

Introduction:

Welcome to the Clinical Neurophysiology and Epilepsy fellowship programs. The goals of the training programs are to master the skills necessary to successfully perform and analyze clinical neurophysiologic tests, including electroencephalography (EEG), evoked potentials (EP), electromyography (EMG), and nerve conduction studies (NCS), as well as to gain experience in specialized applications such as sleep studies, intraoperative monitoring, intracranial monitoring and long-term monitoring. Additionally, the epilepsy fellowship emphasizes experience in the clinical care of patients with epilepsy in both the inpatient and outpatient setting. The following outline is a list of the expectations, requirements and benefits for this program.

Skills: At the end of the training period, participants will be expected to demonstrate a mastery of the following:

Neurophysiology Fellowship*

- Technical aspects of EEG recording
- **Cellular physiology underlying neurophysiological testing**
- EEG analysis and the parameters of normal and abnormal findings
- Clinical implications of abnormal EEG findings
- **Basic evoked potentials**
- **Basic sleep study evaluation**
- **Intraoperative monitoring with evoked potentials and EEG**
- Methods and interpretation of intracranial monitoring
- **Technical and interpretational aspects of EMG and NCS**
- Independent research/scholarly activity with a mentor

Epilepsy Fellowship

- Technical aspects of EEG recording
- EEG analysis and the parameters of normal and abnormal findings
- **Clinical implications of abnormal EEG findings**
- **Evaluation of patients with epilepsy or suspected epilepsy in the outpatient setting**
- **Indications for admission to the epilepsy monitoring unit**
- **Management of patients in the epilepsy monitoring unit**
- **Indications for intracranial EEG evaluation**
- Methods and interpretation of intracranial monitoring
- Independent research/scholarly activity with a mentor

*The teaching objectives in bold indicate aspects unique to each individual fellowship track

This is a one-year (12 month) ACGME accredited fellowship, with training at Baylor College of Medicine and affiliated hospitals. All fellows will get credentialed at:

- Baylor College of Medicine, Baylor Clinic - McNair Campus (BCM)
- CHI Baylor St. Luke's Medical Center (BSLMC)
- Michael E. DeBakey Veteran's Administration Medical Center (MEDVAMC)
- Texas Children's Hospital (TCH)
- Harris Health - Ben Taub General Hospital (HHS)*
- CHI Baylor St Luke's Medical Center – The Woodlands (SLWH)

**Neurophysiology services will be provided remotely*

Rotations:

General: All fellows will have access approved at the beginning of the academic year. If access is lost, contact IT for the specific facility to reinstate access. It's important to maintain access by logging in every 30 days and also confirming access before the rotation starts.

EEG Rotations

Fellows will be scheduled for rotations to participate in reading EEGs at Texas Children's Hospital (TCH), Baylor St Luke's Medical Center (BSLMC), Michael E. DeBakey Veterans Affairs Medical Center (MEDVAMC), *Harris Health - Ben Taub General Hospital (HHS)* & CHI Baylor St Luke's Medical Center – The Woodlands (SLWH)**;

*Neurophysiology services will be provided remotely. The schedule is in half days (morning and afternoon).

Depending on clinic and research times, fellows may be scheduled for half days at different locations. Fellows are under the supervision of the individual attending scheduled at each institution and any concerns can be discussed directly with the scheduled attending. If further action is needed, then the matter should be referred to the program director.

PLEASE be proactive and touch base early in the day to the attending(s) you will be working with so that they can plan around your unique daily schedule

The goals at each institution are listed below:

BSLMC/MEDVAMC EEG: Studies at these hospitals are from a primarily adult (including geriatric) patient population. Fellows will read the EEG studies (routine inpatient, routine outpatient, STAT, continuous bedside monitoring EEG, Evoked Potentials, IOM) as they are downloaded to the server. Studies will be reviewed with the scheduled attending. Fellows will prepare a draft report for the attending to review. (*refer to Adult EEG report template below*)

The goal of the rotation is to master an understanding of adult normal and abnormal EEG variations (including diffuse and focal abnormalities, coma patterns, and epileptiform abnormalities) and understand age-related changes in the EEG. At the end of the training period, fellows should be able to provide a succinct, cogent interpretation of the studies for referring clinicians.

TCH EEG: Studies at TCH are primarily from a pediatric population. Fellows will read the EEG studies (routine inpatient, routine outpatient, STAT, continuous bedside monitoring EEG) as they are downloaded to the server. Studies will be reviewed with the scheduled attending responsible for the report.

The goal of the TCH rotation is to master an understanding of normal developmental changes and EEG milestones in neonatal and childhood EEG and recognize and interpret abnormal EEG variations (including diffuse and focal abnormalities, coma patterns, and epileptiform abnormalities). At the end of the training period, fellows should be able to provide a succinct, cogent interpretation of the studies for referring clinicians (*refer to TCH EEG report template below*)

BSLMC/TCH Intraoperative Monitoring. While rotating at BSLMC and TCH, fellows will monitor cases online with the supervision of the attending physician in the EMU/Neurophysiology laboratory. These studies include EEG monitoring of carotid endarterectomy, EEG monitoring for isoelectric hypothermia bypass procedures, motor and sensory evoked potentials and brainstem auditory evoked potentials. Although most cases will be monitored remotely in the Neurophysiology laboratory, fellows are encouraged to visit the OR at TCH and BSLMC early on in their rotations to observe the recording procedures directly and to learn the instrumentation involved under supervision of the IOM technologist.

The goal of this exposure is to understand the principles of intraoperative monitoring, recognize the modalities utilized in various surgical procedures and recognize acute changes in recorded electrophysiologic parameters that reflect neurologic compromise during surgical procedures to assist the surgical team.

Fellows are expected to complete site-rotations in person. BCM GME will provide formal guidance on any circumstances where remote work might be recommended. Fellows are expected to check in with their attending in the AM to review the plan for the day. The recommended review frequency for long-term studies is at least twice daily.

BSLMC / MEDVAMC/ TCH Epilepsy Monitoring Units (EMU): All fellows will spend some time rotating in the EMU (more EMU for epilepsy fellows). While at BSLMC and MEDVAMC, following completion of the epilepsy monitoring unit rounds and EEG review, the remaining time will be spent in the epilepsy clinic for epilepsy fellows and performing IOM for CNP fellows. On afternoons where the fellow has continuity clinic or research time, the EMU fellow will sign out to the EEG fellow (if on the 2-fellows system) or primary EMU attending on service. While on the EMU rotation, fellow responsibilities include: supervising the admission and workup of the EMU patients by the neurology resident; daily patient rounds with the attendings; providing supervised anti-seizure medication adjustments as indicated; daily review of the monitoring study recordings; making a draft report; participation in the various associated tests for epilepsy surgical work-up (Wada test, SPECT scan, MRI, fMRI, MEG, PET scan, planning for phase II implantations), intra-operative EEG monitoring for epilepsy surgery (ECOG, Intracranial EEG, implants awake craniotomy), and presentation of patients at the weekly patient management conference (PMC – see below).

The goal of this rotation is to master specialized skills necessary for evaluation of patients with epilepsy, including continuous video-EEG monitoring, pre-surgical evaluation of patients with intractable epilepsy, and both intracranial and intra-operative EEG monitoring.

In the EMU, the fellow and resident are involved in direct patient care. The fellow and resident round in person on each EMU patient with the attending. The resident should be available during standard business hours (8a-5p) to address any EMU patient issues. If no resident (eg. in clinic), then the resident should sign out to the fellow on the EMU service. Sign out after 5pm and on weekends should be performed to the on-call neurophysiology/epilepsy fellow (for EEG-related matters), with the EMU attending copied on the e-mail.

PATIENT MANAGEMENT CONFERENCE (PMC) EXPECTATIONS

Patients seen by fellows while in the EMU or in clinic should plan to present patients in the weekly Patient Management Conference (PMC). Presentations (PPT format) and Handouts (DOC format) should be uploaded to Teams **by Monday at noon (the day before conference)**. In addition, fellows should review these documents with the primary (outpatient) faculty **by Thursday the week before conference**. The fellow should take the lead in presenting at conference. However, for Phase 2 studies, the faculty should by default take the primary responsibility for presenting the intracranial EEG review (the remainder of the presentation can be given by the fellow). At the discretion of faculty, fellows may take the lead presenting the intracranial EEG review.

EMG

Neurophysiology fellows will have potential exposure to EMG (clinic/labs) at BSLMC, TCH, MEDVAMC & BSLMC – McNair. At a minimum this will typically be a 2-week dedicated EMG/NCS block with dedicated time at TCH, MEDVAMC, BSLMC and/or BSLMC-McNair. Fellows in the dual track EEG-EMG CNP fellowship will have more dedicated EMG/NCS time outlined in their schedule.

Epilepsy Fellows have elective time available and have the opportunity to participate in EMG studies if they so choose.

Sleep Rotation

Pediatric Clinical Neurophysiology Fellows will complete a total of 2 weeks at TCH. NO vacation leave may be taken during this rotation. This will occur in the 2nd half of the year. Please email Dr. Sonal Malhotra at sxmalhot@texaschildrens.org at least one month prior to starting the rotation.

All fellows must attend the following conferences:

- Journal club – 1st Tuesday of the month at 3pm via Zoom
- Board review - 2nd and 3rd Tuesday of the month 1-2pm via Zoom
- Case conferences - 4th Tuesday of the month at 1:30-2:30 pm via Zoom
- Lectures: Every Friday afternoon between 1-4pm via Zoom

Adult Clinical Neurophysiology Fellows will have a 2-week block of sleep with focused experience at the VA. Please email Dr. Singh at Supriya.Singh2@bcm.edu at least one month before starting the rotation to get the rotation schedule.

Clinics:

Fellows rotating at the MEDVAMC will have several clinic experiences. Adult epilepsy fellows will be expected to attend a continuity clinic at the MEDVAMC on Thursday afternoons. Excused weeks off of continuity clinic will be when a fellow is on vacation or when they are on rotations at TCH. While on the TCH ambulatory rotation, fellows will attend various pediatric epilepsy clinics which vary depending on being a CNP or epilepsy fellow. Epilepsy fellows on the BSLMC EMU will spend available afternoons (if not doing research, in continuity clinic, or cross-covering for the EEG fellow) seeing patients in the epilepsy clinics of the adult faculty at BSLMC-McNair.

The goal of the clinics is to provide fellows with direct outpatient care experience in treating individuals with epilepsy and epilepsy-related disorders. This includes clinical evaluation, laboratory work up and treatment of such patients.

Electives:

Adult fellows during the CNP fellowship will have a 2-week dedicated block of sleep and 2 weeks of EMG/NCS (for those on primary EEG track). Pediatric CNP fellows will have 8 weeks of dedicated IOM. Epilepsy fellows have 4 flexible weeklong experiences that can be in MEG (Magnetoencephalography), outpatient clinic, continuous EEG monitoring, neuropsychology, intraoperative monitoring, scholarly activity, EMG/NCS or sleep.

Rotations

TCH SITES: For TCH badging or Epic access concerns, please contact Cynthia.Calija@bcm.edu

TCH Outpatient (CNP fellow)

| | MONDAY | TUESDAY | WEDNESDAY | THURSDAY | FRIDAY |
|----------|---|--|--|--------------------------------|--------------------------------|
| 07:00 AM | | Pediatric Epilepsy Patient Management Conference - TCH Bluebird Clinic | | | |
| 08:00 AM | if on TCH EMU prior week, EMU coverage. Otherwise EMG (Woodbury, WT21). If not EMGs scheduled, EEG (Seto/Diaz-Medina, WT21) | Adult Epilepsy Patient Management Conference | EEG (Sully, Bartlett, WT21) | EEG (Katyayan/Takacs, WT21) | Scholarly Activity |
| 09:00 AM | | EEG (Anderson, WT21) | | | |
| 10:00 AM | | | | | |
| 11:00 AM | | | | | |
| 12:00 PM | Neurology Grand Rounds - Mc Nair | Neurophysiology Lecture Series | Pedi Neurology Grand Rounds | Neurophysiology Lecture Series | Neurophysiology Lecture Series |
| 01:00 PM | EEG (Ali/Houck/Trandafir, WT21) | EEG (Nayak, WT21) | Epilepsy clinic (Ali/Coorg/Houck/Katyayan/Sully/Takacs/Trandafir, MW9) | EEG (Mizrahi, WT21) | Scholarly activity |
| 02:00 PM | | | | | |
| 03:00 PM | | | | | |
| 04:00 PM | | | | | |
| 05:00 PM | | | | | |
| 06:00 PM | | | | | |

WT = West Tower

TCH Outpatient (Epilepsy Fellow)

| | MONDAY | TUESDAY | WEDNESDAY | THURSDAY | FRIDAY |
|----------|---|--|--------------------------------------|---|--|
| 07:00 AM | | Pediatric Epilepsy Patient Management Conference - TCH Bluebird Clinic | | | |
| 08:00 AM | If on TCH EMU prior week, EMU coverage. Otherwise Epilepsy clinic (Ali/Coorg/Sen/Sully/Takacs, MW9) | Adult Epilepsy Patient Management Conference | MEG/Dipole Analysis (Dr. Quach, MW4) | If 1st wk of month Dravet clinic (Nayak/Sully, MW9), otherwise RNS/Epilepsy Clinic (Ali/Houck/Trandafir, MW9) | Scholarly activity |
| 09:00 AM | | EEG (Anderson, WT21) | | | |
| 10:00 AM | | | | | |
| 11:00 AM | | | | | |
| 12:00 PM | Neurology Grand Rounds - Mc Nair | Neurophysiology Lecture Series | Pedi Neurology Grand Rounds | Neurophysiology Lecture Series | Neurophysiology Lecture Series |
| 01:00 PM | Epilepsy clinic (Riviello, MW9). If Riviello not in clinic, Epilepsy clinic (Davila-Williams/Diaz-Medina/Takacs, MW9) | MEG acquisition/TMS (Xavier/Jeremy/Paul, PFW5South) | Epilepsy fellows continuity clinic | EEG (Mizrahi, WT21) | Keto clinic (Katyayan, MW9) or Laser Ablation (Ali/Curry, LT8 OR1). Otherwise EEG (Davila/Rotator, WT21) |
| 02:00 PM | | | | | |
| 03:00 PM | | | | | |
| 04:00 PM | | | | | |
| 05:00 PM | | | | | |
| 06:00 PM | | | | | |

MW: Mark Wallace Tower

PFW: Pavilion for Women

TCH EMU

| | MONDAY | TUESDAY | WEDNESDAY | THURSDAY | FRIDAY | SATURDAY | SUNDAY |
|----------|------------------------------|--------------------------------|-----------------------------|--------------------------------|--------------------------------|-------------------------------|--|
| 07:00 AM | | Pediatric Epilepsy | Lecture | Lecture | | | |
| 08:00 AM | TCH EMU Coverage - Admitting | Adult Epilepsy | TCH EMU | TCH EMU | TCH EMU | TCH EMU rounds - EMU fellow 1 | TCH EMU rounds - EMU fellow 2 (if 2 fellows) |
| 09:00 AM | | | | | | | |
| 10:00 AM | | | | | | | |
| 11:00 AM | | | | | | | |
| 12:00 PM | Neurology Grand Rounds | Neurophysiology Lecture Series | Pedi Neurology Grand Rounds | Neurophysiology Lecture Series | Neurophysiology Lecture Series | | |
| 01:00 PM | TCH EMU | TCH EMU | TCH EMU | TCH EMU | TCH EMU | | |
| 02:00 PM | | | | | | | |
| 03:00 PM | | | | | | | |
| 04:00 PM | | | | | | | |
| 05:00 PM | | | | | | | |
| 06:00 PM | | | | | | | |

TCH EMU fellow week carries over into following Monday AM (as long as staying at TCH)
 If no EMU patients over the weekend, the fellow will assist with Neuro add-ons and CEEG studies.
 Weekend in house rounds/work follows the same hour limitations that apply to the residents or other fellows.

TCH CEEG

| | MONDAY | TUESDAY | WEDNESDAY | THURSDAY | FRIDAY | SATURDAY | |
|----------|--|--|-----------------------------|--------------------------------|--------------------------------|--|--|
| 07:00 AM | | Pediatric Epilepsy Patient Management Conference - TCH Bluebird Clinic | | | | | |
| 08:00 AM | ICU EEG or EMU coverage (if on TCH EMU prior week) | Adult Epilepsy Patient Management Conference | ICU EEG | ICU EEG | ICU EEG | If on overnight call, cEEG call 5pm Fri to 7am Sat; - 2nd fellow (not on overnight call), ICU EEG, start at 7am | |
| 09:00 AM | | | | | | | |
| 10:00 AM | | | | | | | |
| 11:00 AM | Neurology Grand Rounds - Mc Nair | Neurophysiology Lecture Series | Pedi Neurology Grand Rounds | Neurophysiology Lecture Series | Neurophysiology Lecture Series | | |
| 12:00 PM | ICU EEG | ICU EEG | Scholarly Activity | ICU EEG | ICU EEG | If 2nd fellow: ICU EEG | |
| 01:00 PM | | | | | | | |
| 02:00 PM | | | | | | | |
| 03:00 PM | | | | | | | |
| 04:00 PM | | | | | | | |
| 05:00 PM | | | | | | | |
| 06:00 PM | | | | | | | |

ICU EEG room in Legacy Tower 9th floor

BAYLOR ST. LUKE'S ACCESS ISSUES: contact Bernadette Moore-Dumas TX-Houston at bernadette.moore-dumas@commonspirit.org

BEN TAUB ACCESS ISSUES: contact Nikki Moore at MedicalStaffServices@harrishealth.org

BSL Neurophysiology/EEG – 2 fellow model

| | MONDAY | TUESDAY | WEDNESDAY | THURSDAY | FRIDAY |
|----------|-----------------------------------|-----------------------------------|---------------------|-----------------------------------|-----------------------------------|
| 07:00 AM | | Pediatric Epilepsy | | | |
| 08:00 AM | | Adult Epilepsy | | | |
| 09:00 AM | | | | | |
| 10:00 AM | | EEG/IOM at BSL/BTGH | EEG/IOM at BSL/BTGH | EEG/IOM at BSL/BTGH | EEG/IOM at BSL/BTGH |
| 11:00 AM | EEG/IOM at BSL/BTGH | | | | |
| 12:00 PM | Neurology Grand Rounds Mc Nair | Neurophysiology Lecture Series | Pedi Grand Rounds | Neurophysiology Lecture Series | Neurophysiology Lecture Series |
| 01:00 PM | | | | | |
| 02:00 PM | | | | | |
| 03:00 PM | | | | | |
| 04:00 PM | | | Scholarly Activity | EEG/IOM at | EEG/IOM at |
| 05:00 PM | EEG/IOM at BSL/BTGH (+ | EEG/IOM at | (coverage by EMU | BSL/BTGH (+ EMU | BSL/BTGH (+ EMU |
| 06:00 PM | EMU coverage) | BSL/BTGH | fellow) | coverage) | coverage) |

BSL EMU – 2 fellow model

| | MONDAY | TUESDAY | WEDNESDAY | THURSDAY | FRIDAY |
|----------|-------------------------------------|-----------------------------------|------------------------|--|-----------------------------------|
| 07:00 AM | | Pediatric Epilepsy Patient | | | |
| 08:00 AM | EMU record review, | Adult Epilepsy Patient | EMU record review, | | |
| 09:00 AM | attending rounds, | | attending rounds, | EMU record review, attending | EMU record review, |
| 10:00 AM | resident supervision - | EMU record review, | resident supervision - | rounds, resident supervision - | attending rounds - |
| 11:00 AM | BSLMC | attending rounds - BSLMC | BSLMC | BSLMC | BSLMC |
| 12:00 PM | Grand Rounds - Adult | Neurophysiology Lecture Series | Grand Round - Pedi | Neurophysiology Lecture Series | Neurophysiology Lecture Series |
| 01:00 PM | Epilepsy Fellow - McNair Clinic; | | | Epilepsy fellow: VA Continuity Clinic | Scholarly Activity |
| 02:00 PM | Neurophys Fellow - IOM | EMU record review | EEG/IOM at BSL/BTGH | Neuophys fellow: IOM at BSL; | (coverage by EEG fellow) |
| 03:00 PM | at BSL; | | | (coverage by EEG fellow) | |
| 04:00 PM | (coverage by EEG fellow) | | | | |
| 05:00 PM | | | | | |
| 06:00 PM | | | | | |

NOTE: EMU responsibilities (eg. cortical mapping) may take precedence over other PM responsibilities at attending discretion

BSLMC One fellow model

| | MONDAY | TUESDAY | WEDNESDAY | THURSDAY | FRIDAY |
|----------|---|--------------------------------------|---|--|---|
| 07:00 AM | | Pediatric Epilepsy Patient | | | |
| 08:00 AM | EMU record review, attending rounds, resident supervision - BSLMC | Adult Epilepsy Patient | EMU record review, attending rounds, resident supervision - BSLMC | EMU record review, attending rounds, resident supervision - BSLMC | EMU record review, attending rounds - BSLMC |
| 09:00 AM | | | | | |
| 10:00 AM | | | | | |
| 11:00 AM | | | | | |
| 12:00 PM | Grand Rounds - Adult | Neurophysiology Lecture Series | Grand Round - Pedi | Neurophysiology Lecture Series | Neurophysiology Lecture Series |
| 01:00 PM | EEG/IOM at BSL/BTGH (+ EMU coverage) | EEG/IOM at BSL/BTGH (+ EMU coverage) | EEG/IOM at BSL/BTGH (+ EMU coverage) | Continuity Clinic at VA (epilepsy fellow); EEG/IOM at BSL/BTGH + EMU coverage (CNP fellow) | Scholarly Activity |
| 02:00 PM | | | | | |
| 03:00 PM | | | | | |
| 04:00 PM | | | | | |
| 05:00 PM | | | | | |
| 06:00 PM | | | | | |

MICHAEL E. DEBAKEY VAMC ACCESS ISSUES: Contact Mary Jenkins at Mary.Jenkins4@va.gov; note: VA remote access instructions can be found on bcmneuro.com

VA CNP fellow – 2 fellow system

| | MONDAY | TUESDAY | WEDNESDAY | THURSDAY | FRIDAY |
|----------|----------------------------------|---------------------------------------|----------------------------------|---|--------------------------------|
| 07:00 AM | | Pediatric Epilepsy Patient Management | | | |
| 08:00 AM | EEGs | Adult Epilepsy Patient Management | EEGs | EEGs | EEGs |
| 09:00 AM | | | | | |
| 10:00 AM | | | | | |
| 11:00 AM | | | | | |
| 12:00 PM | Neurology Grand Rounds - Mc Nair | Neurophysiology Lecture Series | Pediatric Neurology Grand Rounds | Neurophysiology Lecture Series (Zoom) | Neurophysiology Lecture Series |
| 01:00 PM | EEGs | EEGs | EEGs | EEGs (if epilepsy fellow, will go to continuity clinic) | Scholarly Activity |
| 02:00 PM | | | | | |
| 03:00 PM | | | | | |
| 04:00 PM | | | | | |
| 05:00 PM | | | | | |
| 06:00 PM | | | | | |

VA Epilepsy fellow – 2 fellow system

| | MONDAY | TUESDAY | WEDNESDAY | THURSDAY | FRIDAY |
|----------|---|---|---|---|--------------------------------|
| 07:00 AM | | Pediatric Epilepsy Patient Management | | | |
| 08:00 AM | EMU Rounds | Adult Epilepsy Patient Management | EMU rounds | EMU rounds | EMU Discharge Rounds |
| 09:00 AM | | EMU Rounds | Epilepsy Inpatient Consults | | |
| 10:00 AM | | | | | |
| 11:00 AM | | | | | |
| 12:00 PM | Neurology Grand Rounds - Mc Nair | Neurophysiology Lecture Series | Pediatric Neurology Grand Rounds | Neurophysiology Lecture Series (Zoom) | Neurophysiology Lecture Series |
| 01:00 PM | Epilepsy Inpatient Consults * Epilepsy Clinic (epilepsy fellow) | Epilepsy Inpatient Consults * Epilepsy Clinic (epilepsy fellow) | Epilepsy Inpatient Consults * Epilepsy Clinic (epilepsy fellow) | Continuity Clinic (for adult Epilepsy Fellow only), otherwise Epilepsy consults | Scholarly Activity |
| 02:00 PM | | | | | |
| 03:00 PM | | | | | |
| 04:00 PM | | | | | |
| 05:00 PM | | | | | |
| 06:00 PM | | | | | |

VA 1-fellow system

| | MONDAY | TUESDAY | WEDNESDAY | THURSDAY | FRIDAY |
|----------|----------------------------------|---------------------------------------|----------------------------------|---------------------------------------|--------------------------------|
| 07:00 AM | | Pediatric Epilepsy Patient Management | | | |
| 08:00 AM | EEGs | Adult Epilepsy Patient Management | EMU rounds | EMU Rounds | EMU Discharge Rounds |
| 09:00 AM | | EMU Rounds | Epilepsy Inpatient Consults | | |
| 10:00 AM | | | | | |
| 11:00 AM | | | | | |
| 12:00 PM | Neurology Grand Rounds - Mc Nair | Neurophysiology Lecture Series | Pediatric Neurology Grand Rounds | Neurophysiology Lecture Series (Zoom) | Neurophysiology Lecture Series |
| 01:00 PM | EMU Intake Rounds | EEGs | EEGs | EMU Rounds | Scholarly Activity |
| 02:00 PM | | | | | |
| 03:00 PM | | | | | |
| 04:00 PM | | | | | |
| 05:00 PM | | | | | |
| 06:00 PM | | | | | |

EMG 2 week elective block (contact faculty 1 week before to confirm who is available – Pediatric fellows should contact Dr. Woodbury to confirm her availability)

| | MONDAY | TUESDAY | WEDNESDAY | THURSDAY | FRIDAY |
|----------|--|---|--|---|--|
| 07:00 AM | | Pediatric Epilepsy Patient Management Conference - TCH Bluebird Clinic | | | |
| 08:00 AM | 1. EMG/NCS with Dr. Anderson 2. EMG/NCS with Dr. Pleitez 3. PEDI: EMG/NCS with Dr. Woodbury (TCH - WT 21) | Adult Epilepsy Patient Management Conference | 1. EMG with Dr. Anandan at VA [Backup: Dr. Anderson at McNair] | 1. EMG with Dr. Echiverri at McNair [Backup: Cherian at VA] | 1. ALS clinic (once monthly at McNair), 2. EMG/NCS with Dr. Pleitez at McNair |
| 09:00 AM | Woodbury (TCH - WT 21) | 1. EMG with Dr. Anandan/Lu at VA (after PMC) [Backup: Killian/Echiverri at McNair] | | | |
| 10:00 AM | [Backup: Anandan/Patel at VA] | | | | |
| 11:00 AM | | | | | |
| 12:00 PM | Neurology Grand Rounds - Mc Nair | Neurophysiology Lecture Series | Pedi Neurology Grand Rounds | Neurophysiology Lecture Series | Neurophysiology Lecture Series |
| 01:00 PM | 1. EMG/NCS with Dr. Anderson [Backup: Anandan/Patel at VA] | 1. EMG/NCS with Dr. Anandan/Lu at VA 2. PEDI: EMG/NCS at TCH (1st, 3rd, and 5th Tuesdays) | 1. EMG with Dr. Anandan at VA [Backup: Dr. Anderson at McNair] | 1. EMG with Dr. Echiverri at McNair [Backup: Cherian at VA] | Scholarly Activity |
| 02:00 PM | | | | | |
| 03:00 PM | | | | | |
| 04:00 PM | | | | | |
| 05:00 PM | | | | | |

IOM (pre-~10/23):

| | MONDAY | TUESDAY | WEDNESDAY | THURSDAY | FRIDAY |
|----------|----------------------------------|--|-----------------------------|--------------------------------|--------------------------------|
| 07:00 AM | | Pediatric Epilepsy Patient Management Conference - TCH Bluebird Clinic | | | |
| 08:00 AM | TCH OR | Adult Epilepsy Patient Management Conference | TCH OR | BSLMC OR/BSLMC Reading room | BSLMC OR/BSLMC Reading room |
| 09:00 AM | | | | | |
| 10:00 AM | | BSLMC OR/BSLMC Reading room | | | |
| 11:00 AM | | | | | |
| 12:00 PM | Neurology Grand Rounds - Mc Nair | Neurophysiology Lecture Series | Pedi Neurology Grand Rounds | Neurophysiology Lecture Series | Neurophysiology Lecture Series |
| 01:00 PM | | | | | |
| 02:00 PM | | | | | |
| 03:00 PM | TCH OR/TCH reading room | BSLMC OR/BSLMC Reading room | TCH OR/TCH reading room | BSLMC OR/BSLMC Reading room | Scholarly Activity |
| 04:00 PM | | | | | |
| 05:00 PM | | | | | |
| 06:00 PM | | | | | |

IOM (starting ~10/23):

| | MONDAY | TUESDAY | WEDNESDAY | THURSDAY | FRIDAY |
|----------|----------------------------------|--|-----------------------------|--------------------------------|--------------------------------|
| 07:00 AM | | Pediatric Epilepsy Patient Management Conference - TCH Bluebird Clinic | | | |
| 08:00 AM | BSLMC OR/BSLMC Reading room | Adult Epilepsy Patient Management Conference | BSLMC OR/BSLMC Reading room | BSLMC OR/BSLMC Reading room | BSLMC OR/BSLMC Reading room |
| 09:00 AM | | BSLMC OR/BSLMC Reading room | | | |
| 10:00 AM | | | | | |
| 11:00 AM | | | | | |
| 12:00 PM | Neurology Grand Rounds - Mc Nair | Neurophysiology Lecture Series | Pedi Neurology Grand Rounds | Neurophysiology Lecture Series | Neurophysiology Lecture Series |
| 01:00 PM | BSLMC OR/BSLMC Reading room | BSLMC OR/BSLMC Reading room | BSLMC OR/BSLMC Reading room | BSLMC OR/BSLMC Reading room | Scholarly Activity |
| 02:00 PM | | | | | |
| 03:00 PM | | | | | |
| 04:00 PM | | | | | |
| 05:00 PM | | | | | |
| 06:00 PM | | | | | |

MEG elective

| | MONDAY | TUESDAY | WEDNESDAY | THURSDAY | FRIDAY |
|----------|----------------------------------|--|--------------------------------------|--------------------------------|--------------------------------|
| 07:00 AM | | Pediatric Epilepsy Patient Management Conference - TCH Bluebird Clinic | | | |
| 08:00 AM | MEG lab patient hookup | Adult Epilepsy Patient Management Conference | MEG lab patient hookup (sedated MEG) | MEG lab review Dr. Quach | MEG study independent review |
| 09:00 AM | | MEG lab review Dr. Quach | | | |
| 10:00 AM | | | | | |
| 11:00 AM | | | | | |
| 12:00 PM | Neurology Grand Rounds - Mc Nair | Neurophysiology Lecture Series | Pedi Neurology Grand Rounds | Neurophysiology Lecture Series | Neurophysiology Lecture Series |
| 01:00 PM | MEG lab review Techs | MEG lab review Dr. Quach | MEG lab review techs | MEG lab review Dr. Quach | Scholarly activity |
| 02:00 PM | | | | | |
| 03:00 PM | | | | | |
| 04:00 PM | | | | | |
| 05:00 PM | | | | | |
| 06:00 PM | | | | | |

Adult Epilepsy Clinics (for elective/while on EMU)

| | MONDAY | TUESDAY | WEDNESDAY | THURSDAY | FRIDAY |
|----------|----------------------------------|--|----------------------------------|--------------------------------|--------------------------------|
| 07:00 AM | | Pediatric Epilepsy Patient Management Conference - TCH Bluebird Clinic | | | |
| 08:00 AM | Drs. Goldman, Lin | Adult Epilepsy Patient Management Conference | Drs. Van Ness, Goldman | Drs. Tantillo, Lin | Dr. Van Ness |
| 09:00 AM | | Dr. Goldman, Neuropsych testing with Dr. Stinson | | | |
| 10:00 AM | | | | | |
| 11:00 AM | | | | | |
| 12:00 PM | Neurology Grand Rounds - Mc Nair | Neurophysiology Lecture Series | Pedi Neurology Grand Rounds | Neurophysiology Lecture Series | Neurophysiology Lecture Series |
| 01:00 PM | Drs. Goldman, Lin | Dr. Van Ness | Drs. Van Ness, Krishnan, Goldman | Drs. Tantillo, Lin | Dr. Van Ness |
| 02:00 PM | | | | | |
| 03:00 PM | | | | | |
| 04:00 PM | | | | | |
| 05:00 PM | | | | | |
| 06:00 PM | | | | | |

ADULT EEG TEMPLATE - *sample*

This EEG template can be found in BSL EPIC under the smart phrase .eegwoodlands

DATE OF TEST:

DATE OF REPORT:

ACC:

EEG:

Start time:

Stop time:

ICD-10:

CPT:

HISTORY:

MEDICATIONS:

TECHNICAL SUMMARY:

This is a digital video EEG recorded with 32 input channels reviewed with bipolar and referential montages using the modified combinatorial system nomenclature.

DESCRIPTION OF RECORD:

During the maximally alert state a 9 Hz posterior dominant rhythm was seen that was symmetric, reactive to eye opening and well regulated. More anteriorly, low voltage frontocentral beta predominated. Drowsiness was characterized by alpha attenuation and increased frontocentral theta, vertex sharp transients and POSTS. Stage 2 sleep was reached characterized by symmetric sleep spindles and K-complexes.

HV: Hyperventilation was not performed. Hyperventilation was performed for 3 minutes with good effort. No change was seen with HV.

PHOTIC STIMULATION: Flash stimulation was done from 1-30 Hz; no photic driving was seen; photoparoxysmal responses were absent.

IMPRESSION: Normal Awake and Asleep EEG

1. List abnormalities

CLINICAL CORRELATION: An EEG without epileptiform discharges does not exclude the possibility of epilepsy. If the clinical suspicion of epilepsy remains, consider additional EEG recordings.

xxxxxx

Neurophysiology Fellow

I have personally reviewed this entire EEG and the report and I agree with the above note.

XXXX

Clinical Neurophysiology/Epilepsy Attending

TCH EEG Template

The new EEG template can be found in TCH EPIC under the smart phrase .tcheeg

Texas Children's Hospital
Neurophysiology Department
EEG Report

Date of Examination: @TODAY@
EEG Number: @FLOW(1330080081::1)@

@NAME@
MRN: @MRN@
Patient's Age: @AGE@

Referring Provider: @FLOW(1330080083::1)@

EEG TECHNOLOGIST HISTORY:

Pertinent medical history: @FLOW(1330080094::1)@
Level of consciousness: @FLOW(1330080090::1)@
Reason for EEG: @FLOW(1330080091::1)@
Description of event: @FLOW(1330080093::1)@
Frequency of events: @FLOW(1330080095::1)@
Length of episode: @FLOW(1330080097::1)@
Preceding symptoms? @FLOW(1330080098::1)@
Behavior after event is over: @FLOW(1330080099::1)@
Date/Time of last event: @FLOW(1330080096::1)@
Pertinent Medications @FLOW(1330080100::1)@
Previous EEG? @FLOW(1330080084::1)@
@FLOW(1330080085::1)@

TECHNICAL SUMMARY: Electrodes were applied by an EEG technologist according to the 10-20 electrode placement system with at least 16 recording electrodes. Ocular leads and a single electrocardiogram channel were also recorded. The electroencephalogram was recorded simultaneously with video throughout the designated time period. Monitoring was maintained and continuously attended by the neurophysiology technical staff.

A description of the terms used to quantify spikes using a visual analog scale includes:

Rare: a spike-wave index of less than 1%.
Occasional: a spike-wave index of 1-10%.
Frequent: a spike-wave index of 10-50%.
Abundant: a spike-wave index of 50-90%.
Continuous: a spike-wave index of greater than 90%.

A description of the terms used to quantify voltage includes:

Low: <20 uV
Medium or Moderate: 20-70 uV
High: >70uV

EEG DESCRIPTION:**Awake Background:**

The background is continuous and symmetric. The posterior dominant rhythm is a well formed, *** Hz, *** uV rhythm with reactivity noted to eye opening and closing. A well-formed *** Hz central rhythm is seen bilaterally, and a frequency amplitude gradient is present.

No focal slowing, attenuation or background asymmetry was identified.

Sleep:

With drowsiness, there is a slowing of the background frequencies bilaterally. With sleep, vertex waves, sleep spindles, and K complexes are present. Slow wave sleep was not seen. There are admixed sharply contoured waveforms at the vertex including F waves. Following awakening, there is a return of the previously described background frequencies.

Behavioral sleep was obtained but no sleep architecture was detected.

No sleep was obtained.

Epileptiform Abnormalities:

None

Seizures or patient events:

None

Activation Procedures:

Hyperventilation was not performed.

Hyperventilation for 3 minutes was performed with good effort and induced no abnormalities.

Photic stimulation induced no abnormalities.

Photic stimulation induced no abnormalities, and well-formed evoked responses are seen bilaterally.

Hyperventilation and photic stimulation were not performed.

ECG:

A prolonged lead one EKG is obtained with no obvious dysrhythmia.

IMPRESSION: This EEG, recorded in the waking and sleep states, is within normal limits.

This EEG, recorded in the waking and sleep states, is abnormal, due to:

- 1) *** (most severe thing first)
- 2) ***
- 3) ***

CLINICAL CORRELATION:

The diagnosis of a seizure remains a clinical one and a normal study does not exclude this diagnosis.

However, there are no epileptiform features in this recording to suggest an underlying epileptic disturbance.

No suspicious clinical events occurred during this recording.

If strongly suspected, an activation procedure, such as sleep deprivation, might be useful in inducing epileptiform features.

If episodes persist, a prolonged recording might be useful to obtain an electroclinical correlation of the events.

No prior study is available for comparison.

Compared to the previous EEG (@FLOW(1330080085::1)@), this study

Start Time: @FLOW(1330080111::1)@

End Time: @FLOW(1330080112::1)@

ICD10 Code: R56.9 Unspecified convulsion
R40.4 Transient alteration of awareness
R41.82 Altered mental status, unspecified
R56.00 Febrile convulsion NOS
R25.9 Unspecified abnormal involuntary movement
R55 Syncope/Collapse
R51 Headache

Fellowship Timeline – Important Dates:

July-August 2023: ACNS CNP Boot Camp (virtual)

End of July 2023: Complete AES Fellowship EEG Modules

End of August 2023: Identify research mentor, research project, self-directed learning topic and journal club date

January 2024: Baylor in-service CNP and Epilepsy Exam

February/March 2024: ACNS in-service exam (CNP fellows)

March 2024: AES EpiFITE in-service exam (Epilepsy fellows)

June 2024: Fellow Grand Rounds

| EEG Faculty | | | EMG Faculty | SLEEP Faculty |
|-------------------|------------------------|----------------|-----------------------------|----------------------|
| BSLMC | TCH | MEDVAMC | | |
| Lu Lin | Irfan Ali | Zulfi Haneef | Suzanne Woodbury (TCH) | Supriya Singh (VA) |
| Alica Goldman | Anne Anderson | Paul Van Ness | Veneetha Cherian (VA) | Sonal Malhotra (TCH) |
| Paul C. Van Ness | Rohini Coorg | Mohamed Hegazy | Liang Lu (VA) | Annise Wilson (BCM) |
| Vaishnav Krishnan | Gloria Diaz-Medina | Kamakshi Patel | Colin Anderson (BSLMC) | |
| Atul Maheshwari | Kimberly Houck | | James Killian (BSLMC) | |
| Eli M. Mizrahi | Akshat Katyayan | | Milvia Pleitez (BSLMC) | |
| Gabriela Tantillo | Laura Masters | | Doris Kung (BSLMC) | |
| | Eli Mizrahi | | Charenya Anandan (VA/BSLMC) | |
| | Cristina Trandafir | | | |
| | Anu Nayak | | | |
| | Michael Quach | | | |
| | James Riviello | | | |
| | Sonali Sen | | | |
| | Elaine Seto | | | |
| | Krystal Sully | | | |
| | Dani Davila-Williams | | | |
| | Danielle Takacs | | | |
| | Brittanie Bartlett-Lee | | | |
| | Deepankar Mohanty | | | |
| | Steven Lee | | | |
| | Ajay Thomas | | | |

Facilities:

Neurophysiology laboratories are present at the Baylor-affiliated hospitals including: CHI Baylor St Luke's Medical Center, Texas Children's Hospital, Michael E DeBakey VA Medical Center and Baylor College of Medicine, McNair Campus. Through these facilities, laboratories and instrumentation are available for the conduct of the following studies: electroencephalography (EEG), sensory evoked potentials (EPs), EEG-video monitoring, polysomnography, intraoperative monitoring (EEG and EP), brain mapping, special studies for epilepsy surgery (Wada testing), electrocorticography, and electromyography and nerve conduction studies. There are fully equipped EEG and EP laboratories, EMG laboratories, Epilepsy Monitoring Unit, and Sleep Laboratories. In addition, there are study areas for trainees, library, conference room, and computer/phone access and work areas.

Participant's supervisory and patient care responsibilities:**Patient Care - Responsibilities****1. Laboratory:**

- a. **EEG** – Fellows review studies prior to the arrival of the attending and write a draft report. The attending then reviews all records with the fellows and signs the final report.
- b. **EMG** – Fellows present all cases directly to the attending, who also gives a brief lecture in relation to cases seen during the day.
- c. **EP/IOM** – Fellows will review any evoked potentials performed in the laboratory, generate a draft report and then review studies with the faculty, who will sign the report. While at St. Lukes and TCH (before 10/23), fellows will have the opportunity to review IOM cases concurrently with faculty and discuss findings and overall interpretation.

2. **Clinics – EMG/Epilepsy** – Fellows perform appropriate history and physical examinations on assigned patients. Any portion of the clinic visit that the fellow contributed to should also be documented by the fellow in the EMR. All patients worked up by the fellows are presented to the attending on a one on one basis.

3. **Epilepsy Monitoring Unit (EMU)** – Neurology residents assigned to the EMU perform history and physical exams on patients. The fellows then review these evaluations with the resident(s). Attending physicians scheduled to the EMU then review the patient workups with the fellows and residents. The attending conducts rounds on the patients each day with the residents (fellow rounding is optional) in the EMU and reviews the EEG recordings and clinical findings with the fellows and residents. Fellows work with residents to write orders on patients and interact with the nursing staff, hospital personnel and family members. If patients go to the operating room for placement of intracranial electrodes or for epilepsy surgery, the fellow accompanies the attending to the operating room.

Lines of Supervision:

On all clinical services, a designated member of the faculty of the Section of Neurophysiology, Department of Neurology, will supervise the Clinical Neurophysiology or Epilepsy Fellow. The Fellow will, in turn, provide supervision to the Neurology Resident assigned to the Clinical Neurophysiology rotation within the framework of that resident's Neurology training program. Supervising faculty will provide the following levels of supervision:

- a. **Direct** – supervising physician is physically present with the fellow and patient.
- b. **Indirect** – supervising physician is physically within the hospital or other site of patient, and is immediately available to provide Direct supervision.
- c. **Oversight** – supervising physician is available to provide review of procedures/encounters with feedback provided after care is delivered.

Training will be provided in the following procedures:

1. Electroencephalography (EEG)
2. EEG-video monitoring
3. Evoked potentials
4. Polysomnography
5. Electrocorticography
6. Functional brain mapping
7. Wada testing
8. Electromyography and nerve conduction velocity studies
9. Intraoperative Monitoring
10. Neuromodulation techniques (VNS, DBS, RNS)

Evaluation:

Fellows are evaluated (through MedHub online system), 360°, milestones (*reported every 6 months to ACGME*) and semi-annually/annual evaluations, completed by staff and faculty. The Program Director meets with each fellow both semi-annually and annually to discuss their evaluations. All evaluations are confidential. Both positive and constructive feedback is provided. Fellows are given an opportunity at these times to provide a written formal evaluation of the program, as well as discuss any concerns or critiques that they have with respect to the faculty and training program. The program director is available at any time to discuss immediate concerns or complaints.

ACGME Core Competencies

Patient Care

Adequate treatment of patients requires that the physician gather accurate information about patients and that this information is used to generate an appropriate differential diagnosis and management plans. The physician appropriately follow-ups on the patient's clinical status and is able to identify and adapt to changing clinical conditions.

Patient care competency is evaluated primarily in two settings at the various teaching institutions: 1) weekly outpatient clinics (seizure and neuromuscular) and 2) the epilepsy monitoring units. In each clinical setting, neurophysiology faculty, personally mentor fellows and constantly evaluates their growth and development. Fellows learn and demonstrate appropriate interview and history skills for patients with epilepsy or neuromuscular diseases. They also develop and carry out treatment and management plans for these patients and learn to educate and counsel patients and family members.

Medical Knowledge

Fellows must have the necessary knowledge to adequately interpret neurophysiology studies and to adequately care for their patients. Knowledge is gained in the following disciplines: electroencephalography, polysomnography, electromyography and nerve conduction studies, evoked potential studies, intraoperative neurophysiological monitoring, long term EEG/video monitoring, and autonomic testing. The fellow must understand the clinical indications and impact of all neurophysiological studies in the diagnosis and management of patients of all ages from infancy to the elderly and serve effectively as a consultant to physicians referring patients for neurophysiological evaluation. Medical knowledge for interpretation of neurophysiology studies is primarily obtained from one-on-one training with neurophysiology faculty members in the various neurophysiology laboratories. Additional knowledge is provided to the fellows in a series of basic science discussion sessions mentored by neurophysiology

faculty and lectures in clinical neurophysiology. Fellows are also provided with a list of supplemental texts from which additional information on various topics can be obtained.

In the outpatient clinics and epilepsy monitoring units, the fellows must have the ability to recognize the full range of expression of seizure and neuromuscular disorders in adults and children and to learn to appropriately apply clinical neurophysiology techniques to the diagnosis and management of these disorders.

Interpersonal and Communication Skills

Fellows demonstrate interpersonal and communication skills that allow for effective exchange of information with patients, families, physicians and other health care professionals. Fellows are required on a daily basis to present to their peers and faculty the findings of various neurophysiological studies. They must also demonstrate that the results of a particular neurophysiological test can be adequately communicated to the referring physician through the electronic medical record. In the outpatient clinic and epilepsy monitoring units, the fellows interact and communicate with patients, families, other fellows, faculty, consultants and other members of the health care team. These skills include the ability to communicate effectively across a broad range of socio-economic and cultural backgrounds. Fellows must maintain comprehensive and timely medical records. All notes should list a pager or phone number below the electronic signature. They must work effectively as a member of a health care team and serve appropriately as a consultant to other physicians and health professionals. Interpersonal and communication skills of the fellows are constantly assessed by the neurophysiology faculty in the laboratory, outpatient and epilepsy monitoring unit settings.

Professionalism

Fellows must adhere to ethical principles and be committed to carrying out professional responsibilities. Fellows must demonstrate a respect for patient privacy and demonstrate compassion, integrity and respect for others. They must demonstrate sensitivity and responsiveness to a broad patient population including diversity in age, gender, culture, race, religion, disability, and sexual orientation. Fellows must answer pages and messages in a timely fashion. They must dress in a neat, clean and professional manner with a visible ID badge. Strict infection control is mandatory (i.e., handwashing before & after seeing a patient)

System-Based Practice

Fellows demonstrate the ability to understand and work efficiently within the entire health care system. Rotations at the various institutions provide an understanding of the different forms of health care delivery to indigent versus veterans versus private patient populations. Fellows demonstrate the ability to provide high-quality care in a cost effective manner and incorporate consideration of cost-awareness and risk benefit analysis in patient care decisions. Fellows work effectively with other health care providers including consultants from other medical fields.

Practice-Based Learning and Improvement

Fellows develop the ability to improve practice patterns and neurophysiological interpretation skills through the appropriate use of the literature and interaction with the neurophysiology faculty. Fellows are able to critically evaluate their interpretation of neurophysiology studies and also evaluate their patient care in the outpatient clinics and in the epilepsy monitoring units. Fellows are receptive to constructive criticism regarding patient care and interpretation of neurophysiological studies.

Fellow Awards: At the end of the academic year, outstanding fellow efforts in the areas of clinical care and medical education will be recognized. The David K. H. Chen, MD Teaching Award will be awarded to one pediatric and one adult fellow annually with outstanding contributions in medical education (voted on by adult and pediatric neurology residents). The David K. H. Chen, MD Excellence in Clinical Care award will be given to a pediatric and epilepsy fellow annually as well (voted on by adult and pediatric epilepsy faculty). Awardees will be recognized during graduation.

PROCEDURE LOG

All Clinical Neurophysiology & Epilepsy fellows are responsible for maintaining a personal log of their procedures and case types, as stipulated by the Program Director. The log is not recorded centrally, and protected patient information is stripped from the log. It is intended primarily as a count of the various case and procedure types, giving the fellow an accurate idea of how many procedures they have performed, which in turn will form part of the annual evaluation report that the Program Director prepares at the end of the program. Procedure log should include; date, CPT Code & ICD-10 codes. GME requires that all work activity will be documented by fellows in MedHub. Epilepsy fellows will maintain logs on the ACGME website - *requirement*

HOURS

Fellows regular hours are from 7:00 am through 6:00 pm – hours may run longer, Monday through Friday (Saturday and Sunday, if ON CALL), excluding official BCM Holidays. It is expected that when fellows are not rounding with attendings, interpreting neurophysiological studies or in EMG or Seizure clinic, the additional time will be used for personal study or research activities. It is expected that fellows will arrive at the designated assignments on time. In general, new studies should not be started by fellows after 5pm – these should be signed out to the on-call fellow.

ON CALL RESPONSIBILITIES (for BCM – BSLMC - McNair, BSLMC, TCH & MEDVAMC)

There is no evening or weekend call for the EMG service. There is weekend home call for reading urgent EEG and EMU studies. Occasionally there may be a need for EMU-related activities in person, such as cortical stimulation. Call begins at 5 PM on Friday and ends at 8 AM on Monday for weekends and 5 PM to 8 AM for weeknights on the adult side. Fellows will rotate weekend call. Fellows will be listed on the Neurophysiology call schedule and will be the first point of contact for after hour calls. For pediatric call, pediatric fellows will take cEEG call beginning Friday 5pm lasting until 7am (14 hour call). While on pediatric rotations, adult fellows will only take pediatric call and vice versa, with exceptions granted as needed (for example, for approved call trades).

Weekend Call expectations:

1. The fellow on call is expected to touch base with faculty on Friday evening before 6pm on the plan for overnight EMU/LTM studies. Fellows are responsible for all patient phone calls and any new studies started over the weekend; however, faculty are always available for backup as needed.
2. The total cap per day for overnight LTM/EMU studies for a fellow to be responsible for is 6 (assuming all are scalp studies). However, reviewing a Phase 2 patient would be equivalent to reading 2 scalp LTM/EMU studies. The remainder of the studies will be the responsibility of the faculty.
3. The fellow should **prioritize studies they are familiar with** (eg. if a fellow on call was on LTMs the past week, then they will focus on LTM studies, then Phase 2 patients, and then add other EMU patients until the cap is reached).
4. If a fellow was on **a service that has no weekend patients**, then the default will be to focus on Phase 2 patients (greater educational value), then LTM studies at BSL/BT, and then EMU studies, unless the cap is reached.

5. Completion of signout for both EMU and LTM services will primarily fall on fellows to complete with assistance from the faculty as needed.

SUPERVISION

During the first month of fellowship, each fellow will have *Direct Supervision* and coaching, with the faculty physically present with the fellow and patient, with the exception of call weekends when supervision will be by default indirect. As the fellow demonstrates an increasing level of competence with the various tasks, tests, and patient care, faculty supervision will transition to *Indirect Supervision*, with the faculty readily available (via pager/cell phone) or in person. Faculty are encouraged to review procedures/encounters with the fellow on a regular basis and provide feedback after care is delivered.

Each institution has specific requirements listing situations in which a trainee **must** contact the supervising physician immediately. Examples of these situations are: In outpatient neurology clinic, or the EEG/EMG lab:

- When patients are behaviorally disordered or threatening
- When there is need for a CODE team activation
- When on consults in the inpatient service
- Unexpected transfer to ICU or higher level of care
- Unanticipated intubation or ventilator support
- Change in CODE status
- Major neurologic change
- Major medical problem (e.g. cardiac arrest, a CODE, new or rapidly worsening respiratory distress, PE)
- Clinical intervention due to medication or treatment errors
- Development of any new clinical problem requiring an invasive procedure or operation for treatment
- Patient, family, or clinical staff request for attending notification.

LECTURES (*Attendance required*): all lectures will occur remotely via Zoom (until further notice)

Monday 12:00 pm – 1:00 pm Neurology Grand Rounds – BCM, McNair Campus or virtual

Tuesday 7:00 am – 9:00 am Epilepsy Surgery Conference (Pediatric) - TCH (virtual)

8:15 am – 9:15 am Epilepsy Surgery Conference (Adult) – BSLMC (virtual)

12:15 pm – 1:00 pm Neurophysiology & Epilepsy education series (subject to change)

Wednesday 12:00 pm – 1:00 pm Pediatric Neurology Grand Rounds – TCH

Thursday 12:15 pm – 1:00 pm Neurophysiology & Epilepsy education series (subject to change)

Friday 12:15 pm – 1:00 pm Neurophysiology & Epilepsy education series (subject to change)

Self-Directed Learning Fellow Presentations:

10 conferences will be designated as self-directed learning presentations. One fellow will be assigned, with a faculty mentor, to present on a topic and teach the rest of the fellows. The topics are from the American Academy of Neurology Epilepsy Continuum Series (https://journals.lww.com/continuum/toc/2010/06000?toc=article_-548783529). Each topic has an associated chapter that the fellow is expected to review to help generate the lecture material. Each fellow should choose a mentor to help prepare their presentation. Fellows are encouraged

to go beyond “resident-level” and focus on an up-to-date and nuanced focus within their given topic. The 10 topics are listed below. Faculty and fellow assignments will be chosen by fellows in July 2023.

The Classification of Seizures and Epilepsy Syndromes

Pediatric Epilepsy Syndromes

Differential Diagnosis of Epilepsy

Epilepsy Comorbidities

Antiepileptic Drug Therapy: When to Start, When to Stop

Choosing Among Antiepileptic Drugs

Antiepileptic Drugs: Adverse Effects and Drug Interactions

Women’s Issues and Epilepsy

Epilepsy Surgery and Electronic Devices

Status Epilepticus

ACNS Boot Camp:

All incoming fellows will have access to the ACNS CNP Boot Camp (access codes will be provided during orientation):

<https://www.acns.org/education/cnp-bootcamp>

Lectures will be broadcast live and fellows are encouraged to attend if possible. If unable to attend, lectures will be saved for review and it is expected fellows review the lecture material afterwards. CNP fellows are expected to review all bootcamp modules (6) whereas epilepsy fellows are expected to review the first 5.

AES Fellowship Curriculum:

As part of your orientation, fellows are expected to review three of the AES Fellowship Curriculum modules:

- Background: General
- Background Electroclinical syndromes
- EEG

Modules are available at the following site and are free to review. Note you must create an AES login. It is expected modules will be completed within the first month of fellowship.

<https://www.aesnet.org/education/for-fellows/fellowship-curriculum>

LABS & OTHER ACTIVITIES (location)

| | |
|---|--|
| St. Luke's Neurophysiology Lab | BSLMC 23 rd Floor |
| St. Luke's EMU | BSLMC 22 nd Floor |
| TCH Neurophysiology Lab | TCH West Tower 21 st Floor |
| TCH EMU | TCH West Tower 10 th Floor |
| TCH CEEG reading room | TCH Legacy Tower 9 th Floor |
| TCH IOM | TCH Wallace Tower 12 th Floor |
| VA Neurophysiology Lab & EMU | 2 nd Floor on Nursing Unit 2A |
| Adult EMG Lab | BSLMC – McNair Campus 9 th Floor |
| Private Adult Epilepsy Clinic | BSLMC – McNair Campus 9 th Floor |
| VA Seizure Clinic | 1 st Floor near police station |
| Pediatric Epilepsy Clinic | TCH Clinical Care Center 9 th Floor conference room |
| Adult Epilepsy Surgical Conference | BSLMC – Kellaway Library P522 |
| Pediatric Epilepsy Surgical Conference | TCH Clinical Care Center 9 th Floor conference room |
| Neurology Grand Rounds | BSLMC – McNair Campus 1 st Floor conference rooms A/B (vs Zoom) |
| Pediatric Grand Rounds | TCH Auditorium basement level |
| Neurophysiology & Epilepsy lecture series | Virtual Zoom session BSLMC |

READING MATERIALS

Copies of the following textbooks are available for reading at McNair in the possession of Cynthia Calija. Books can be checked out from Cynthia but must be returned within 1 month.

Core Texts: EEG

Comprehensive Clinical Neurophysiology, 2000, eds: Saunders, Levin and Luders

Current Practice of Clinical Electroencephalography, 2003, eds: Ebersole & Pedley

Supplemental Reading:

Electroencephalography: Niedermeyer's - Basic principles, clinical applications, and related fields, Schomer & Lopes da Silva, 7th edition

A Practical Approach to Neurophysiologic Intraoperative Monitoring, Hussain Spehlmann's Evoked Potential Primer, Misulis & Fakhoury

A Practical Approach to Stereo EEG, 2020, ed: Schuele.

EMG

Electromyography and Neuromuscular Disorders: Clinical-Electrophysiologic Correlations, Preston and Shapiro

Intraoperative Monitoring

Intraoperative Neurophysiology: An Interactive Monitoring Session. Alan Legatt, Demos Medical Publishing, 2014.

Evoked Potentials

Illustrated Manual of Clinical Evoked Potentials. Aatif Husain, Demos Medical Publishing, 2017.

MEETINGS/CONFERENCES/ALLOWANCES

Fellows may attend **one** meeting/conference per year. The meeting/conference must be directly relevant to the mission and educational goals of the fellowship:

Clinical Neurophysiology Fellow – **ACNS, CNS, AAN or AES**

Epilepsy Fellow – **AES, ACNS, CNS or AAN**

\$2,500.00 BCM travel allowance (domestic travel)

**Attendance to additional meetings/conferences are at the discretion of the Program Director

The fellowship program provides fellows with a \$200.00 allowance towards the purchase of a textbook or subscription of their choice.

The Neurophysiology section provides funding for junior memberships to ACNS or AES.

Additional memberships are the responsibility of the fellow.

DUTY HOURS

REQUIRED: All fellows at Baylor College of Medicine must record their work hours using the web-based MedHub system found at: <https://bcm.medhub.com/index.mh>

Work hours should be logged frequently, and at least weekly. Record all patient care, administrative, vacation/sick time, scholarly activities and on call from home. All hours **must** be reported, including weekends.

*****Non-compliance with duty hour logging is automatically reported to the Neurology Department Chair, so please take this duty seriously. If you fail to log your hours, the Department Chair gets a notification*****

Maximum Hours of Work per Week

The combined total of hours worked should **not** exceed 80 hrs per week, averaged over a four week period, inclusive of all in-house call activities. Both Clinical Neurophysiology and Epilepsy fellowship programs are committed to and responsible for the promotion of patient safety and fellow/resident well-being in a supportive educational environment.

Mandatory Time Free of Duty

Fellows must be scheduled for a minimum of one day free of duty every week (when averaged over four weeks). At-home call cannot be assigned on these free days. The program coordinator and program director are constantly vigilant to assure that frequency and intensity of hours worked does not adversely impact the fellows' educational experience.

MOONLIGHTING

Clinical Neurophysiology & Epilepsy Fellowship programs do not permit moonlighting.

MONITORING OF TRAINEE WELL-BEING

The Clinical Neurophysiology Program Director and teaching staff are sensitive to the need for timely provision of confidential counseling and psychological support services to fellows. Training situations that consistently produce undesirable stress on fellows are evaluated and modified. Trainees and faculty are educated to recognize the signs of fatigue and sleep deprivation, alertness management, and fatigue mitigation processes. While not likely to be needed in this fellowship, when necessary the program will adopt fatigue mitigation processes to manage potential negative effects of fatigue on patient care and learning.

IN-SERVICE TRAINING EXAMS

1. Baylor Institutional In-service exam (*January 2024*) – *ALL Fellows*
2. American Clinical Neurophysiology Society In-service Exam (*Spring 2024*) – *Clinical Neurophysiology Fellows*
3. American Epilepsy Society In-service Exam (*Spring 2024*) – *Epilepsy Fellows*

The purpose of in-service training exams is to determine the fellow's current level of training and knowledge base and ensure fellows are progressing through expected milestones.

BOARD EXAMINATIONS

It is the program's expectation that all graduates of this fellowship will take the ABPN Clinical Neurophysiology or Epilepsy board examination within 3 years of graduation.

SCHOLARLY ACTIVITY

Fellows are required to execute at least **one** scholarly activity during this year-long program. Early in the year (July/August), faculty will present potential projects that are available for fellow involvement. By September 1st of the fellowship year, fellows are expected to identify their projects and to select a faculty mentor. Regular meetings approximately every 3-4 months during the education series will occur with all fellows and core faculty to discuss progress on scholarly activity and other research methodologic topics.

At the end of the year, fellows will be expected to prepare a grand rounds presentation to discuss their scholarly activity. An abstract of your scholarly activity will be reviewed by the program director during the semiannual and final evaluations.

Fellows are also encouraged to work on a quality improvement project at BSLMC, TCH or the VA under the supervision of a faculty mentor aimed at improving inpatient and/or outpatient practice.

TEACHING

Clinical Neurophysiology & Epilepsy fellows assist in teaching medical students and neurology residents. This will include module presentations for the neurology clerkship, presentations at the case conference, journal club, grand rounds and others. Fellows will also be assigned specific topics as part of Fellow-directed learning lecture series and are responsible for preparing the lecture in conjunction with a faculty mentor.

Ongoing educational initiatives that fellows will be asked to participate in include EEG case review Wednesdays 1130a-12p. Fellow rotating in the EMU at the VA will lead an EEG focused educational session with the VA residents with supervision from VA faculty. At St. Lukes, there is an EMU case review with EEG technologists occurring regularly. Fellows on the EMU at the time will be asked to help lead the case discussion with the faculty.

ROTATION/CALL SWAPS

Fellows who desire to swap rotations or call must arrange the swaps themselves. Swaps must not result in any change in percentage of time at any given site. All swaps must be approved by the program director. Requests can be made through www.bcmneuro.com.

POLICIES & PROCEDURES: NOTE – the most up-to-date policies specific to epilepsy/CNP can be found on www.bcmneuro.com, including: this fellowship manual, afterhours EEG policies, and instructions to remote into the VA for EEG access.

Refer to the Institution Policy Manual located on the GME website at <https://www.bcm.edu/education/graduate-medical-education> for Baylor College of Medicine Graduate Medical Education specific policies.

The Clinical Neurophysiology & Epilepsy Fellowship programs are subspecialties of the Neurology Residency program and therefore are governed by the policies listed in the Neurology residency manual. <https://www.bcm.edu/departments/neurology/education/neurology>

Should policies in the Neurology Program Residency Manual or this Fellowship Manual conflict with the Institution Manual, the Institution Manual takes precedence.

GRIEVANCES

We have an open door policy for any concerns that you may have. The program directors and all faculty are available to discuss any problems or concerns that arise. Confidentiality will be respected and every attempt will be made to provide prompt resolution of the problem. Baylor College of Medicine offers several avenues to address fellow concerns. Informally, the office of the Ombudsman offers a confidential resource to discuss Baylor related concerns, including interpersonal conflict or misunderstandings, and academic or administrative concerns. Formal grievances can be filed through the Integrity Hotline <http://www.bcm.ethicspoint.com/> or (855) 764-7292. The fellow may also contact the Graduate Medical Education office.

ABSENCES

GME Leaves and Vacation Policy (the most updated policy can be found here: https://intranet.bcm.edu/policies/index.cfm?fuseaction=Policies.Display_Policy&Policy_Number=27.3.5)

All residents and fellows are provided up to 44 paid days off per academic year (July 1 – June 30). This time off is non-vested (meaning you are not paid for it if you leave before having utilized), does not accrue, and does not roll over from one academic year to the next. These potential 44 days include:

*21 vacation days: Vacations that involve consecutive days from two separate weeks will also include weekend days in the tabulation of total vacation days. A vacation from Monday to Sunday would count as 5 vacation days, but if vacation was from Monday to Monday, that would count as 8 days

*14 sick days (to be used only for personal illness)

A treating physician's statement, from a non-house staff physician, is necessary if the illness or injury extends beyond three (3) consecutive calendar days. In addition, to return to work, a statement is required from the treating physician that stipulates the involved house staff physician is fit to return to duty. In addition, if a house-staff physician is absent from work for more than four (4) non-consecutive days in a calendar month, a statement may be required from the treating physician. The Senior Associate Dean for Graduate Medical Education shall resolve any disputes regarding the house staff physician's fitness for duty (e.g., disagreements between the house staff physician, program director, or director of the Occupational Health Program).

Effective 7/1/2022, resident and fellow physicians may take up to six weeks' time-off from training for the purposes of parental, caregiver, or medical leave once during their program. For more information, please refer to the Baylor House vacation and leave of absence policy at https://intranet.bcm.edu/policies/index.cfm?fuseaction=Policies.Display_Policy&Policy_Number=27.3.5

A house staff physician may be eligible to use sick days under the federal Family and Medical Leave Act.

Baylor College of Medicine, effective July 1, 2014, provides a Core benefit of Short Term Disability (STD) insurance to all residents and fellows. After 44 consecutive calendar days of personal disability (including maternity leave), the STD insurance policy would be available, and provide benefits up to a maximum of 20 weeks. Approval for STD benefits is made by the insurance carrier based on treating physician reports and the type of disability. As a Core benefit STD is provided at no cost to residents and fellows.

These STD benefits would include 60% weekly earnings, up to a maximum of \$750 per week for a maximum of 20 weeks depending on the type of disability.

*9 Paid Time Off (PTO) days - Includes bereavement, conference days, job interviews, and emergencies

Baylor Holidays include the following dates – which are typically off for those at the VA or outpatient rotations. Please reach out to your rotation supervisor to confirm whether your site observes the holiday:

| | |
|-------------------------|-------------------|
| Independence Day | July 4, 2023 |
| Labor Day | September 4, 2023 |
| Thanksgiving Holiday | November 23, 2023 |
| Christmas Day | December 25, 2023 |
| New Years Day | January 1, 2024 |
| Martin L. King, Jr. Day | January 15, 2024 |
| Memorial Day | May 27, 2024 |

Of note, MLK Day is not a Baylor St. Luke's Hospital Holiday

Visit [BCM Policies and Procedures](#) for additional details

All vacation, PTO and sick day requests must be made 45 days in advance through www.bcmneuro.com. Vacation requests made during the academic year must be approved by the faculty supervising the rotation fellow is assigned to in addition to the program director. Approved vacation changes must then be entered into MedHub before they are official.

Vacations should be planned well in advance and coordinated with the faculty and clinic where you rotate. Please notify affected faculty, program director and program coordinator at least 45 days in advance of scheduled absence. No more than two weeks of vacation may be taken at one time. All vacation/time away requests must be submitted in MedHub for approval at least 4 weeks prior to the scheduled time away. The rotation faculty must also approve the vacation request. **It is the fellow's responsibility to block any fellow continuity clinics that need to be closed as a result of vacation days. Please coordinate with Melissa Fadipe at melissa.fadipe@va.gov (Adult Epilepsy Fellows) and Dr. Elaine Seto at eseto@bcm.edu (Pediatric Epilepsy Fellows).**

NOTE: Trainees who are on a visa are required to obtain clearance from ISO if they travel out of the country during fellowship training

Makeup: GME programs shall provide house staff physicians with certifying Board requirements. Time missed for any reasons beyond that permitted by the relevant certifying Board must be made up. All made up time required for GME program completion will be paid. Each GME program shall have a written policy regarding makeup time and shall provide a copy of this policy to its house staff physicians.

When total (cumulative) time lost for any reason exceeds that permitted by the appropriate certifying Board, the house staff physician's promotion to the next level of training will be delayed by an amount equal to the time that needs to be made up. This delay supersedes any existing letter of appointment regarding dates, year of appointment, and stipend, but does not negate the reappointment.

It is the responsibility of the program to document and report all time off as required per Baylor Human Resources and Payroll policies.

MedHub: Baylor College of Medicine uses MedHub. This is an online web-based Trainee Management System, designed to track and document a variety of critical program and Trainee activities relating to educational experiences, institutional reimbursement, and program accreditation. **GME requires that all work activity including work hours are documented by fellows in Medhub.**

Please go to <https://bcm.medhub.com/u/a/help.mh> for more information and instructions on its use.