Any additional members must be faculty members from the same program or other programs, or other health professionals who have extensive contact and experience with the program's residents. Residents do not serve on the CCC.

The CCC follows the [GME Evaluations & Promotion policy](#). Sources of assessment data reviewed by the CCC include, but are not limited to:

- Multi-source evaluations (peers, staff, self, patient, students, faculty)
- End of Rotation Evaluations
- Procedural observations
- In-Training Exams
- Case Logs
- Conference attendance and participation
- Research and scholarly activity
- Quality Improvement and Patient Safety projects
- Compliance with duty hour requirements

The program director, or their designee, meets with the Resident semi-annually to review the CCC performance report, progress along the milestones, and case logs (if relevant), and designs a learning plan for the Resident to capitalize on their strengths and identify areas of growth. For residents failing to progress, the program director develops a plan according to the [Remediation and Disciplinary Action](#) policy. Minutes for the CCC will be taken and kept on file.

## Leave Policy

### Leave Policy

In addition to complying with the GME [Leave Policy](#), the Child Neurology Residency program's policies and procedures are:  
Per the ABPN (American Board of Psychiatry and Neurology) guidelines found [https://www.abpn.com/wp-content/uploads/2016/11/2017\\_Neurology\\_CERT\\_IFA.pdf](https://www.abpn.com/wp-content/uploads/2016/11/2017_Neurology_CERT_IFA.pdf) on page 5, "ABPN will allow the candidate to sit for Certification Examination provided all required training is completed and all ACGME requirements have been satisfied by September 30<sup>th</sup> in the year of the Certification Examination".

#### [Policy for Medical or Urgent Personal Appointments:](#)

1. Attempt to schedule in a time slot that has less active service time (later afternoon, or Wed afternoon)
2. If appointment is >24 hours away from current date,
  - o Email message Residency Program Coordinator, Residency Program Director and Associate Director with the 1.5-2-hour timeslot you

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- need covered (additional time may require PTO). You will need to let them know the general reason for the absence (medical appointment or other).
- The Coordinator, Associate Program Director, and Program Director will reach out to attendings, and determine if attendings/team are able to cover service (outpatient or inpatient during the appointment time)
  - If unable to find adequate attending/team coverage, the attending will contact Residency Program Coordinator, Director, or Associate Director to arrange for jepo coverage
3. If appointment is < 24 hours from the current date,
- Call ASC line (720-777-7575) for outpatient clinic service, and email the three
  - Send a text AND email to the Residency Program Coordinator, Residency Program Director and Associate Director with the 1.5-2 hour timeslot you need covered (additional time may require PTO). You will need to let them know the general reason for the absence (medical appointment or other).
  - The Coordinator, Associate Program Director, and Program Director will reach out to attendings, and determine if attendings/team are able to cover service (outpatient or inpatient during the appointment time)
  - If unable to find adequate attending/team coverage, the attending will contact Residency Program Coordinator, Director, or Associate Director to arrange for jepo coverage
4. Attendings on service or in clinic do not need to be informed of the reason for absence, leaving the decision for approval to the education team.

## **Physician Well-Being & Impairment Policy**

### **Physician Well-Being & Impairment Policy**

In addition to complying with the [GME Physician Well-Being & Impairment Policy](#), the Child Neurology Residency program's policies and procedures are:

Programs and policies are in place to encourage optimal resident and faculty member well-being. These programs and policies include: Peer resident coaches/mentors, and opt-out appointment to establish care with a licensed Psychiatrist. Residents are able to coordinate dental and physician appointments throughout the year during structured administrative time.

The program educates faculty members and residents in the identification of the symptoms of burnout, depression, and substance abuse, in themselves and others, including methods to assist those who experience these conditions by a Faculty

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wellness committee, Resident wellness program, 1-2 formal Faculty and resident wellness activities per year.

If another resident, fellow, or faculty member may be displaying signs of burnout, depression, substance abuse, suicidal ideation, or potential for violence, this must be reported to the Program Director or to Dr. Jan Martin (Associate Director), Dr. Carolyn Green (Program Ombudsman), Dr. Andra Dingman (Program Ombudsman), Adam Finney (Program Coordinator), Laura Konopka (Program Coordinator)

As of January 21, 2019, GME has contracted with psychiatry to provide 24/7 mental health crisis resources for any resident or fellow who may benefit from them:

The resident may call 303-724-4716 to schedule an appointment with Student and Resident Mental Health.

After hours/weekends: Reach the on-call psychiatry attending at **303-370-9127** for help with triage. The on-call clinician will return your call within 30 min.

If you cannot wait this long, err on the side of calling 911 and referring the resident to the UHealth ED. You can find additional resources on the GME home page at:

<http://www.ucdenver.edu/ACADEMICS/COLLEGES/MEDICALSCHOOL/EDUCATION/GRADUATEMEDICALEDUCATION/Pages/graduatemedicaleducation.aspx>

## Professionalism Policy

### Professionalism Policy

*The program complies with the [GME Professionalism Policy](#) and provides a professional, respectful, and civil environment that is free from mistreatment, abuse, or coercion of students, residents, faculty, and staff. Residents and faculty are educated regarding unprofessional behavior and are provided with a confidential process for reporting, investigating, and addressing such concerns.*

*The program director provides a culture of professionalism that supports patient safety and personal responsibility. Residents/Fellows and faculty members are educated on sleep deprivation and fatigue to ensure they understand the obligation to be appropriately rested and fit to provide the care required by patients. This is accomplished through an appropriate blend of supervised patient care responsibilities, clinical teaching, didactic educational events, and/or modules.*

### Monitoring Resident and Faculty Professionalism

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The program director monitors resident and faculty compliance with professional standards through direct observation on the floor service, observed patient encounters in the Hospital Discharge Clinic, Clinical Competency Committee, reverse Clinical Competency Committee, and 360 degree evaluations from peers, the nurses, MAs, and staff.

## Program Evaluation

### Program Evaluation Committee

The Child Neurology Residency **Program Evaluation Committee (PEC)** is appointed by the Program Director and conducts & documents the Annual Program Evaluation (APE) as part of the program's continuous improvement process. The PEC follows the [GME Evaluations & Promotion policy](#).

#### PEC Membership:

- Dr. Timothy Bernard (Chair - Program Director)
- Dr. Charuta Joshi (Pediatric Epilepsy Fellowship Program Director)
- Dr. Padmini Palat (Clerkship Director - core)
- Dr. Teri Schreiner (Associate PD)
- Dr. Scott Demarest (Chair of SOC - core)
- Dr. Doug Ney (Adult Neurology Program Director)
- Dr. Jan Martin (Associate Program Director - core)
- Jill Marks CPNP-AC (APP Representative)
- Dr. Dylan Brock (Current Resident, PGY 5)
- Dr. Matt Hiller (Current Resident, PGY 4)

#### PEC Responsibilities include, but are not limited to:

##### Acting as an advisor to the program director through

- Program oversight;
- Review of the program's self-determined goals and progress toward meeting them;
- Guiding ongoing program improvement, including development of new goals, based upon outcomes; and
- Review of the current operating environment to identify strengths, challenges, opportunities, and threats as related to the program's mission and aims.

##### At a minimum, the PEC considers the following elements in its assessment of the program:

- Curriculum
- Outcomes from prior Annual Program Evaluations
- ACGME letters of notification, including citations, Areas for Improvement, and comments
- Quality and safety of patient care

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Aggregate resident and faculty

- Well-being
- Recruitment and retention
- Workforce diversity
- Engagement in quality improvement and patient safety
- Scholarly activity
- ACGME Resident and Faculty Surveys
- Written evaluations of the program

Aggregate resident

- Achievement of the Milestones
- In-training examinations (where applicable)
- Board pass and certification rates
- Graduate performance

Aggregate faculty

- Evaluation
- Professional development

The PEC prepares an Action Plan (per GME Template) documenting initiatives to improve the program, as well as how the initiatives are monitored & measured. The APE Template serves as the minutes for the PEC. The annual review, including the action plan is distributed to and discussed with the members of the teaching faculty and the residents, and is submitted to the DIO.

## **Quality Improvement/Patient Safety Policy**

### **Quality Improvement and Patient Safety Policy**

In addition to complying with the GME [Quality Improvement and Patient Safety Policy](#), the Child Neurology Residency program's policies and procedures are:

Each resident is responsible for a quality improvement/patient safety project during their residency. The following QI/PS opportunities are underway within the Program:

- Participation in institutional Quality Management Committees
- Grand Rounds
- Patient Satisfaction Surveys
- Core Measures
- Utilization Management
- Elective Quality Improvement rotations (e.g., LEAN)
- Scholarly activity resulting in implementation of initiatives to improve patient quality and safety of care
- M&M conferences

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The Program also participates in Quality Improvement/Patient Safety Conferences (e.g., Morbidity and Mortality). Participants complete the prescribed Patient Safety/M&M/Occurrence Review Form if applicable to the institution.

The resident, along with faculty and relevant staff, helps to identify the quality improvement issue, develops a process to address the issue and then provides follow-up. The results are then presented to the department.

The program's activities aimed at reducing health care disparities include lectures and mentorship from Faculty

Faculty and residents are responsible for reporting patient safety events, including near misses at clinical sites by submitting QSRS reports through the Children's Hospital system.

## **Supervision Policy**

### **Supervision Policy**

In addition to complying with the [GME Supervision Policy](#), the Child Neurology Residency program's policies and procedures are:

#### **Program Supervision Policy**

Resident supervision during the adult year is outlined in the adult neurology core manual.

During the pediatric years, residents will continue to be directly supervised by teaching staff. During clinical working hours, all patients seen by the resident are to be staffed by the attending physician. After-hours, new inpatient, outside phone-calls and emergency room consultations are to be staffed with the attending physician. The timing of staffing depends on level of training and patient acuity. An attending physician who is a member of the teaching staff is available while on overnight call. Documentation of all calls is to be made for later inclusion in patient charting; inclusion in this documentation of staffing by attending is necessary.

#### **Process**

The program maintains current call schedules with accurate information enabling residents at all times to obtain timely access and support from a supervising faculty member.

The Program Director will ensure that all program policies relating to supervision are distributed to residents and faculty who supervise residents. A copy of the program policy on supervision is included in the official Program Manual and provided to each resident upon matriculation into the program.

### **Progressive Authority & Responsibility, Conditional Independence, Supervisory Role in Patient Care**

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The privilege of progressive authority and responsibility, conditional independence, and a supervisory role in patient care delegated to each resident is assigned by the program director and faculty members. The program director evaluates each resident's abilities based on specific criteria, guided by the Milestones. Faculty members functioning as supervising physicians delegate portions of care to residents based on the needs of the patient and the skills of each resident. Faculty supervision assignments are of sufficient duration to assess the knowledge and skills of each resident and to delegate to the resident the appropriate level of patient care authority and responsibility.

The privilege of progressive authority and responsibility, conditional independence, and a supervisory role in patient care delegated to each fellow must be assigned by the program director and faculty members.

The program director must evaluate each fellow's abilities based on specific criteria. When available, evaluation should be guided by specific national standards-based criteria.

Faculty members functioning as supervising physicians should delegate portions of care to fellows, based on the needs of the patient and the skills of the fellows.

Senior residents or fellows should serve in a supervisory role of junior residents in recognition of their progress toward independence, based on the needs of each patient and the skills of the individual resident or fellow.

**Guidelines for Circumstances and Events When Residents Must Communicate with the Supervising Attending**

**Critical Events Policy**

**A critical event is defined as:**

1. When a patient is transferred into the PICU or NICU
2. When a stroke is suspected or a stroke alert is called
3. Patient experiences or is suspected of experiencing a serious side effect to medication
4. When a patient dies
5. Legal threat made by a patient or family member towards a resident or institution
6. Suicidal threats, gestures and attempts
7. Injury of resident during work

**Residents whose patient experiences fall within these Critical Events shall:**

Event 1, 2, 3 and 6: Contact the patient's attending. The attending will help the resident determine appropriate next steps.

Event 4: Immediately call the patient's attending. Appropriate steps will be taken including meeting with the resident as soon as is possible.

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Event 5: Contact the attending. The attending and resident will determine next steps including whether legal representatives from the institution should be involved.

Event 7: Report to the program director and program coordinator as soon as possible, to determine appropriate next steps.

### **Clinical Responsibilities by PGY Levels for Supervision**

To promote appropriate resident supervision while providing for graded authority and responsibility, the program uses the following classification of supervision:

#### **Direct Supervision:**

The supervising physician is **physically present** with the resident during the key portions of the patient interaction;

#### **Indirect Supervision:**

The supervising physician is not providing physical or concurrent visual or audio supervision but is **immediately available** to the resident for guidance and is available to provide appropriate direct supervision.

#### **Oversight:**

The supervising physician is available to provide review of procedures/encounters with feedback provided after care is delivered.

### **When to communicate with the on-call attending overnight – resident guidelines**

Residents are encouraged to call attending in any situation where they need assistance with patient management. Residents will also document on every patient for whom advice is given and route to the attending (in addition to other appropriate parties).

At a minimum, Adult and PGY3 residents are expected to do the following:

- Resident and attending will touch base about any non-urgent calls/consults around **10 pm each night**
- Communicate all phone and in-person consults with the attending except:
  - Medication refills
- EEG findings overnight –
  - Discuss any EEGs with the attending prior to discharging patient or disconnecting EEG
  - Notify attending of any unexpected EEG findings (i.e. status epilepticus, new onset seizures) and discuss treatment plan
  - Discuss all new neonatal EEGs and EEGs performed on children with underlying intractable epilepsy with attending after hook-up

At a minimum, PGY4 and PGY5 residents are expected to do the following:

- Resident and attending will touch base about any non-urgent calls/consults around **10 pm each night**



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- Communicate with attending for:
  - In person full consult
  - Child discharging from CHCO or OSH ED
    - Exceptions include conditions for which there is a clear clinical guideline or routine standard practice (i.e. first time seizure, isolated breakthrough seizure or febrile seizure)
  - Any child with a focal or new neurologic deficit or positive imaging findings
- EEG findings overnight –
  - Discuss any EEGs with the attending prior to discharging patient or disconnecting EEG

Notify attending of any unexpected EEG findings (i.e. status epilepticus, new onset seizures) and discuss treatment plan

Trainee will not perform	Supervising physician physically present with resident during key portions of patient interaction (Direct)	Supervising physician not present or providing concurrent supervision, but immediately available to provide guidance and direct supervision (Indirect)	Supervising physician available to provide review & feedback after care is delivered (Oversight)
NA	1	2	3

As required by ACGME, the program has identified below (with a “1”) when the *physical presence* of a supervising physician is required.

PROCEDURES / PATIENT INTERACTIONS	PGY- 3	PGY-4	PGY-5
<b>Lumbar Puncture</b>	<b>1</b>	<b>1</b>	<b>2</b>
<b>Occipital Nerve Blocks</b>	<b>1</b>	<b>1</b>	<b>2</b>
<b>Botox</b>	<b>1</b>	<b>1</b>	<b>1</b>
<b>Patient Consultation after - hours</b>	<b>2</b>	<b>2</b>	<b>3</b>

## Transitions of Care Guidelines – Hand-off Process

### Transitions of Care (Structured Patient Hand-off) Policy

In addition to complying with the GME [Transitions of Care \(Structured Patient Hand-off\) Policy](#), the Child Neurology Residency program’s transition of care process that is used is:

**Program Policy for Transition of Care is as follows:**

Purpose: To establish a protocol and standards within the Child Neurology Program to ensure the quality and safety of patient care when transfer of responsibility for a patient occurs.

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Transition of care occurs regularly in the program under the following conditions: (check all that apply)

- ☒ Change in level of patient care, including inpatient admission from the ambulatory setting, outpatient procedure, or diagnostic area
- ☒ Inpatient admission from the Emergency Department
- ☒ Transfer of a patient to or from a critical care unit
- ☐ Transfer of a patient to or from the Post Anesthesia Care Unit (PACU) or operating room
- ☐ Transfer of care to other healthcare professionals within procedure or diagnostic areas
- ☒ Discharge, including discharge to home or another facility such as skilled nursing care
- ☒ Change in provider or service, including during shift or rotation changes (e.g. resident sign-out, inpatient consultation sign-out, etc.) and patient panel handovers at graduation
- ☐ Other \_\_\_\_\_

Patient handovers must include the transmission of specific informational items. These include: (check all that apply)

- ☒ Attending physician and upper level residents responsible
- ☐ Admission date and admitting diagnosis
- ☒ Diagnosis and current status/condition (level of acuity) of patient
- ☒ Important elements of history and physical examination
- ☐ Relevant social information including contacts
- ☐ Dates and titles of operative procedures, if any
- ☒ Current medication list
- ☒ Key information on current condition and care plan (diet, activity, planned operations, pending discharge, significant events during the previous shift, changes in medications etc.)
- ☒ Recent events, including changes in condition or treatment, current medication status, recent lab tests, allergies, anticipated procedures and actions to be taken
- ☒ Outstanding tasks – what needs to be completed in the immediate future
- ☒ Specific tasks that need to be accomplished by the resident that is taking over such as following up on laboratory and imaging studies, wound care, clinical monitoring, pending communication with consultants etc
- ☒ Changes in patient condition that may occur requiring interventions or contingency plans
- ☐ Code status, advance directives
- ☐ Other \_\_\_\_\_

The structure or mnemonic tool utilized by the program for handoffs:

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- ☐ IPASS
- ☐ SBAR
- ☐ SIGNOUT
- ☒ Other \_\_\_\_\_

- The program optimizes transitions in patient care, including their safety, frequency, and structure by mandating a formal sign-out process as described  
Morning sign-out will occur every morning between the evening on-call resident and the daytime senior resident at 6:00 AM. Morning sign-out typically occurs over the phone.

Evening sign-out will occur in-person at 4:30 PM every day of the week (including Saturday, Sunday and Holiday) in the resident workroom. Sign-out will always include the evening on-call resident and a daytime senior member of the ICU and floor teams (attending or Senior resident).

Ad-hoc sign-outs (occurring when a resident/APP is leaving for clinic or other functions) will occur in person (or rarely over the phone) between the outgoing provider and the oncoming provider.

The handoff process MUST allow the receiving physician to ask questions; thus, verbal handoffs are required as well as written among caregivers assuming primary care.

- The program monitors effective, structured hand-over processes by utilizing the following structure/protocol:

Written information for trainees in a supervisory or consultative role must include sufficient information to understand and address active problems likely to arise during a brief period of temporary coverage, or to assume care without error or delay when care is transferred at a change of rotation or service. In order to ensure structure, written sign-out includes patient name, age, MRN, room number, primary team, summary of chief concern and hospital course, current medications, and the plan for any active issues or outstanding items.

Our program utilizes a formal verbal sign-out structure that includes patient name, age, summary of chief concern and hospital course, current medications, and the plan for any active issues or outstanding items.

All patients for whom the neurology inpatient team is actively helping to direct management will be included in the handoff.

- Program ensures residents are competent in communicating with the team members in the hand-over process through attending observing resident/APP sign-out once per day during the week, with necessary feedback formally provided to residents weekly. There are questions related to communication on their inpatient evaluations.
- The program and clinical sites maintain and communicate schedules of attending physicians and residents/fellows, currently responsible for care, by working with AMCOM and utilizing Qgenda.

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- The program ensures continuity of patient care, consistent with the program’s policies and procedures in the event that a resident may be unable to perform their patient care responsibilities due to excessive fatigue or illness, or family emergency by implementing a jeopardy call system that each resident is educated to use.

### **Other program requirements**

#### **Transitions of Service**

Except for transfers in emergency situations, a transfer note must be provided by the “sending” resident or fellow when a patient is transferred to a different level of care or to a different service. Acceptance of the transfer must be documented by the receiving service.

#### **Core Requirements**

- Our service has two transitions in providers per day, and our system is designed to minimize the number of transitions in patient care.
- In order to ensure and monitor effective, structured hand-over processes and facilitate both continuity of care and patient safety, resident/APP sign-out is observed by an attending once per day during the week, and necessary feedback is formally provided to the team as needed.
- Our team works with the sponsoring institutions to ensure the availability of schedules that inform all members of the health care team of attending physicians and fellows currently responsible for each patient’s care.

## **Medical Student Learning Objectives**

1. Students will learn to elicit a detailed **neurologic history**.
2. Students will learn to perform a complete screening **neurologic examination**.
3. Students will learn to administer a cognitive scaled test such as the **Mini-Mental State Examination (MMSE) or Montreal Cognitive Assessment (MOCA)**.
4. Students will be familiar with basic findings of the **fundoscopic examination**.
5. Students will learn to localize neurological deficits based on their knowledge of neuroanatomy, develop reasonable differential diagnoses and recommend appropriate evaluative and management plans for the following diseases and/or common neurological presentations:

<u>Common Symptoms</u>	<u>Diseases/Disorders</u>
Weakness and/or numbness	Cerebrovascular disease/Stroke
Confusion and decreased responsiveness	Dementias
Memory loss	Multiple Sclerosis
Headache	Neuropathies, myopathies and radiculopathies
Back pain	Myasthenia gravis and other disorders of the neuromuscular junction
Visual complaints	Epilepsy and provoked seizures
Spells	

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Dizziness and Vertigo Abnormal movements and tics	Migraines and other headaches syndromes Parkinson's Disease & other disorders of movements CNS neoplasms CNS infections Medical diseases and metabolic states with neurological complications Common pediatric neurological disease
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6. Students will understand the medical, legal, and ethical implications of **brain death**, the **vegetative state**, and the **minimally conscious state**.
7. Students will understand the indications for and limitations of **computed tomography (CT)**, **magnetic resonance imaging (MRI)**, **electroencephalography (EEG)**, and **nerve conduction studies and electromyography (NCS/EMG)**.

### ACGME Specific Program Requirements

The program will incorporate the current [Accreditation Council for Graduate Medical Education](#) program requirements within this Program Manual annually.

[ACGME program requirements](#)

[https://www.acgme.org/Portals/0/PFAssets/ProgramRequirements/185\\_ChildNeurology\\_2019\\_TCC.pdf?ver=2019-03-28-160333-857](https://www.acgme.org/Portals/0/PFAssets/ProgramRequirements/185_ChildNeurology_2019_TCC.pdf?ver=2019-03-28-160333-857)

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**Appendix 1**

Evaluation Form - MedHub

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Evaluation Form  
 Printed on Jun 27, 2017



**Milestone Mapped Clinic Elective - Epilepsy**

Evaluator: \_\_\_\_\_

Evaluation of: \_\_\_\_\_

Date: \_\_\_\_\_

The evaluation has been updated to provide more valuable feedback based on the Child Neurology Milestones. Please read through the questions carefully and contact the Program Coordinator with any questions. This evaluation is provided for rotations during which the resident may have worked one or few times with a large number of faculty. The program recognizes this evaluation is based on more limited observations.

Level 1	Level 2	Level 3	Level 4	Level 5	N/A
<ul style="list-style-type: none"> <li>Recognizes when a patient may have had a seizure</li> </ul>	<ul style="list-style-type: none"> <li>Identifies epilepsy phenomenology, and classification of seizures and epilepsies</li> <li>Diagnoses convulsive status epilepticus</li> </ul>	<ul style="list-style-type: none"> <li>Diagnoses and manages patients with common seizure disorders and provides antiepileptic drug treatment</li> <li>Diagnoses patients with non-convulsive status epilepticus</li> <li>Manages patients with convulsive and non-convulsive status epilepticus</li> <li>Discusses short- and long-term effects of anticonvulsant therapies</li> <li>Counselors patient and caregivers on seizure management and safety issues</li> </ul>	<ul style="list-style-type: none"> <li>Diagnoses patients with uncommon seizure disorders</li> <li>Appropriately refers an epilepsy patient for more advanced therapies and interventions</li> <li>Manages short- and long-term effects of anticonvulsant therapies</li> </ul>	<ul style="list-style-type: none"> <li>Manages patients with uncommon seizure disorders</li> <li>Engages in scholarly activity (e.g., teaching, research) in epilepsy</li> </ul>	

→ Collapse →

**1. Epilepsy - Patient Care**

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Level 1	Level 2	Level 3	Level 4	Level 5	N/A
<ul style="list-style-type: none"> <li>Explains an EEG procedure in non-technical terms</li> </ul>	<ul style="list-style-type: none"> <li>Uses appropriate terminology related to EEG (e.g., montage, amplitude, frequency)</li> <li>Describes indications, limitations and clinical utility of amplitude integrated EEG (aEEG)</li> </ul>	<ul style="list-style-type: none"> <li>Describes normal EEG features of wake and sleep states</li> <li>Recognizes maturational changes in EEG</li> <li>Recognizes EEG patterns of status epilepticus</li> <li>Recognizes common EEG artifacts</li> </ul>	<ul style="list-style-type: none"> <li>Interprets common EEG abnormalities and creates a report</li> <li>Recognizes normal EEG variants</li> <li>Identifies EEG patterns in continuous bedside monitoring</li> <li>Correlates EEG patterns seen on concomitant video</li> <li>Interprets and manages patients based on aEEG results</li> </ul>	<ul style="list-style-type: none"> <li>Interprets uncommon EEG abnormalities</li> <li>Engages in scholarly activity (e.g., teaching, research) in EEG</li> </ul>	

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→ Collapse →							
2. EEG*	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Resident provides patient care that is compassionate, appropriate and effective by performing the following:							
	Level 1	Level 2	Level 3	Level 4	Level 5	N/A	
	Has some knowledge, but cannot perform this skill	Can perform the skill with direct supervision	Can perform the skill with indirect supervision	Can perform independently with no oversight	Expert, can teach and supervise others	Not enough contact to evaluate	
→ Collapse →							
3. Informed diagnostic and therapeutic decision making.*	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Level 1	Level 2	Level 3	Level 4	Level 5	N/A	
	Has some knowledge, but cannot perform this skill	Can perform the skill with direct supervision	Can perform the skill with indirect supervision	Can perform independently with no oversight	Expert, can teach and supervise others	Not enough contact to evaluate	
→ Collapse →							
4. Displaying good clinical judgment.*	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Resident demonstrates knowledge of basic and clinical sciences and applies this knowledge to patient care by:							
	Level 1	Level 2	Level 3	Level 4	Level 5	N/A	
	Has some knowledge, but cannot perform this skill	Can perform the skill with direct supervision	Can perform the skill with indirect supervision	Can perform independently with no oversight	Expert, can teach and supervise others	Not enough contact to evaluate	
→ Collapse →							
5. Correlating EEG findings with a likely anatomical localization.*	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Level 1	Level 2	Level 3	Level 4	Level 5	N/A	
	Has some knowledge, but cannot perform this skill	Can perform the skill with direct supervision	Can perform the skill with indirect supervision	Can perform independently with no oversight	Expert, can teach and supervise others	Not enough contact to evaluate	
→ Collapse →							
6. Comprehensive understanding of complex relationships, mechanisms of disease.*	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Resident demonstrates the following:							
	Level 1	Level 2	Level 3	Level 4	Level 5	N/A	

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	Has some knowledge, but cannot perform this skill	Can perform the skill with direct supervision	Can perform the skill with indirect supervision	Can perform independently with no oversight	Expert, can teach and supervise others	Not enough contact to evaluate
	→ Collapse →					
7. Respect, compassion, integrity and honesty with patients, colleagues and the community.*	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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Level 1	Level 2	Level 3	Level 4	Level 5	N/A
Has some knowledge, but cannot perform this skill	Can perform the skill with direct supervision	Can perform the skill with indirect supervision	Can perform independently with no oversight	Expert, can teach and supervise others	Not enough contact to evaluate
→ Collapse →					
8. Understands how the larger medical system affects practice options and patterns.*	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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Level 1	Level 2	Level 3	Level 4	Level 5	N/A
Has some knowledge, but cannot perform this skill	Can perform the skill with direct supervision	Can perform the skill with indirect supervision	Can perform independently with no oversight	Expert, can teach and supervise others	Not enough contact to evaluate
→ Collapse →					
9. Practices cost-effective health care that does not compromise patient care.*	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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Level 1	Level 2	Level 3	Level 4	Level 5	N/A				
<ul style="list-style-type: none"> <li>Acknowledges gaps in knowledge and expertise</li> </ul>	<ul style="list-style-type: none"> <li>Incorporates feedback</li> </ul>	<ul style="list-style-type: none"> <li>Develops an appropriate learning plan based upon clinical experience</li> </ul>	<ul style="list-style-type: none"> <li>Completes an appropriate learning plan based upon clinical experience</li> </ul>	<ul style="list-style-type: none"> <li>Engages in scholarly activity regarding practice-based learning and improvement</li> </ul>					
→ Collapse →									
10. Self-directed learning: Identify strengths, deficiencies, and limits in one's knowledge and expertise; Set learning and improvement goals; Identify and perform appropriate learning activities; Use information technology to optimize learning*	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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**General**

11. Please comment on resident's overall clinical competence and share any pertinent comments. \*



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**Milestone Mapped - Continuity Clinic**

Evaluator: \_\_\_\_\_

Evaluation of: \_\_\_\_\_

Date: \_\_\_\_\_

This is the continuity clinic evaluation for the preceptors. Please evaluate the resident and provide feedback below.

**Patient Care**

- |   |   |  |  |  |
|---|---|--|--|--|
| <ul style="list-style-type: none"> <li>Obtains a perinatal and developmentally appropriate neurologic and behavioral history</li> </ul> | <ul style="list-style-type: none"> <li>Obtains a complete and relevant perinatal and developmentally appropriate neurologic and behavioral history</li> <li>Elicits patient and family contribution, as appropriate, based on cognitive level and cultural norms</li> </ul> | <ul style="list-style-type: none"> <li>Obtains a complete, relevant, and organized perinatal and developmentally appropriate neurologic and behavioral history</li> <li>Integrates patient and parent/care giver contribution into history</li> <li>Incorporates information from readily available sources external to the encounter (e.g., medical records)</li> </ul> | <ul style="list-style-type: none"> <li>Efficiently obtains a complete, relevant, and organized perinatal and developmentally appropriate neurologic and behavioral history</li> <li>Synthesizes patient, parent/care giver, and external source contribution into history</li> </ul> | <ul style="list-style-type: none"> <li>Incorporates information from sources difficult to access external to the encounter (e.g., teachers, social workers)</li> </ul> |
|---|---|--|--|--|

- Collapse -

1. Acquires an accurate and relevant, focused history\*

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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- |  |   |  |   |  |
|--|---|--|---|--|
| <ul style="list-style-type: none"> <li>Performs a complete, developmentally appropriate neurological exam on patients ranging across the lifespan</li> <li>Demonstrates a high level of respect and compassion in performing an exam across gender and cultural differences</li> </ul> | <ul style="list-style-type: none"> <li>Performs a complete, developmentally appropriate, and accurate neurological exam on patients ranging across the lifespan</li> <li>Examines for common signs and patterns of dysmorphism and dermatologic findings</li> </ul> | <ul style="list-style-type: none"> <li>Performs a relevant, developmentally appropriate neurological exam, incorporating some additional appropriate maneuvers</li> <li>Visualizes important findings on the funduscopic exam, including papilledema, choroideremia, and cherry red spots</li> <li>Accurately performs a neurological exam on the patient with depressed levels of consciousness (e.g., comatose, vegetative states, minimally conscious)</li> </ul> | <ul style="list-style-type: none"> <li>Efficiently performs a relevant, developmentally appropriate neurological exam accurately, incorporating all additional appropriate maneuvers</li> <li>Accurately performs an age-appropriate brain death examination</li> </ul> | <ul style="list-style-type: none"> <li>Consistently demonstrates mastery in performing a complete, relevant, organized, and developmentally appropriate neurological exam across all age groups</li> </ul> |
|--|---|--|---|--|

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2. Performs an accurate general and neurological examination\*

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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<ul style="list-style-type: none"> <li>• Demonstrates basic knowledge of management of patients with neurologic disease ranging across the lifespan</li> </ul>	<ul style="list-style-type: none"> <li>• Discusses the general approach to initial treatment of common neurologic disorders, including risks and benefits of treatment</li> <li>• Identifies neurologic emergencies</li> </ul>	<ul style="list-style-type: none"> <li>• Individualizes treatment for specific patients</li> <li>• Initiates management for neurologic emergencies, and triages patients to the appropriate level of care</li> <li>• Appropriately requests consultations from nonneurologic care providers for additional evaluation and management</li> </ul>	<ul style="list-style-type: none"> <li>• Adapts treatment based on patient response</li> <li>• Identifies and manages complications of therapy</li> <li>• Independently directs management of patients with neurologic emergencies</li> <li>• Appropriately requests consultations from a neurologic subspecialist for additional evaluation or management</li> </ul>	<ul style="list-style-type: none"> <li>• Demonstrates sophisticated knowledge of treatment subtleties and controversies in the care of patients of all ages</li> </ul>
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3. Formulates a diagnostic and/or treatment plan based on history, physical examination, neuroanatomic localization, knowledge of development and establishes an accurate and complete differential diagnosis.\*

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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4. Manage a patient seen in clinic for chronic neurological condition; incorporating evidence-based national guidelines where appropriate.\*

Level 1	Level 2	Level 3	Level 4	Level 5	N/A
<input type="checkbox"/> Has some knowledge but cannot perform the skill	<input type="checkbox"/> Can perform the skill with direct supervision	<input type="checkbox"/> Can perform the skill with indirect supervision	<input type="checkbox"/> Can perform independently with no oversight	<input type="checkbox"/> Expert, can teach and supervise others	<input type="checkbox"/>

5. Manages EHR including follow up diagnostic testing, patient inquiries/calls, prescription refills, or other administrative tasks associated with an outpatient practice in a timely and efficient

<input type="checkbox"/> Has some knowledge but cannot perform the skill	<input type="checkbox"/> Can perform the skill with direct supervision	<input type="checkbox"/> Can perform the skill with indirect supervision	<input type="checkbox"/> Can perform independently with no oversight	<input type="checkbox"/> Expert, can teach and supervise others	<input type="checkbox"/>
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6. Educates families effectively including giving written instructions and establishes a therapeutic relationship with patients and families\*

<input type="checkbox"/> Has some knowledge but cannot perform the skill	<input type="checkbox"/> Can perform the skill with direct supervision	<input type="checkbox"/> Can perform the skill with indirect supervision	<input type="checkbox"/> Can perform independently with no oversight	<input type="checkbox"/> Expert, can teach and supervise others	<input type="checkbox"/>
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7. Demonstrates appropriate time management in new and followup visits

<input type="checkbox"/> Has some knowledge but cannot perform the skill	<input type="checkbox"/> Can perform the skill with direct supervision	<input type="checkbox"/> Can perform the skill with indirect supervision	<input type="checkbox"/> Can perform independently with no oversight	<input type="checkbox"/> Expert, can teach and supervise others	<input type="checkbox"/>
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**Epilepsy**

Chronic management in the outpatient setting

8. Diagnoses and classifies epilepsy using ILAE criteria and documents epilepsy severity including intractability.\*

Level 1	Level 2	Level 3	Level 4	Level 5	N/A
<input type="checkbox"/> Has some knowledge but cannot perform the skill	<input type="checkbox"/> Can perform the skill with direct supervision	<input type="checkbox"/> Can perform the skill with indirect supervision	<input type="checkbox"/> Can perform independently with no oversight	<input type="checkbox"/> Expert, can teach and supervise others	<input type="checkbox"/>

9. Prescribes appropriate epilepsy medications based on seizure type and current guidelines (including clinical and neurophysiological data) and involves advanced specialists in the appropriate situations\*

<input type="checkbox"/> Has some knowledge but cannot perform the skill	<input type="checkbox"/> Can perform the skill with direct supervision	<input type="checkbox"/> Can perform the skill with indirect supervision	<input type="checkbox"/> Can perform independently with no oversight	<input type="checkbox"/> Expert, can teach and supervise others	<input type="checkbox"/>
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**Developmental Delay**

10. Understands the appropriate parameters for development of gross motor, fine motor, speech and language, and social skills from infancy onwards\*

Level 1	Level 2	Level 3	Level 4	Level 5	N/A
<input type="checkbox"/> Has some knowledge but cannot perform the skill	<input type="checkbox"/> Can perform the skill with direct supervision	<input type="checkbox"/> Can perform the skill with indirect supervision	<input type="checkbox"/> Can perform independently with no oversight	<input type="checkbox"/> Expert, can teach and supervise others	<input type="checkbox"/>

11. Diagnoses developmental delay, recognizes developmental regression, and understands the appropriate diagnostic evaluation based on evidence based guidelines.\*

<input type="checkbox"/> Has some knowledge but cannot perform the skill	<input type="checkbox"/> Can perform the skill with direct supervision	<input type="checkbox"/> Can perform the skill with indirect supervision	<input type="checkbox"/> Can perform independently with no oversight	<input type="checkbox"/> Expert, can teach and supervise others	<input type="checkbox"/>
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12. Initiates appropriate referrals for medical and school-based services: Physical, Occupational, Speech, other Therapies\*

<input type="checkbox"/> Has some knowledge but cannot perform the skill	<input type="checkbox"/> Can perform the skill with direct supervision	<input type="checkbox"/> Can perform the skill with indirect supervision	<input type="checkbox"/> Can perform independently with no oversight	<input type="checkbox"/> Expert, can teach and supervise others	<input type="checkbox"/>
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**Headache**

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13. Diagnoses and classifies headaches using AHS criteria and documents severity by efficiently performing an accurate history and physical.\*

Level 1	Level 2	Level 3	Level 4	Level 5	N/A
<input type="checkbox"/> Has some knowledge but cannot perform the skill	<input type="checkbox"/> Can perform the skill with direct supervision	<input type="checkbox"/> Can perform the skill with indirect supervision	<input type="checkbox"/> Can perform independently with no oversight	<input type="checkbox"/> Expert, can teach and supervise others	<input type="checkbox"/>

14. Incorporates lifestyle counseling, prescribes appropriate abortive and/or preventive medications based on current guidelines and involve psychological or psychiatric services in the appropriate situations.\*

Level 1	Level 2	Level 3	Level 4	Level 5	N/A
<input type="checkbox"/> Has some knowledge but cannot perform the skill	<input type="checkbox"/> Can perform the skill with direct supervision	<input type="checkbox"/> Can perform the skill with indirect supervision	<input type="checkbox"/> Can perform independently with no oversight	<input type="checkbox"/> Expert, can teach and supervise others	<input type="checkbox"/>

OVERALL COMMENTS: \*

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**Milestone Mapped - Inpatient Service**

Evaluator: \_\_\_\_\_

Evaluation of: \_\_\_\_\_

Date: \_\_\_\_\_

This evaluation covers Inpatient neurology rotations on the Child Neurology resident. Please evaluate the resident and provide feedback below.

**Patient Care**

The following questions cover basic principles of patient care in neurology in an inpatient setting

<ul style="list-style-type: none"> <li>Obtains a perinatal and developmentally appropriate neurologic and behavioral history</li> </ul>	<ul style="list-style-type: none"> <li>Obtains a complete and relevant perinatal and developmentally appropriate neurologic and behavioral history</li> <li>Elicits patient and family contribution, as appropriate, based on cognitive level and cultural norms</li> </ul>	<ul style="list-style-type: none"> <li>Obtains a complete, relevant, and organized perinatal and developmentally appropriate neurologic and behavioral history</li> <li>Integrates patient and parent/care giver contribution into history</li> <li>Incorporates information from readily available sources external to the encounter (e.g., medical records)</li> </ul>	<ul style="list-style-type: none"> <li>Efficiently obtains a complete, relevant, and organized perinatal and developmentally appropriate neurologic and behavioral history</li> <li>Synthesizes patient, parent/care giver, and external source contribution into history</li> </ul>	<ul style="list-style-type: none"> <li>Incorporates information from sources difficult to access external to the encounter (e.g., teachers, social workers)</li> </ul>
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- Collapse -

1. Performs a detailed neurological and developmental history\*

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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<ul style="list-style-type: none"> <li>Performs a complete, developmentally appropriate neurological exam on patients ranging across the lifespan</li> <li>Demonstrates a high level of respect and compassion in performing an exam across gender and cultural differences</li> </ul>	<ul style="list-style-type: none"> <li>Performs a complete, developmentally appropriate, and accurate neurological exam on patients ranging across the lifespan</li> <li>Examines for common signs and patterns of dysmorphism and dermatologic findings</li> </ul>	<ul style="list-style-type: none"> <li>Performs a relevant, developmentally appropriate neurological exam, incorporating some additional appropriate maneuvers</li> <li>Visualizes important findings on the funduscopic exam, including papilledema, chorioretinitis, and cherry red spots</li> <li>Accurately performs a neurological exam on the patient with depressed levels of consciousness (e.g., comatose, vegetative states, minimally conscious)</li> </ul>	<ul style="list-style-type: none"> <li>Efficiently performs a relevant, developmentally appropriate neurological exam accurately, incorporating all additional appropriate maneuvers</li> <li>Accurately performs an age-appropriate brain death examination</li> </ul>	<ul style="list-style-type: none"> <li>Consistently demonstrates mastery in performing a complete, relevant, organized, and developmentally appropriate neurological exam across all age groups</li> </ul>
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2. Performs an appropriate neurological examination\*

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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<ul style="list-style-type: none"> <li>Attempts to localize lesions within the nervous system</li> <li>Describes basic neuroanatomy</li> </ul>	<ul style="list-style-type: none"> <li>Localizes lesions to general regions of the nervous system</li> </ul>	<ul style="list-style-type: none"> <li>Accurately localizes lesions to specific regions of the nervous system</li> </ul>	<ul style="list-style-type: none"> <li>Efficiently and accurately localizes lesions to specific regions of the nervous system and incorporates into ongoing patient management</li> <li>Describes advanced neuroanatomy</li> </ul>	<ul style="list-style-type: none"> <li>Consistently demonstrates sophisticated and detailed knowledge of neuroanatomy in localizing lesions</li> </ul>
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3. Localization\*

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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**Observable Practice Activities (Patient Care)**

These are specific practice activities in neurology which may occur on this rotation. The goal is to rate the level at which the resident can be entrusted to perform this activity.

	Level 1	Level 2	Level 3	Level 4	Level 5	N/A
4. Acute encephalitis/encephalopathy: Recognizes, generates differential diagnosis, manages appropriate workup and treatment*	<input type="checkbox"/> Recognize Common Presentations	<input type="checkbox"/> Diagnose and Manage Common Presentations	<input type="checkbox"/> Manage Acute and Recognize Uncommon Presentations	<input type="checkbox"/> Diagnose Uncommon Presentations	<input type="checkbox"/> Manages Uncommon Presentations	<input type="checkbox"/>

5. Demyelinating and Inflammatory disease: Recognizes, generates differential diagnosis, manages appropriate workup and treatment*	<input type="checkbox"/> Recognize Common Presentations	<input type="checkbox"/> Diagnose and Manage Common Presentations	<input type="checkbox"/> Manage Acute and Recognize Uncommon Presentations	<input type="checkbox"/> Diagnose Uncommon Presentations	<input type="checkbox"/> Manages Uncommon Presentations	<input type="checkbox"/>
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6. Cerebrovascular Disorders: Diagnoses and understands appropriate workup for pediatric stroke according to CHCO protocols and national pediatric stroke guidelines.*	<input type="checkbox"/> Recognize Common Presentations	<input type="checkbox"/> Diagnose and Manage Common Presentations	<input type="checkbox"/> Manage Acute and Recognize Uncommon Presentations	<input type="checkbox"/> Diagnose Uncommon Presentations	<input type="checkbox"/> Manages Uncommon Presentations	<input type="checkbox"/>
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7. Neuromuscular diseases: Diagnoses and manages children with acute, subacute, chronic, and emergency presentations of weakness due to diseases of the nerves, junction, or muscle*	<input type="checkbox"/> Recognize Common Presentations	<input type="checkbox"/> Diagnose and Manage Common Presentations	<input type="checkbox"/> Manage Acute and Recognize Uncommon Presentations	<input type="checkbox"/> Diagnose Uncommon Presentations	<input type="checkbox"/> Manages Uncommon Presentations	<input type="checkbox"/>
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8. Are there any other Neurological disorders that you would like to rate the resident using the scale above?

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**Commonly used diagnostic tests in neurology (Patient Care)**

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	Level 1	Level 2	Level 3	Level 4	Level 5	N/A
9. EEG: Interprets common EEG abnormalities, normal variants, recognizes patterns and is able to create reports and manage patients based on the EEG.	<input type="checkbox"/> Has some knowledge but cannot perform the skill	<input type="checkbox"/> Can perform the skill with direct supervision	<input type="checkbox"/> Can perform the skill with indirect supervision	<input type="checkbox"/> Can perform independently with no oversight	<input type="checkbox"/> Expert, can teach and supervise other	<input type="checkbox"/>
10. Neuroimaging: understands indications, interprets, utilizes results*	<input type="checkbox"/> Has some knowledge but cannot perform the skill	<input type="checkbox"/> Can perform the skill with direct supervision	<input type="checkbox"/> Can perform the skill with indirect supervision	<input type="checkbox"/> Can perform independently with no oversight	<input type="checkbox"/> Expert, can teach and supervise other	<input type="checkbox"/>
11. Lumbar Puncture: understands indication, performs, interprets results	<input type="checkbox"/> Has some knowledge but cannot perform the skill	<input type="checkbox"/> Can perform the skill with direct supervision	<input type="checkbox"/> Can perform the skill with indirect supervision	<input type="checkbox"/> Can perform independently with no oversight	<input type="checkbox"/> Expert, can teach and supervise other	<input type="checkbox"/>
<b>Interpersonal Skills and Communication</b>						
12. Creates documentation that is correct, accurate, complete, and timely.*	<input type="checkbox"/> Has some knowledge but cannot perform the skill	<input type="checkbox"/> Can perform the skill with direct supervision	<input type="checkbox"/> Can perform the skill with indirect supervision	<input type="checkbox"/> Can perform independently with no oversight	<input type="checkbox"/> Expert, can teach and supervise other	<input type="checkbox"/>
13. Provides a clear and concise presentation to the attending physician*	<input type="checkbox"/> Has some knowledge but cannot perform the skill	<input type="checkbox"/> Can perform the skill with direct supervision	<input type="checkbox"/> Can perform the skill with indirect supervision	<input type="checkbox"/> Can perform independently with no oversight	<input type="checkbox"/> Expert, can teach and supervise other	<input type="checkbox"/>
<b>Professionalism</b> Regards compassion, sensitivity including cultural sensitivity, and relations with colleagues						
14. Interacts in an effective, professional, and collegial manner with all members of the health care team.*	<input type="checkbox"/> Has some knowledge but cannot perform the skill	<input type="checkbox"/> Can perform the skill with direct supervision	<input type="checkbox"/> Can perform the skill with indirect supervision	<input type="checkbox"/> Can perform independently with no oversight	<input type="checkbox"/> Expert, can teach and supervise other	<input type="checkbox"/>
15. Communicates with patients in a clear, compassionate, respectful, and culturally sensitive manner*	<input type="checkbox"/> Has some knowledge but cannot perform the skill	<input type="checkbox"/> Can perform the skill with direct supervision	<input type="checkbox"/> Can perform the skill with indirect supervision	<input type="checkbox"/> Can perform independently with no oversight	<input type="checkbox"/> Expert, can teach and supervise other	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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16. Manages transitions of care safely and effectively, including daily handoffs, cross-service (e.g. floor to intensive care) transfers, rotation ending transfers, and hospital discharges.\*

Has some knowledge but cannot perform the skill	Can perform the skill with direct supervision	Can perform the skill with indirect supervision	Can perform the skill with indirect supervision	Can perform independently with no oversight	Expert, can teach and supervise other	
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**Systems Based Practice**

The following questions involve quality, cost-effective, and safe care

17. Cost- and risk-effective practice: provides value-based care by ordering appropriate tests and minimizing unnecessary ones

Level 1	Level 2	Level 3	Level 4	Level 5	N/A
<input type="checkbox"/> Has some knowledge but cannot perform the skill	<input type="checkbox"/> Can perform the skill with direct supervision	<input type="checkbox"/> Can perform the skill with indirect supervision	<input type="checkbox"/> Can perform independently with no oversight	<input type="checkbox"/> Expert, can teach and supervise other	<input type="checkbox"/>

18. Works in inter-professional teams to enhance patient safety

<input type="checkbox"/> Has some knowledge but cannot perform the skill	<input type="checkbox"/> Can perform the skill with direct supervision	<input type="checkbox"/> Can perform the skill with indirect supervision	<input type="checkbox"/> Can perform independently with no oversight	<input type="checkbox"/> Expert, can teach and supervise other	<input type="checkbox"/>
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19. Self-directed learning: review the primary literature related to assessment and recommendations and include if appropriate in note

<input type="checkbox"/> Has some knowledge but cannot perform the skill	<input type="checkbox"/> Can perform the skill with direct supervision	<input type="checkbox"/> Can perform the skill with indirect supervision	<input type="checkbox"/> Can perform independently with no oversight	<input type="checkbox"/> Expert, can teach and supervise other	<input type="checkbox"/>
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20. Did the resident perform a brain death exam.

Yes	No	N/A
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

21. Can the resident reliably recognize papilledema

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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22. Practice Habit 1 - Resident responds to patient calls in a timely manner.

Level 1	Level 2	Level 3	Level 4	Level 5	N/A
Leaves work undone and doesn't follow-up	Often behind and struggles to keep up with work	Completes in a timely manner	Works at the pace expected for an Attending	Is proactive and an example to other residents and Faculty	

-- Collapse --

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Level 1	Level 2	Level 3	Level 4	Level 5	N/A
Leaves work undone and doesn't follow-up	Often behind and struggles to keep up with work	Completes in a timely manner	Works at the pace expected for an Attending	Is proactive and an example to other residents and Faculty	

-- Collapse --



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23. Practice Habit 2 - Resident provides appropriate education to their patients

☐☐☐☐☐☐

Level 1	Level 2	Level 3	Level 4	Level 5	N/A
Leaves work undone and doesn't follow-up	Often behind and struggles to keep up with work	Completes in a timely manner	Works at the pace expected for an Attending	Is proactive and an example to other residents and Faculty	

— Colleague —

24. Practice Habit 3 - Resident completes charts in a timely fashion

☐☐☐☐☐☐

25. COMMENTS ON THE ROTATION: \*

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**FAMILY SATISFACTION SURVEY QUESTIONS**

1) I AM THE ☐ PATIENT ☐ PARENT / GUARDIAN

2) THE DOCTOR TREATED ME WITH RESPECT	Strongly Disagree <input type="radio"/>	Disagree <input type="radio"/>	Neither Agree nor Disagree <input type="radio"/>	Agree <input type="radio"/>	Strongly Agree <input type="radio"/>
3) THE DOCTOR LISTENED TO MY CONCERNS	Strongly Disagree <input type="radio"/>	Disagree <input type="radio"/>	Neither Agree nor Disagree <input type="radio"/>	Agree <input type="radio"/>	Strongly Agree <input type="radio"/>
4) THE DOCTOR ANSWERED MY QUESTIONS	Strongly Disagree <input type="radio"/>	Disagree <input type="radio"/>	Neither Agree nor Disagree <input type="radio"/>	Agree <input type="radio"/>	Strongly Agree <input type="radio"/>
5) THE DOCTOR USED WORDS I COULD UNDERSTAND	Strongly Disagree <input type="radio"/>	Disagree <input type="radio"/>	Neither Agree nor Disagree <input type="radio"/>	Agree <input type="radio"/>	Strongly Agree <input type="radio"/>
6) I UNDERSTAND THE PLAN FOR ME/MY CHILD	Strongly Disagree <input type="radio"/>	Disagree <input type="radio"/>	Neither Agree nor Disagree <input type="radio"/>	Agree <input type="radio"/>	Strongly Agree <input type="radio"/>
7) I KNOW HOW TO REACH MY DOCTOR IF I NEED TO	Strongly Disagree <input type="radio"/>	Disagree <input type="radio"/>	Neither Agree nor Disagree <input type="radio"/>	Agree <input type="radio"/>	Strongly Agree <input type="radio"/>
8) I UNDERSTAND HOW TO GET MEDICATION REFILLS	Strongly Disagree <input type="radio"/>	Disagree <input type="radio"/>	Neither Agree nor Disagree <input type="radio"/>	Agree <input type="radio"/>	Strongly Agree <input type="radio"/>
9) THE DOCTOR WAS DRESSED PROFESSIONALLY	Strongly Disagree <input type="radio"/>	Disagree <input type="radio"/>	Neither Agree nor Disagree <input type="radio"/>	Agree <input type="radio"/>	Strongly Agree <input type="radio"/>
10) I WOULD COME BACK TO SEE THIS DOCTOR AGAIN	Strongly Disagree <input type="radio"/>	Disagree <input type="radio"/>	Neither Agree nor Disagree <input type="radio"/>	Agree <input type="radio"/>	Strongly Agree <input type="radio"/>

11) WHAT I LIKED BEST ABOUT MY DOCTOR WAS: (FREE TEXT)

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12) CONCERNS I HAVE ABOUT MY DOCTOR ARE: (FREE TEXT)

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**ENCUESTA ACERCA DE LA SATISFACCIÓN FAMILIAR**

1) YO SOY ☐ EL/LA PACIENTE ☐ PADRE/MADRE/TUTOR

2) EL MÉDICO ME TRATÓ CON RESPETO

Totalmente en desacuerdo	En desacuerdo	Indiferente	De acuerdo	Totalmente de acuerdo
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

3) EL MÉDICO ESCUCHÓ MIS PREOCUPACIONES

Totalmente en desacuerdo	En desacuerdo	Indiferente	De acuerdo	Totalmente de acuerdo
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

4) EL MÉDICO RESPONDIÓ A MIS PREGUNTAS

Totalmente en desacuerdo	En desacuerdo	Indiferente	De acuerdo	Totalmente de acuerdo
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

5) EL MÉDICO USÓ PALABRAS QUE YO PUDE ENTENDER

Totalmente en desacuerdo	En desacuerdo	Indiferente	De acuerdo	Totalmente de acuerdo
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

6) YO ENTIENDO EL PLAN PARA MÍ/MI HIJO

Totalmente en desacuerdo	En desacuerdo	Indiferente	De acuerdo	Totalmente de acuerdo
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

7) SE CÓMO COMUNICARME CON EL MÉDICO  
SU TUVIESE QUE HACERLO

Totalmente en desacuerdo	En desacuerdo	Indiferente	De acuerdo	Totalmente de acuerdo
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

8) ENTIENDO CÓMO OBTENER LOS RELLENOS  
PARA LOS MEDICAMENTOS

Totalmente en desacuerdo	En desacuerdo	Indiferente	De acuerdo	Totalmente de acuerdo
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

9) EL MÉDICO ESTABA VESTIDO DE UNA  
MANERA PROFESIONAL

Totalmente en desacuerdo	En desacuerdo	Indiferente	De acuerdo	Totalmente de acuerdo
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

10) YO REGRESARÍA CON ESTE MÉDICO OTRA VEZ

Totalmente en desacuerdo	En desacuerdo	Indiferente	De acuerdo	Totalmente de acuerdo
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

11) LO QUE MÁS ME AGRADÓ DE ESTE MÉDICO FUE: (ESCRIBIR)

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12) LO QUE ME PREOCUPA DE ESTE MÉDICO ES: (ESCRIBIR)

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\*\*Cambiar el sistema de respuesta de Sí/No a escala del 1-5 (en total desacuerdo –hasta- muy de acuerdo)\*\*

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**Appendix 2**  
**Goals and Objectives**

**General Goals and Objectives for Rotations in Pediatric Neurology**

<b>Neuropathology rotation</b>
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Specific knowledge base gained: Criteria for pathology-based diagnosis of diseases relevant to child neurology.

Specific techniques learned: An understanding of the different histological techniques used to make diagnosis of diseases relevant to child neurology.

Assessment of competence: Direct observation by faculty including final written assessment at the end of the rotation.

*This is to be accomplished by concentrated time with the neuropathology and neuro-oncology services. This will include gross observations during brain cuttings and autopsies and associated conferences as well as microscopic observations during “sign-out” of frozen and fixed specimens.*

**Rotation objectives:**

1. Medical Knowledge

- a. Acquisition and demonstration of the skills required to interpret neuropathology specimens, using gross inspection and microscopic techniques.
- b. Acquisition and demonstration of the ability to correlate pathologic findings with clinical symptoms
- c. Synthesis of such information to arrive at hypotheses and conclusions with respect to the pathogenesis of neurological and neurodevelopmental disorders.
- d. Development of criteria for ordering an autopsy on a patient or for ordering a biopsy on a patient.
- e. Creation of an individual, systematic process for review of neuroanatomy and neuropathology for neurology board preparation using existing resources and independent study.
- f. Understand basic and unusual types of vascular disease.
- g. Know common infections that affect the CNS, including the morphological appearance of the organisms
- h. Understand basic and latest updates on demyelinating diseases of the CNS, especially Multiple Sclerosis and Neuromyelitis Optica
- i. Understand basic features of toxic metabolic disease that affects the CNS
- j. Know grading system and biological behavior of common tumors that affect the CNS/PNS
- k. Understand the principles of muscle, nerve and neurodegenerative diseases including mode of inheritance where applicable
- l. Read Prayson Textbook of Neuropathology

2. Patient Care Skills

- a. Acquisition and demonstration of the ability to correlate pathologic findings with clinical symptoms
- b. Synthesis of such information to arrive at hypotheses and conclusions with respect to the pathogenesis of neurological and neurodevelopmental disorders.
- c. Development of criteria for ordering an autopsy on a patient or for ordering a

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biopsy on a patient Creation of an individual, systematic process for review of neuroanatomy and neuropathology for neurology board preparation using existing resources and independent study

3. Interpersonal and Communication Skills
  - a. Development of criteria for ordering an autopsy on a patient or for ordering a biopsy on a patient.
4. Professionalism
  - a. Development of criteria for ordering an autopsy on a patient or for ordering a biopsy on a patient
  - b. Attendance at all autopsies lectures and demonstrations during the rotation
5. Systems-Based Practice
  - a. Recognize the factors involved in to insure quality control and of pathology specimens and autopsy material
6. Practice-Based Learning and Improvement
  - a. Acquisition and demonstration of the ability to correlate pathologic findings with clinical symptoms
  - b. Development of criteria for ordering an autopsy on a patient or for ordering a biopsy on a patient
  - c. Creation of an individual, systematic process for review of neuroanatomy and neuropathology for neurology board preparation using existing resources and independent study

<b>Neuroradiology rotation</b>
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Specific knowledge base gained: Criteria for radiology-based diagnosis of diseases relevant to child neurology.

Specific techniques learned: An understanding of the different radiological techniques used to make diagnosis of diseases relevant to child neurology.

Assessment of competence: Direct observation by faculty including final written assessment at the end of the rotation.

*This is to be accomplished by concentrated time with the neuroradiology services. This will include shadowing a neuroradiologist during their rounds and participation in associated weekly conferences. Modalities to be observed include ultrasound, plain radiography, computerized tomography, MRI, SPECT and various modalities and arteriography.*

**Rotation Objectives:**

The pediatric neurology resident should gain exposure to the following topics both by review of films, review of teaching files and independent reading. The normal developmental changes seen radiographically in a developing child, pediatric congenital malformations of the brain and spinal cord, diseases of the white matter, pediatric strokes, encephalitis, post infectious encephalitis, pediatric brain tumors.

1. Medical Knowledge
  - a. Acquisition of additional exposure to the organized evaluation and interpretation of neuroimaging studies of the brain and spinal cord including CT, MRI, MR

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angiography, conventional angiography, and brain ultrasound

- b. Acquisition of knowledge of neuroanatomy and vascular anatomy of the brain and spine as it relates to neuroimaging
  - c. Acquisition of basic understanding of neuroimaging technology
  - d. Exposure to the procedural aspects of neuroimaging
  - e. Attendance at neuroradiology reading rounds with the pediatric neuroradiologist at least 4 days a week
  - f. Development of criteria for ordering neuroimaging studies
  - g. Organization of a self review of neuroanatomy, using reference texts and teaching files
  - h. Attendance and observation of at least one case each of myelography and conventional cerebral angiography in the adult, as well as attend and observe at least one case each of neonatal head ultrasound, and MRI/MRA brain with sedation in a child.
  - i. Criteria for radiology based diagnosis of diseases relevant to child neurology.
2. Patient Care Skills
- a. Acquisition of additional exposure to the organized evaluation and interpretation of neuroimaging studies of the brain and spinal cord including CT, MRI, MR angiography, conventional angiography, and brain ultrasound
  - b. Acquisition of knowledge re: neuroanatomy and vascular anatomy of the brain and spine as it relates to neuroimaging
  - c. Acquisition of basic understanding of neuroimaging technology
  - d. Exposure to the procedural aspects of neuroimaging
  - e. Attendance at neuroradiology reading rounds with the pediatric neuroradiologist at least 4 days a week
  - f. Development of criteria for ordering neuroimaging studies
  - g. Organization of a self-review of neuroanatomy, using reference texts and teaching files
  - h. Attendance and observation of at least one case each of myelography and conventional cerebral angiography in the adult, as well as attend and observe at least one case each of neonatal head ultrasound, and MRI/MRA brain with sedation in a child.
3. Interpersonal and Communication Skills
- a. Attendance at neuroradiology reading rounds with the pediatric neuroradiologist at least 4 days a week
  - b. Development of criteria for ordering neuroimaging studies
4. Professionalism
- a. Attendance at neuroradiology reading rounds with the pediatric neuroradiologist at least 4 days a week
  - b. Development of criteria for ordering neuroimaging
5. Systems-Based Practice
- a. Be able to provide criteria for selection of neuroimaging for pediatric appropriate patients to neurology team and other services
  - b. Provide interpretation of neuroimaging studies to the neurology team and other services
6. Practice-Based Learning and Improvement

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- a. Organization of a self-review of neuroanatomy, using reference texts and teaching files
- b. Provide interpretation of neuroimaging studies to the neurology team and other services

<b>Neurophysiology rotation</b>
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Specific knowledge base gained: Criteria for electrophysiology-based diagnosis of diseases relevant to child neurology.

Specific techniques learned: An understanding of the different electrophysiological techniques used to make diagnosis of diseases relevant to child neurology.

Assessment of competence: Direct observation by faculty including final written assessment at the end of the rotation.

*This will be done by concentrated time with the epilepsy service. This will include patient care of children admitted to the epilepsy service for monitoring and surgery. EEG basics and readings will be supervised by child neurology staff. EMG and NCS basics and readings will be supervised by child neurology and physical medicine staff.*

**Rotation objectives:**

1. Medical Knowledge

- a. Differentiating between normal and abnormal EEG waveforms for children and for neonates
- b. Benign variants seen in children as well as posterior dominant rhythm
- c. Understanding some of the common waveforms seen in neonates (i.e. delta brushes, negative sharp transients, positive sharp transients). Understand what is the difference between neonatal recording and regular childhood recording.
- d. What a seizure pattern looks like and whether a seizure is partial or generalized
- e. What the background looks like in a benign childhood epilepsy (meaning: normal background in between spikes, the 3Hz spike and wave pattern, Rolandic spikes)
- f. What the background looks like in an encephalopathic patient and the different patterns seen (i.e. burst suppression, invariance, OIRDA, triphasic waves, PLEDs)
- g. The benefits and disadvantages of videotelemetry, ambulatory EEG and continuous ICU monitoring
- h. Differentiating artifact in a recording
- i. The differences in montages, paper speed, sensitivity, and the basic technical aspects of EEG such as the International 10-20 system
- j. Use of activation in children
- k. What is normal sleep and what is electrical status epilepticus of sleep
- l. What is an electrocerebral silence recording
- m. When a patient is an epilepsy surgery candidate and when a patient needs functional mapping, ECoG versus subdural grids, etc
- n. What is a Wada examination and why is it used?
- o. Other modalities for epilepsy treatment: ketogenic diet, vagal nerve stimulation and when to use them

2. Patient Care Skills

- a. Describing what an EEG report means
- b. How to interpret a normal EEG
- c. Taking a history and physical for an epilepsy patient in clinic

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- d. When to use Ketogenic diet and vagal nerve stimulator
  - e. Determining from the history and physical if a patient has focal or partial seizures
  - f. Determining which medication choices may benefit a patient
3. Interpersonal and Communication Skills
- a. Describing an EEG report to a physician and inpatient service group
  - b. Explaining to a technician why a patient needs to be hooked up for EEG
  - c. Explaining to the attending epileptologist what one is seeing on a background
4. Professionalism
- a. The rapport a resident has with a patient and if this is appropriate
  - b. The rapport with the attending epileptologist and with the EEG technicians
  - c. The rapport and way a resident discusses the results of an EEG with the inpatient team
  - d. Whether the resident is on time and completes his work appropriately
5. Systems-Based Practice
- a. How the resident is able to interpret and explain to the referring inpatient team the results of the telemetry and EEG
  - b. How the resident is able to use the MRI scans and functional neuroimaging scans for the patient
  - c. If the resident knows what referral is appropriate for neuropsychology and other services
6. Practice-Based Learning and Improvement
- a. If the resident is able to understand what is being explained to him in didactic lectures, reading and observing waveforms during rounds and is able to improve his interpretation technique and dictation on EEG reading
  - b. If the resident is able to understand what is being explained to him in didactic lectures, reading and able to translate that to improved patient care in terms of coming up with a differential diagnosis and better treatment plan in epilepsy clinic

<b>Neuro-oncology rotation</b>
--------------------------------

Assessment of competence: Direct observation by faculty including final written assessment at the end of the rotation.

**Rotation objectives:**

- 1. Medical Knowledge
  - a. Acquisition of experience in the diagnosis and management of the following disorders: cerebellar medulloblastoma, cerebellar and cerebral astrocytoma, spinal cord tumors—intramedullary, intradural, and extradural, neurofibromas, dysembryonic neuroectodermal tumors, gangliogliomas and other tumors of the central and peripheral nervous system.
  - b. Familiarity with the national protocols used to treatment central nervous system tumors in children.
  - c. Familiarity with many of the chemotherapeutic agents—their indications and potential side effects.
- 2. Patient Care Skills
  - a. Acquisition and mastery of the neurologic history and exam in children with tumors of the central and peripheral nervous systems



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- b. Development of a clinical approach to localization and differential diagnosis of childhood neoplasms
3. Interpersonal and Communication Skills
  - a. Communicate effectively with oncology patients and parents using verbal, non-verbal and writing skills
  - b. Transmit information to patients in a clear, meaningful fashion
  - c. Work effectively with the neurology care team
4. Professionalism
  - a. Use medical records effectively to document course of illness and treatment
  - b. Demonstrate Ethical behavior and integrity, honesty and compassion
  - c. Demonstrate appreciating end of life issues and end of life care
5. Systems-Based Practice
  - a. Utilize appropriate consultation and referral for optimal management of oncology patients
  - b. Demonstrate accurate cross coverage and documentation of accurate medical data in communications and management of oncology patients
  - c. Demonstrate knowledge of community systems and support services such as rehabilitation, hospice, palliative care and skilled care
6. Practice-Based Learning and Improvement
  - a. Demonstrate appropriate skills with regard to literature databases, drug information databases
  - b. Active Participation in conferences, patient care conferences, tumor board, and any other organized educational activities during oncology rotation
  - c. Familiarity with treatment and study trial protocols for oncology patients

<b>Outpatient Clinic rotations</b>
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During months on the rotating outpatient clinic schedule, an example weekly schedule is as follows:

	<b>Monday</b>	<b>Tuesday</b>	<b>Wednesday</b>	<b>Thursday</b>	<b>Friday</b>
<b>AM</b>	Child Psychiatry clinic/consult	Continuity or Neurology	TTM* or Continuity Clinic	Metabolic Clinic	Neuromuscular/ Rehab
<b>PM</b>	NeuroGenetics	Admin	Didactic afternoon	Continuity or Neurology	Neuromuscular/ Rehab

- \*Tics, Tremors, Movement clinic
- Other clinics in this month will include Stroke, Neuro-immunology, Lumbar Puncture, New Onset Epilepsy and Complicated Epilepsy

**PGY – 4 Rotation Objectives:**

1. Medical Knowledge
  - a. Acquisition and demonstration of the medical, organizational, and communication skills necessary to provide longitudinal care to neurological/neurodevelopmental disabilities in patients
  - b. Acquisition and demonstration of the medical, organizational and communication skills necessary to provide longitudinal service and education to referring primary care physicians, therapists, teachers and

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educational aides, school nurses, and social workers

- c. Establishment of oneself as the primary neurologist (under supervision) for a group of pediatric patients with neurological disorders and/or neurodevelopmental disabilities

**2. Patient Care Skills**

- a. Acquisition and demonstration of the medical, organizational, and communication skills necessary to provide longitudinal care to neurological/neurodevelopmental disabilities in patients including: Collection of medical information by history and examination; localization of the lesion/clinical problem; generation of a differential diagnosis and plan of investigation and treatment ; appropriate selection and skillful performance of required technical skills treatment of patients and families with respect and empathy
- b. Acquisition and demonstration of the medical, organizational and communication skills necessary to provide longitudinal service and education to referring primary care physicians, therapists, teachers and educational aides, school nurses, and social workers
- c. Establishment of oneself as the primary neurologist (under supervision) for a group of pediatric patients with neurological disorders and/or neurodevelopmental disabilities

**3. Interpersonal and Communication Skills**

- a. Acquisition and demonstration of the medical, organizational, and communication skills necessary to provide longitudinal care to neurological/ neurodevelopmental disabilities in patients including:
- b. Successful communication with patients and families in the face of cultural, educational, language or emotional barriers
- c. Clear, correct presentation of spoken or written medical material to patients, families, the community, students, colleagues
- d. Ability to communicate with consultants in a timely and appropriate manner
- e. Continued development of the communication skills necessary in order to effectively communicate to families and other health care providers in the team about the patient's medical condition, the necessary diagnostic tests, and management plan. These communication skills include excellent listening skills, ability to establish rapport with patient and family, ability to explain medical terms in a simplified manner, culturally sensitive care.

**4. Professionalism**

- a. Establishment of oneself as the primary neurologist (under supervision) for a group of pediatric patients with neurological disorders and/or neurodevelopmental disabilities including:
- b. Acquisition and demonstration of the skills required to function as part of a multidisciplinary health care team and to be able to organize the communication vehicles and resources required to transition patients to an outpatient setting
- c. Further experience teaching of medical students and service rotators in the adult rotations, and to further hone the skills of team management with an expanded role in the supervision and teaching

**5. Systems-Based Practice**

- a. Acquisition and demonstration of increasing independence in the medical, organizational, and communication skills necessary to provide longitudinal care to neurological/neurodevelopmental disabilities in patients including:

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- b. Understanding the cost of most diagnostic tests and medication in order to consider cost: benefit ratio and other economic factors (such as insurance) in patient management decisions
  - c. Successful use of multidisciplinary case management to deliver medical care—including the primary care provider, other physicians, nurses, social workers, child protective services, physical therapists, occupational therapists, speech therapists, community liaisons, and others in the health care team
  - d. Successful and timely completion of documentation to minimize inefficiency and poor communication
  - e. Understanding of the criteria for referring to subspecialist and how to interact with these providers
  - f. Understanding of current community and national health care issues
  - g. Integration into systems-based practice through the care team models in clinic involving allied health professionals
6. Practice-Based Learning and Improvement
- a. Acquisition and demonstration of the medical, organizational and communication skills necessary to provide longitudinal service and education to referring primary care physicians, therapists, teachers and educational aides, school nurses, and social workers
  - b. Establishment of oneself as the primary neurologist (under supervision) for a group of pediatric patients with neurological disorders and/or neurodevelopmental disabilities.

**PGY – 5 Rotation Objectives:**

1. Medical Knowledge
- a. Acquisition and demonstration of increasing independence in the medical, organizational, and communication skills necessary to provide longitudinal care to neurological and neurodevelopmental disabilities in patients
  - b. Acquisition and demonstration of increasing independence in the medical, organizational and communication skills necessary to provide longitudinal service and education to referring primary care physicians, therapists, teachers and educational aides, school nurses, and social workers
  - c. Establishment of oneself as the primary neurologist (under supervision) for a group of pediatric patients with neurological disorders and/or neurodevelopmental disabilities
2. Patient Care Skills
- a. Acquisition and demonstration of the medical, organizational, and communication skills necessary to provide longitudinal care to neurological/ neurodevelopmental disabilities in patients including:
  - b. Collection of medical information by history and examination; localization of the lesion/clinical problem; generation of a differential diagnosis and plan of investigation and treatment; appropriate selection and skillful performance of required technical skills; treatment of patients and families with respect and empathy
  - c. Acquisition and demonstration of the medical, organizational and communication skills necessary to provide longitudinal service and education to referring primary care physicians, therapists, teachers and educational aides, school nurses, and social workers

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- d. Establishment of oneself as the primary neurologist (under supervision) for a group of pediatric patients with neurological disorders and/or neurodevelopmental disabilities
- 3. Interpersonal and Communication Skills
  - a. Acquisition and demonstration of increasing independence in the medical, organizational, and communication skills necessary to provide longitudinal care to neurological/ neurodevelopmental disabilities in patients including:
  - b. Successful communication with patients and families in the face of cultural, educational, language or emotional barriers
  - c. Clear, correct presentation of spoken or written medical material to patients, families, the community, students, colleagues
  - d. Ability to communicate with consultants in a timely and appropriate manner
  - e. Mastery of the communication skills necessary in order to effectively communicate to families and other health care providers in the team about the patient's medical condition, the necessary diagnostic tests, and management plan. These communication skills include excellent listening skills, ability to establish rapport with patient and family, ability to explain medical terms in a simplified manner, culturally sensitive care)
- 4. Professionalism
  - a. Establishment of oneself as the primary neurologist (under supervision) for a group of pediatric patients with neurological disorders and/or neurodevelopmental disabilities including mastery of the following:
  - b. The skills required to function as the leader of a multidisciplinary health care team and to be able to organize the communication vehicles and resources required to transition patients to an outpatient setting
  - c. The skills required to be the leader of the teaching of medical students and service rotators in the adult rotations, and to further hone the skills of team management with an expanded role in the supervision and teaching
- 5. Systems-Based Practice
  - a. Acquisition and demonstration of increasing independence in the medical, organizational, and communication skills necessary to provide longitudinal care to neurological/ neurodevelopmental disabilities in patients including:
  - b. Understanding the cost of most diagnostic tests and medication in order to consider cost: benefit ratio and other economic factors (such as insurance) in patient management decisions
  - c. Successful use of multidisciplinary case management to deliver medical care—including other physicians, nurses, social workers, child protective services, physical therapists, occupational therapists, speech therapists, community liaisons, and others in the health care team
  - d. Successful completion of documentation to minimize inefficiency and poor communication
  - e. Understanding of the criteria for referring to subspecialist and how to interact with these providers
  - f. Understanding of current community and national health care issues
  - g. Full integration into systems-based practice through the care team models in clinic involving allied health professionals
- 6. Practice-Based Learning and Improvement
  - a. Acquisition and demonstration of increasing independence in the medical,

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organizational and communication skills necessary to provide longitudinal service and education to referring primary care physicians, therapists, teachers and educational aides, school nurses, and social workers

- b. Establishment of oneself as the primary neurologist (under supervision) for a group of pediatric patients with neurological disorders and/or neurodevelopmental disabilities

<b>Genetics and Metabolic clinic</b>
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Specific knowledge base gained: Knowledge of metabolic and inherited basis of diseases relevant to child neurology and the basic aspects of genetic counseling of inherited diseases.

Specific techniques learned: Utilization of the latest molecular modalities available for diagnosis of diseases relevant to child neurology, obtaining genetic history, genetic counseling.

Assessment of competence: Direct observation by faculty including final written assessment at the end of the rotation.

Genetics clinics include participation in the Inherited Metabolic Disease and Neurocutaneous clinics. Supervision is by Genetics and Metabolic staff. Residents are to participate as genetic fellows in this discipline and are responsible for seeing new outpatient consultations as well as follow-up visits.

**REQUIRED: Please refer to Appendix 7 for the clinic check list and forms required for this rotation.**

**Rotation objectives:**

1. Medical Knowledge

- a. Acquisition and demonstration of the skills required to obtain and record a basic family/genetic history
- b. Acquisition and demonstration of the skills to perform a basic dysmorphology examination
- c. Acquisition and demonstration of the skills required to recognize the following clinical presentations of inborn errors of metabolism and be able to initiate investigation, diagnosis, and consultation where indicated, always providing efficient, culturally competent, cost-effective care: chronic encephalopathy, progressive myoclonic epilepsy, movement disorder, myopathy/muscle weakness, stroke, psychiatric problems, hypoglycemia, lactic acidosis, hyperammonemia, cyclic vomiting, and neonatal acute encephalopathy
- d. Acquisition and demonstration of the skills to recognize the signs and symptoms of the following disorders, initiate appropriate investigational studies needed to confirm the diagnosis, and institute appropriate management therapies: amino acidopathies; organic acidemias; mitochondrial disorders; neurotransmitter disorders; urea cycle disorders; peroxisomal disorders; lysosomal storage disorders; defects in fatty acid metabolism; vitamin deficiencies (including Vitamin B12, folate, and pyridoxine); pyridoxine dependency; mucopolysaccharidoses; defects in copper metabolism; porphyria. Again, the resident will always demonstrate effective, cost-efficient, and culturally competent care.
- e. Acquisition and demonstration of the skills required to recognize the signs and symptoms of following chromosomal/genetic syndromes and to be able to initiate the appropriate diagnostic studies to confirm the diagnosis: Trisomy 21 syndrome; Fragile X syndrome; Angelman's syndrome; Rett's syndrome; William's syndrome; Smith-Lemli-Opitz syndrome; and other chromosomal/genetic syndromes. The

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resident should know the available management strategies for each syndrome, their mode of inheritance, and how to counsel families re: inheritance and prognosis.

- f. Acquisition and demonstration of the knowledge and skills required to diagnose and manage the neurocutaneous disorders, especially tuberous sclerosis and neurofibromatosis—signs and symptoms of the disorders; investigative studies; diagnostic criteria; complications of the disorders; management strategies; inheritance pattern; prognosis.
- g. Acquisition and demonstration of the skills required to utilize the genetics databases available on the internet
- h. Acquisition and demonstration of a basic knowledge in the principles of molecular genetics and how it can be applied to the clinical practice of pediatric neurology

**2. Patient Care Skills**

- a. Acquisition and demonstration of the skills required to obtain and record a basic family/genetic history
- b. Acquisition and demonstration of the skills to perform a basic dysmorphology examination
- c. Acquisition and demonstration of the skills required to recognize the following clinical presentations of inborn errors of metabolism and be able to initiate investigation, diagnosis, and consultation where indicated, always providing efficient, culturally competent, cost-effective care: chronic encephalopathy, progressive myoclonic epilepsy, movement disorder, myopathy/muscle weakness, stroke, psychiatric problems, hypoglycemia, lactic acidosis, hyperammonemia, cyclic vomiting, and neonatal acute encephalopathy.
- d. Acquisition and demonstration of the skills to recognize the signs and symptoms of the following disorders, initiate appropriate investigational studies needed to confirm the diagnosis, and institute appropriate management therapies:

amino acidopathies	organic acidemias
mitochondrial disorders	neurotransmitter disorders
urea cycle disorders	peroxisomal disorders
lysosomal storage disorders	defects in fatty acid metabolism
porphyria	pyridoxine dependency
defects in copper metabolism	mucopolysaccharidoses
vitamin deficiencies (including Vitamin B12, folate, and pyridoxine)	

Again, the resident will always demonstrate effective, cost-efficient, and culturally competent care.
- e. Acquisition and demonstration of the skills required to recognize the signs and symptoms of following chromosomal/genetic syndromes and to be able to initiate the appropriate diagnostic studies to confirm the diagnosis:

Trisomy 21 syndrome; Fragile X syndrome; Angelman's syndrome; Rett's syndrome; William's syndrome; Smith-Lemli-Opitz syndrome; and other chromosomal/genetic syndromes. The resident should know the available management strategies for each syndrome, their mode of inheritance, and how to counsel families re: inheritance and prognosis
- f. Acquisition and demonstration of the knowledge and skills required to diagnose and manage the neurocutaneous disorders, especially tuberous sclerosis and neurofibromatosis—signs and symptoms of the disorders; investigative studies; diagnostic criteria; complications of the disorders; management strategies; inheritance pattern; prognosis.
- g. Acquisition and demonstration of the skills required to utilize the genetics databases available on the internet

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- h. Acquisition and demonstration of a basic knowledge in the principles of molecular genetics and how it can be applied to the clinical practice of pediatric neurology
3. Interpersonal and Communication Skills
- a. Acquisition and demonstration of the skills required to obtain and record a basic family/genetic history.
  - b. Demonstrate complete and timely written documentation.
  - c. Acquisition and demonstration of the skills required to recognize the following clinical presentations of inborn errors of metabolism and be able to initiate investigation, diagnosis, and consultation where indicated, always providing efficient, culturally competent, cost-effective care: chronic encephalopathy, progressive myoclonic epilepsy, movement disorder, myopathy/muscle weakness, stroke, psychiatric problems, hypoglycemia, lactic acidosis, hyperammonemia, cyclic vomiting, and neonatal acute encephalopathy.
  - d. Acquisition and demonstration of the skills to recognize the signs and symptoms of the following disorders, initiate appropriate investigational studies needed to confirm the diagnosis, and institute appropriate management therapies: amino acidopathies; organic acidemias; mitochondrial disorders; neurotransmitter disorders; urea cycle disorders; peroxisomal disorders; lysosomal storage disorders; defects in fatty acid metabolism; vitamin deficiencies (including Vitamin B12, folate, and pyridoxine); pyridoxine dependency; mucopolysaccharidoses; defects in copper metabolism; porphyria. Again, the resident will always demonstrate effective, cost-efficient, and culturally competent care.
  - e. Acquisition and demonstration of the skills required to recognize the signs and symptoms of following chromosomal/genetic syndromes and to be able to initiate the appropriate diagnostic studies to confirm the diagnosis: Trisomy 21 syndrome; Fragile X syndrome; Angelman's syndrome; Rett's syndrome; William's syndrome; Smith-Lemli-Opitz syndrome; and other chromosomal/genetic syndromes. The resident should know the available management strategies for each syndrome, their mode of inheritance, and how to counsel families re: inheritance and prognosis
  - f. Acquisition and demonstration of the knowledge and skills required to diagnose and manage the neurocutaneous disorders, especially tuberous sclerosis and neurofibromatosis—signs and symptoms of the disorders; investigative studies; diagnostic criteria; complications of the disorders; management strategies; inheritance pattern; prognosis.
4. Professionalism
- a. Establish oneself as the primary neurologist (under supervision) for a group of pediatric patients with inborn errors of metabolism, genetic disorders and neurocutaneous syndromes
5. Systems-Based Practice
- a. Acquisition and demonstration of the skills required to recognize the following clinical presentations of inborn errors of metabolism and be able to initiate investigation, diagnosis, and consultation where indicated, always providing efficient, culturally competent, cost-effective care: chronic encephalopathy, progressive myoclonic epilepsy, movement disorder, myopathy/muscle weakness, stroke, psychiatric problems, hypoglycemia, lactic acidosis, hyperammonemia, cyclic vomiting, and neonatal acute encephalopathy.
  - b. Acquisition and demonstration of the skills to recognize the signs and symptoms of the following disorders, initiate appropriate investigational studies needed to confirm the diagnosis, and institute appropriate management therapies: amino

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acidopathies; organic acidemias; mitochondrial disorders; neurotransmitter disorders; urea cycle disorders; peroxisomal disorders; lysosomal storage disorders; defects in fatty acid metabolism; vitamin deficiencies (including Vitamin B12, folate, and pyridoxine); pyridoxine dependency; mucopolysaccharidoses; defects in copper metabolism; porphyria. The resident will always demonstrate effective, cost-efficient, and culturally competent care

- c. Acquisition and demonstration of the knowledge and skills required to diagnose and manage the neurocutaneous disorders, especially tuberous sclerosis and neurofibromatosis—signs and symptoms of the disorders; investigative studies; diagnostic criteria; complications of the disorders; management strategies; inheritance pattern; prognosis.

6. Practice-Based Learning and Improvement

- a. Acquisition and demonstration of the skills required to recognize the following clinical presentations of inborn errors of metabolism and be able to initiate investigation, diagnosis, and consultation where indicated, always providing efficient, culturally competent, cost-effective care: chronic encephalopathy, progressive myoclonic epilepsy, movement disorder, myopathy/muscle weakness, stroke, psychiatric problems, hypoglycemia, lactic acidosis, hyperammonemia, cyclic vomiting, and neonatal acute encephalopathy.
- b. Acquisition and demonstration of the skills to recognize the signs and symptoms of the following disorders, initiate appropriate investigational studies needed to confirm the diagnosis, and institute appropriate management therapies: amino acidopathies; organic acidemias; mitochondrial disorders; neurotransmitter disorders; urea cycle disorders; peroxisomal disorders; lysosomal storage disorders; defects in fatty acid metabolism; vitamin deficiencies (including Vitamin B12, folate, and pyridoxine); pyridoxine dependency; mucopolysaccharidoses; defects in copper metabolism; porphyria. Again, the resident will always demonstrate effective, cost-efficient, and culturally competent care
- c. Acquisition and demonstration of the skills required to recognize the signs and symptoms of following chromosomal/genetic syndromes and to be able to initiate the appropriate diagnostic studies to confirm the diagnosis: Trisomy 21 syndrome; Fragile X syndrome; Angelman's syndrome; Rett's syndrome; William's syndrome; Smith-Lemli-Opitz syndrome; and other chromosomal/genetic syndromes. The resident should know the available management strategies for each syndrome, their mode of inheritance, and how to counsel families re: inheritance and prognosis
- d. Acquisition and demonstration of the knowledge and skills required to diagnose and manage the neurocutaneous disorders, especially tuberous sclerosis and neurofibromatosis—signs and symptoms of the disorders; investigative studies; diagnostic criteria; complications of the disorders; management strategies; inheritance pattern; prognosis.
- e. Acquisition and demonstration of the skills required to utilize the genetics databases available on the internet
- f. Acquisition and demonstration of a basic knowledge in the principles of molecular genetics and how it can be applied to the clinical practice of pediatric neurology

<b>Child Psychiatry clinic/consult</b>
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Specific knowledge base gained: Knowledge of psychiatric diseases relevant to child neurology and the ability to recognize and manage psychiatric disorders that may have neurological manifestations and vice versa. Specifically, residents should also become familiar with the principles and practice of psychopharmacology.



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Specific techniques learned: Obtaining psychiatric history.

Assessment of competence: Direct observation by faculty including final written assessment at the end of the rotation.

Psychiatry clinics include general child psychiatry clinics and psychopharmacology clinics. The psychiatric liaison service provides inpatient psychiatric consultations. Supervision is by Psychiatry faculty. Residents are to participate as psychiatry fellows in this discipline and are responsible for seeing new consultations as well as follow-up visits.

**Rotation objectives:**

1. Medical Knowledge
  - a. Knowledge of psychiatric diseases relevant to child neurology
  - b. Ability to recognize and manage psychiatric disorders that have neurologic manifestations
  - c. Become familiar with the principles and practice of psychopharmacology
2. Patient Care Skills
  - a. Perform an appropriate psychiatric history on inpatients as well as outpatient consults
  - b. Perform an appropriate psychiatric exam including mental status exam
  - c. Understand parameters for chemical and physical restraints
3. Interpersonal and Communication Skills
  - a. Demonstrate oral and written communication skills enabling establishment and maintenance of effective professional relationships with patients, families, and other members of the healthcare team
  - b. Demonstrate skills to discuss sensitive issues in an effective, compassionate manner
  - c. Perform complete and focused case presentations that are accurate and well organized.
  - d. Prepare and maintain accurate medical records
4. Professionalism
  - a. Display integrity, honesty and appropriate boundaries with patients, families and other professionals
  - b. Recognized the limits of one's knowledge and skills
  - c. Protect patient privacy in discussions, medical records and professional interactions
5. Systems-Based Practice
  - a. Prioritize patient problems
  - b. Develop cost-effective diagnostic plans
  - c. Develop evidence based plan for treatment
  - d. Understand the roles and responsibilities of all members of the psychiatric team
6. Practice-Based Learning and Improvement
  - a. Incorporate evidence based medicine into diagnostic work up and treatment plan
  - b. Locate, evaluate, and incorporate information for problem solving and decision making relevant to the patients cared for
  - c. Effectively transmit medical knowledge to medical staff

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Specific knowledge base gained: Knowledge of developmental and psychiatric diseases relevant to child neurology and the ability to recognize and manage developmental disorders that may have neurological manifestations and vice versa. Specifically, residents should also become familiar with the principles and practice of psychopharmacology as it pertains to developmental disorders.

Specific techniques learned: Basic understanding of instruments used for neuropsychiatric and neuro-educational testing; obtaining developmental and behavioral history.

Assessment of competence: Direct observation by Developmental and Behavior faculty including final written assessment at the end of the rotation.

Development clinics are to focus on neurodevelopmental disabilities. Supervision is by Developmental Pediatrics staff. Residents are to participate as development fellows in this discipline and are responsible for seeing new consultations as well as follow-up visits.

<b>Neurology clinics (General Epilepsy and Neuromuscular)</b>
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Specific knowledge base gained: Knowledge of the broad spectrum of child neurological disorders seen in the outpatient setting. This includes history taking, physical examination, usage and evaluation of testing modalities, use of anticonvulsants and other medicines including those used for migraine, communication of results and treatment plans, counseling, accessing therapy and other modalities in the health-care system and interaction with schools and educational counselors.

Specific techniques learned: Elements of obtaining the history and physical exam.

Assessment of competence: Direct observation by faculty including final written assessment at the end of the rotation.

Neurology clinics are general child neurology clinics. Epilepsy clinic and neuromuscular (NM) clinic are sub-specialty child neurology clinics. Supervision is by Child Neurology staff and jointly by Child Neurology, Physical Medicine and Genetics staff in the NM clinic. Residents are responsible for seeing new outpatient consultations as well as follow-up visits. NM clinic is essential to provide residents with the necessary exposure to the physical medicine service. The goals and objectives of the muscle clinic are to learn to recognize and manage neuromuscular disorders. The goals and objectives of the epilepsy clinic are to learn to recognize and manage epileptic disorders. Residents are to become familiar with the pharmacological profiles of all anticonvulsant medications. Residents are to become familiar with alternatives to anticonvulsant medications and how these are managed, including the ketogenic diet, vagal nerve stimulator and epilepsy surgery.

<b>Inpatient Consult Service</b>
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Specific knowledge base gained: Knowledge of the broad spectrum of child neurological disorders seen in the inpatient setting, especially management of neurological emergencies and patients in the intensive care unit. This includes history taking, physical examination, evaluation and use of testing modalities, use of anticonvulsants and other medicines including those used for migraine, communication of results and treatment plans, counseling, accessing therapy and other modalities in the health-care system and interaction with schools and educational counselors

Specific techniques learned: patient history, physical and neurologic exam, diagnosis and management of pediatric neurologic disease.

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Assessment of competence: Direct observation by faculty including final written assessment at the end of the rotation.

The pediatric neurology resident will learn from involvement in patient care, independent reading, case presentations and attending teaching that occurs during daily work rounds as well as didactic teaching sessions held 2 to 3 times a week.

**PGY- 3 and 4 Rotation objectives:**

1. Medical Knowledge (topics to be covered – must cover and assess)
  - a. Acquisition and mastering of the neurologic history and examination in children
  - b. Increased clinical experience in the management of acute neurologic problems in children in the hospital setting
  - c. Further development of a clinical approach to localization and differential diagnosis of neurologic disorders in children
  - d. Further acquisition and refinement of the skills required to deliver competent and cost-effective medical care to children with primary neurological and neurodevelopmental disorders, as well as those patients who have neurological/neurodevelopmental consequences of systemic diseases
  - e. Acquisition and demonstration of the skills required to function as part of a multidisciplinary health care team and to be able to organize the communication vehicles and resources required to transition patients to an outpatient setting
  - f. Further experience teaching of medical students and service rotators in the adult rotations, and to further hone the skills of team management with an expanded role in the supervision and teaching of students and service rotators as well as pediatric residents in the pediatric rotations
  - g. Initiation of career planning through individualized reflection and faculty mentoring
2. Patient Care Skills (including technical skills to be learned and demonstrated – must cover and assess)
  - a. Acquisition and mastering of the neurologic history and examination in children
  - b. Increased clinical experience in the management of acute neurologic problems in children in the hospital setting
  - c. Further development of a clinical approach to localization and differential diagnosis of neurologic disorders in children
  - d. Further acquisition and refinement of the skills required to deliver competent and cost-effective medical care to children with primary neurological and neurodevelopmental disorders, as well as those patients who have neurological and neurodevelopmental consequences of systemic diseases
  - e. Acquisition and demonstration of the skills required to function as part of a multidisciplinary health care team and to be able to organize the communication vehicles and resources required to transition patients to an outpatient setting
  - f. Acquisition and demonstration of the skills required to function as part of a multidisciplinary health care team and to be able to organize the communication vehicles and resources required to transition patients to an outpatient setting
3. Interpersonal and Communication Skills
  - a. Acquisition of the communication skills necessary in order to effectively communicate to families and other health care providers in the team about the patient's medical condition, the necessary diagnostic tests, and management plan. These communication skills include excellent listening skills, ability to establish rapport with patient and family, ability to explain medical terms in a simplified manner, culturally sensitive care.

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- b. Further acquisition and refinement of the skills required to deliver competent and cost-effective medical care to children with primary neurological and neurodevelopmental disorders, as well as those patients who have neurological and neurodevelopmental consequences of systemic diseases
  - c. Acquisition and demonstration of the skills required to function as part of a multidisciplinary health care team and to be able to organize the communication vehicles and resources required to transition patients to an outpatient setting
  - d. Acquisition and demonstration of the skills required to function as part of a multidisciplinary health care team and to be able to organize the communication vehicles and resources required to transition patients to an outpatient setting
  - e. Further experience teaching of medical students and service rotators in the adult rotations, and to further hone the skills of team management with an expanded role in the supervision and teaching of students and service rotators as well as pediatric residents in the pediatric rotations
4. Professionalism
- a. Acquisition and demonstration of the skills required to function as part of a multidisciplinary health care team and to be able to organize the communication vehicles and resources required to transition patients to an outpatient setting
  - b. Initiation of career planning through individualized reflection and faculty mentoring
  - c. Timely completion of consults' medical records
5. Systems-Based Practice
- a. Acquisition and demonstration of the skills required to function as part of a multidisciplinary health care team and to be able to organize the communication vehicles and resources required to transition patients to an outpatient setting
  - b. Acquisition and demonstration of the skills required to function as part of a multidisciplinary health care team and to be able to organize the communication vehicles and resources required to transition patients to an outpatient setting
  - c. Further experience teaching of medical students and service rotators in the adult rotations, and to further hone the skills of team management with an expanded role in the supervision and teaching of students and service rotators as well as pediatric residents in the pediatric rotations
  - d. Initiation of career planning through individualized reflection and faculty mentoring
6. Practice-Based Learning and Improvement
- a. Acquisition and demonstration of the skills required to function as part of a multidisciplinary health care team and to be able to organize the communication vehicles and resources required to transition patients to an outpatient setting
  - b. Acquisition and demonstration of the skills required to function as part of a multidisciplinary health care team and to be able to organize the communication vehicles and resources required to transition patients to an outpatient setting
  - c. Further experience teaching of medical students and service rotators in the adult rotations, and to further hone the skills of team management with an expanded role in the supervision and teaching of students and service rotators as well as pediatric residents in the pediatric rotations
  - d. Initiation of career planning through individualized reflection and faculty mentoring

**PGY-5 Rotation objectives:**

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Residents are given increased responsibility and autonomy in the development of evaluation and care plans with the goal of independent practice. Emphasis is placed on leadership, management and team building skills in coordinating the ward and consultation services. Senior residents are also encouraged to participate in educational activities and research projects facilitated by attending faculty.

1. Medical Knowledge (topics to be covered – must cover and assess)
  - a. Mastering of the neurologic history and examination in children, as well as the ability to teach these skills to junior members of the team
  - b. Increased clinical experience in the management of acute neurologic problems in children in the hospital setting
  - c. Further development of a clinical approach to localization and differential diagnosis of neurologic disorders in children
  - d. Further acquisition and refinement of the skills required to deliver competent and cost-effective medical care to children with primary neurological and neurodevelopmental disorders, as well as those patients who have neurological/neurodevelopmental consequences of systemic diseases
  - e. Development of the skills required to function as the leader of a multidisciplinary health care team and to be able to organize the communication vehicles and resources required to transition patients to an outpatient setting
  - f. Leader of the teaching of medical students and service rotators, and to further hone the skills of team management with an expanded role in the supervision and teaching of students and service rotators as well as pediatric residents in the pediatric rotations
2. Patient Care Skills (including technical skills to be learned and demonstrated – must cover and assess)
  - a. Mastering of the neurologic history and examination in children, as well as the ability to teach these skills to junior members of the team
  - b. Increased clinical experience in the management of acute neurologic problems in children in the hospital setting
  - c. Further development of a clinical approach to localization and differential diagnosis of neurologic disorders in children
  - d. Further acquisition and refinement of the skills required to deliver competent and cost-effective medical care to children with primary neurological and neurodevelopmental disorders, as well as those patients who have neurological/neurodevelopmental consequences of systemic diseases
  - e. Development of the skills required to function as the leader of a multidisciplinary health care team and to be able to organize the communication vehicles and resources required to transition patients to an outpatient setting
3. Interpersonal and Communication Skills
  - a. Mastering of the neurologic history and examination in children, as well as the ability to teach these skills to junior members of the team
  - b. Acquisition of the communication skills necessary in order to effectively communicate to families and other health care providers in the team about the patient's medical condition, the necessary diagnostic tests, and management plan. These communication skills include excellent listening skills, ability to establish rapport with patient and family, ability to explain medical terms in a simplified manner, culturally sensitive care.
  - c. Further acquisition and refinement of the skills required to deliver competent and cost-effective medical care to children with primary neurological and

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neurodevelopmental disorders, as well as those patients who have neurological/neurodevelopmental consequences of systemic diseases

- d. Development of the skills required to function as the leader of a multidisciplinary health care team and to be able to organize the communication vehicles and resources required to transition patients to an outpatient setting
  - e. Leader of the teaching of medical students and service rotators, and to further hone the skills of team management with an expanded role in the supervision and teaching of students and service rotators as well as pediatric residents in the pediatric rotations
4. Professionalism
- a. Mastering of the neurologic history and examination in children, as well as the ability to teach these skills to junior members of the team
  - b. Development of the skills required to function as the leader of a multidisciplinary health care team and to be able to organize the communication vehicles and resources required to transition patients to an outpatient setting
5. Systems-Based Practice
- a. Development of the skills required to function as the leader of a multidisciplinary health care team and to be able to organize the communication vehicles and resources required to transition patients to an outpatient setting
  - b. Leader of the teaching of medical students and service rotators, and to further hone the skills of team management with an expanded role in the supervision and teaching of students and service rotators as well as pediatric residents in the pediatric rotations
6. Practice-Based Learning and Improvement
- a. Mastering of the neurologic history and examination in children, as well as the ability to teach these skills to junior members of the team
  - b. Development of the skills required to function as the leader of a multidisciplinary health care team and to be able to organize the communication vehicles and resources required to transition patients to an outpatient setting
  - c. Leader of the teaching of medical students and service rotators, and to further hone the skills of team management with an expanded role in the supervision and teaching of students and service rotators as well as pediatric residents in the pediatric rotations

<b>Research Elective Rotation</b>
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**Rotation objectives:**

1. Medical Knowledge (topics to be covered – must cover and assess)
  - a. Completion of a resident research project.
  - b. Grand Rounds presentation prior to graduation
  - c. In depth research on a topic or area of interest to the resident
2. Patient Care Skills (including technical skills to be learned and demonstrated – must cover and assess)
  - a. Dependent on project or scholarly work presented
3. Interpersonal and Communication Skills
  - a. Effective written communication or display of research
  - b. Effective oral communication of research subject matter

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4. Professionalism
  - a. Establishment of a research or career plan with direct mentoring from faculty
5. Systems-Based Practice
  - a. Establishment of a career plan with direct mentoring from faculty
6. Practice-Based Learning and Improvement
  - a. Completion of a resident quality improvement or safety project and Grand Rounds presentation prior to graduation
  - b. Establishment of a career plan with direct mentoring from faculty

**Overall Goals and Objectives with each training year**

Broadly, residents will acquire progressive responsibility throughout the program; residents will be expected to liaise more with staff and referring physicians. As a residency training program, this curriculum is designed to meet two objectives. It will prepare residents to sit for board exams at the completion of the program; and to individually and competently attend to the neurological disorders of childhood. Residents will gradually be able to expand their differential diagnoses of, treatment options for, and management of patients as their experience and training progresses. Evaluation of individual resident's progress toward achieving these basic goals and the related core competencies (see appendix 8) of each rotation will be graded on a rotation-by-rotation basis, which is typically monthly. Residents must achieve a satisfactory rating for each rotation or will need to repeat that rotation; further details are noted below (see **Program Advancement**).

Knowledge gained with each year of training:

- 1) Recognition of common neurological diseases in childhood and their differential diagnosis.
- 2) Competency in performing the neurologic examinations of infants and children.
- 3) Recognition of abnormal patterns of neurodevelopment.
- 4) Interpretation of neuro-diagnostic studies in infants and children.
- 5) Diagnosis and management of neurological emergencies in children.
- 6) Development of effective interactions with consulting services and ancillary staff.
- 7) Acquisition of effective practice management skills.
- 8) Familiarity with best practice guidelines
- 9) Ability to incorporate evidence based medicine into practice