UNIVERSITY OF MINNESOTA

GRADUATE MEDICAL EDUCATION

2017-2018
FELLOWSHIP
POLICY MANUAL

CLINICAL
NEUROPHYSIOLOGY
FELLOWSHIP

Sponsored by
Department of Neurology
i. Introduction/Explanation of Manual

This fellowship addendum outlines policies and procedures specific to the Clinical Neurophysiology Fellowship program. Please refer to the Neurology Residency Program Manual for further departmental policies and procedures. It can be found at http://www.neurology.umn.edu/education/home.html


ii. Department Mission Statement

The University of Minnesota Neurology Residency Program has continuously graduated Neurology trainees since the 1940s. The program, initially developed under the guidance of Dr. A.B. Baker, the founder of the American Academy of Neurology, continues to provide an outstanding training experience designed to meet equally the needs of the future clinician or academician. The excellence of the training program is one of the highest priorities of the department. Among the significant strengths of the four-year program are the range and the depth of the clinical experience provided at several teaching hospitals, the devotion of the full-time faculty at each of these hospitals to teaching, patient care, and scholarship, and the focus on both clinical and basic research in the midst of a first-rank neuroscience community. The faculty includes over 60 clinical neurologists.

iii. Program Mission Statement

This Clinical Neurophysiology subspecialty fellowship program provides one year of supervised graduate medical education experience with graded and progressive responsibility. Designed to comply with the institutional and ACGME program requirements of accredited fellowships clinical neurophysiology, the University of Minnesota Clinical Neurophysiology training program is organized to provide the intellectual environment, formal instruction, peer interaction and broad supervised clinical experience necessary for fellows to master the knowledge, skills and attitudes essential to the practice of clinical neurophysiology, research, or a teaching career in clinical neurophysiology. Central to these goals is the fellows’ attainment, at the level of a practitioner of clinical neurophysiology, of the six ACGME core competencies in the areas of patient care, medical knowledge, practice-based learning and improvement, interpersonal and communication skills, professionalism, and systems-based practice, as described in Section II.

Prior to entering this program, trainees must have satisfactorily completed an ACGME-accredited residency program in neurology, child neurology, neurodevelopmental disabilities, or psychiatry, or a program in one of these specialties that is located in Canada and accredited by the Royal College of Physicians and Surgeons of Canada. Prospective trainees must be eligible for American Board of Psychiatry and Neurology (ABPN) board examinations.
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CAMPUS MAIL

Each trainee has a designated mailbox in the department. Trainees are expected to pick up their mail at least weekly. The address for receiving mail in the department is:

University of Minnesota
Department of Neurology
Attn: (name)
420 Delaware St, S.E., MMC 295
Minneapolis, MN 55455

E-MAIL AND INTERNET ACCESS

Each trainee has been assigned his/her own University email account prior to the start of their orientation. This corporate Googlemail account is to be used for all program, department, and University business communications. The use of personal non-University email accounts is not permissible for business communications.

Announcements about important institution and program events or requirements are sent to your official University email account. Trainees are expected to check this account daily.

There are several computers available for use in the fellows’ room. Each has internet access. University email can be accessed a web browser at: www.mail.umn.edu.

BADGES

All trainees and staff are required to have Academic Health Center badges, and to wear them. Your program coordinator will help you obtain your badge as part of your onboarding process. You will also be required to have badges for every hospital where you rotate and to always wear them when providing patient care.

HEALTH INSURANCE PORTABILITY AND ACCOUNTABILITY ACT (HIPAA) TRAINING

Residents are required to complete the University Privacy Training and the Public Jobs: Private Data Security Training. The Academic Health Center has designed training programs which are located at www.myu.umn.edu and are accessed via the trainee’s University of Minnesota x500 Internet password. Once authenticated (“signed in”), go to the “my WORK LIFE” tab to access the courses. The University provides 90 days to complete your required training. For more information, ask your program coordinator to put you in touch with the department’s Privacy & Security Coordinator.

Compliance is mandatory. Failure to complete the required training could result in suspension of your participation. PLEASE REVIEW THE USE OF INFORMATION TECHNOLOGY
RESOURCES STANDARDS BELOW. If you need to review the rest of the HIPAA requirements please visit the website at http://www.ahc.umn.edu/privacy/hipaa/home.html

Using Information Technology Resources Standards

Use of IDs and Passwords

• Do not share the password assigned to you.
• Select an obscure password and change it frequently.
• Understand that you are responsible for all activities on your username/account ID.
• Ensure that others cannot learn your password.
• If you have reason to believe that your username/account ID or password has been compromised, contact your System/Network Administrator immediately.

Use of Information/Data

• Access only accounts, files, and data that are your own, that are publicly available, or to which you have been given authorized access. Secure information that is in your possession.
• Maintain the confidentiality of information classified as private, confidential or data on decedents.
• Use University information for tasks related to job responsibilities and not for personal purposes.
• Never disclose information to which you have access, but for which you do not have ownership, authority, or permission to disclose. Keep your personal information/data current.
• Accurately update your own records through University self-service systems and other processes provided for you.

Use of Software and Hardware

• Use University e-mail, computers, and networks only for legal, authorized purposes. Unauthorized or illegal uses include but are not limited to:
  • Harassment;
  • Destruction of or damage to equipment, software, or data belonging to others;
  • Unauthorized copying of copyrighted materials; or
  • Conducting private business unrelated to University activities.
• Never engage in any activity that might be harmful to systems or to any information/data stored thereon, such as:
  • Creating or propagating viruses;
  • Disrupting services or damaging files; or
  • Making unauthorized or non-approved changes.
• When vacating computer workstations, sign-off or secure the system from unauthorized use.
• Use only legal versions of copyrighted software on University of Minnesota owned computer or network resources, in compliance with vendor license requirements.
• Be aware of any conditions attached to or affecting the provision of University technology services:
  • Consult with the system administrator for any questions about system workload or performance.
• Refrain from monopolizing systems, overloading systems or networks with excessive data, or wasting computer time, connect time, disk space, printer paper, manuals, or other resources.

Consequences of Violations
Access privileges to the University's information technology resources will not be denied without cause. If in the course of an investigation, it appears necessary to protect the integrity, security, or continued operation of its computers and networks or to protect itself from liability, the University may temporarily deny access to those resources. Alleged policy violations will be referred to appropriate University investigative and disciplinary units. For example, alleged violations by students may be directed to the Student Judicial Affairs office. The University may also refer Women’s Health Special listed violations of law to appropriate law enforcement agencies. Depending on the nature and severity of the offense, policy violations may result in loss of access privileges, University disciplinary action, and/or criminal prosecution.

PAGERS

The Department of Neurology assigns a pager to each resident and fellow for the duration of their program, at no cost to the trainee. Trainees are required to replace lost pagers at their own expense, and may do so at the Information Desk in the UMMC hospital main lobby. This is also the location for exchanging damaged pagers.

Program coordinators have batteries available.

Trainees are required to carry their pagers, and have them turned on, when they are ‘on call’.

**Always keep pagers at least 6 inches away from cell phones, otherwise some page messages are not received.

TUITION AND FEES

University Tuition and Fees are being waived at this time for residency and fellowship program training. However, any trainees who are enrolled in Graduate School must pay their own tuition and fees.

SECTION 2 - BENEFITS

EXERCISE ROOM

The University of Minnesota Medical Center, Fairview (UMMC) Medical Executive Committee has graciously provided an exercise facility for use by University of Minnesota residents and fellows.
Location:
Room C-496 Mayo Memorial Building
(Locker rooms/showers are located directly across the hall)

Hours:
The facility is open 24 hours a day, 7 days a week

Access Code to Exercise Room and Locker Rooms:

9111   (Please do not share with anyone other than residents and fellows)
The space also includes a small kitchenette area with refrigerator, microwave, coffeemaker and hot/cold water dispenser. If you have any concerns about the facility, call 612-273-7482.

CALL ROOMS

There are call rooms available at both UMMC and HCMC for fellows to use if they are too tired to drive home.

UMMC – on 4th floor of Mayo building, next to C-496 exercise room
Call 626-6330 for reservations; check-in time 2:00pm to 7:00 am
HCMC – walkin available at R5.302, door code 2354.
Reserve through Katie Dolan, 873-2595 x4 when need is known in advance

UMMC also has a general resident lounge on the 6th floor, which offers a TV, computer, telephone, and light refreshments (restocked twice a day).

HEALTH BENEFITS

The University of Minnesota offers a broad range of benefits to Medical School residents and fellows. The following benefits are administered by the Office of Student Health Benefits, 410 Church Street S.E., N323, Minneapolis, MN 55455. For more information, visit the Office of Student Health Benefits website at www.shb.umn.edu or email umshbo@umn.edu.

Medical Coverage:     HealthPartners Residents and Fellows Health Plan
HealthPartners provides the health plan network and claims administration services for University of Minnesota Medical School residents and fellows. HealthPartners gives members access to 650,000 healthcare providers and 6,500 hospitals across the United States. You will have a choice of two plans, Basic or Basic Plus. All residents and fellows are required to enroll in one of the two plans for at least single coverage, or provide documentation of other comparable health benefit coverage. Medical School residents and fellows who enroll in the University-sponsored HealthPartners plan (and enrolled dependents) are automatically eligible for Continuation of coverage through COBRA at the end of their residency or fellowship.

Dental Coverage:      Delta Dental
Delta Dental of MN provides dental network and claims administration services for University of Minnesota Medical School residents and fellows. Delta Dental members have access to both PPO and Premier providers. Medical School residents and fellows who enroll
in the University-sponsored Delta Dental plan (and enrolled dependents) are automatically eligible for Continuation of care through COBRA at the end of their residency or fellowship.

Life Insurance: Minnesota Life
Medical School residents and fellows are automatically enrolled in a $50,000 standard life Minnesota Life insurance policy. Enrollment is no cost to Medical School residents and fellows (the cost is covered by your department). In addition to the standard plan, residents and fellows have the option to purchase voluntary life insurance for themselves or their dependents at low group rates through Minnesota Life. Medical School residents and fellows are automatically eligible for Continuation of life insurance coverage through COBRA at the end of their residency or fellowship.

Long and Short Term Disability Coverage: Guardian Life Insurance Company
Medical School residents and fellows are automatically enrolled in a long and short term disability insurance policy. Enrollment is no cost to Medical School residents and fellows (the cost is covered by your department). Guardian offers Medical School residents and fellows up to $10,000 per month of individual coverage. In addition, Guardian offers a Student Loan Payoff benefit effective if you become disabled while you are a resident. Guardian also offers a unique Guaranteed Standard Issue Plan option. Residents and fellows have the option to purchase long term disability coverage that you can take with you upon completion of your residency/fellowship regardless of any pre-existing medical conditions—25-30 percent of residents and fellows would not otherwise qualify for this type of coverage due to pre-existing medical conditions.

Flexible Spending Accounts
Medical School residents and fellows are eligible to participate in two types of Flexible Spending Accounts (FSAs), the U of M Health Care Reimbursement Account and the Dependent Care Reimbursement Account. Both programs allow you to pay for related expenses using pre-tax dollars.

LAUNDRY SERVICE

Laundering of scrub suits is provided for residents at all sites. Scrubs should be used at the site they were obtained from. Wearing scrubs from different sites is discouraged at some sites and prohibited in others. See site coordinators for information.

LEAVE POLICY

Trainees must give notice, in writing, of intent to use leave (such as a medical or parental leave) to their program director at least four (4) weeks in advance, except under unusual circumstance. Holidays that occur during a leave of absence run concurrent with the leave and are not in addition to the leave.

***Many leaves will likely necessitate that the trainee make up their time away from training, in order to meet American Board criteria for completion of the training program. Details regarding length of leave and its effect on program end date should be discussed with the program director and coordinator prior to the leave start date.
Parental Leave

The resident/fellow (trainee) as defined below must give notice, in writing, of intent to use parental leave and other leaves used in conjunction with parental leave to their program director (and coordinator) at least four (4) weeks in advance, except under unusual circumstances.

Birth mother: A birth mother shall be granted, upon request to the program director, up to six weeks parental (maternity) leave for the birth of a child. The maternity leave may begin at the time requested by the trainee, but no later than six weeks after the birth and no sooner than two weeks before the birth. The leave must be consecutive and without interruption.

Trainees on maternity leave will receive the first two weeks of their leave as paid parental leave. This paid parental leave may be charged against the trainees’ vacation, or sick allocation. Note: The first two weeks of this paid parental leave covers the required fourteen day wait period before they are eligible to receive the short-term disability benefit, see Office of Student Health Benefits website. http://www.shb.umn.edu/twincities/residents-fellows-interns/m-residents-fellows-health-plan.htm. Department of Neurology program coordinator and the Clinical Neuroscience Administrative Center HR staff will assist with the paperwork details for taking a maternity leave.

Trainees that have vacation available may use it in conjunction with the short-term disability benefit during their maternity leave.

Birth father: A birth father shall be granted, upon request to the program director, up to two weeks paid parental leave for the birth of a child. The leave may begin at the time requested by the trainee, but no later than six weeks after the birth and no sooner than two weeks before the birth. The leave must be consecutive and without interruption. This paid parental leave may be charged against the trainees’ vacation, or sick allocation.

Registered same sex domestic partner: Registered same sex domestic partner of someone giving birth shall be granted, upon request to the program director, up to two weeks paid parental leave. The leave may begin at the time requested by the trainee, but no later than six weeks after the birth and no sooner than two weeks before the birth. The leave must be consecutive and without interruption. This paid parental leave may be charged against the trainees’ vacation, sick or PTO allocation.

Family Medical Leave Act (FMLA)

Medical Residents/Fellows are eligible to be part of the Family Medical Leave Act (FMLA) if they have worked at the University for at least 12 months (not required to be consecutive) and worked at least 1,250 hours in the 12 months preceding the commencement of the leave. Leave shall not exceed 12 weeks in any 12-month period. The 12-month period is based on an academic year (07/01-06/30). A resident/fellow may qualify for Short-Term and Long-Term Disability benefits, so check those sections also. The Department will review the trainee’s appointment record to verify eligibility for FMLA when there has been a request for a Leave of Absence. If eligibility has been met, leaves will be entered into the trainee’s record as FMLA. Also see the section on effects of leaves on the duration of training.
Vacation/Sick Leave
The Department of Neurology provides each trainee with three weeks of vacation and one week of sick leave. For all scheduled time off (e.g., vacations, personal business, interviews, conferences, etc) it is the trainee’s responsibility to fill out a Time Away Request Form and submit it to the appropriate coordinator. **Trainee must also inform the faculty and colleagues that would expect them in clinic or on the ward.**

A maximum of two weeks of vacation may be taken at a time. Do not make travel arrangements until you get the official approval from your program director.

Holidays

The educational requirements and the 24 hour operational needs of the hospital are taken into consideration when scheduling holiday time off. The program coordinator will work with each of the trainees in determining that days off are spread among all trainees.

HCMC and the VA keep slightly different holidays that the University. Please coordinate with each regarding holidays and keep your colleagues informed of any days you will be away.

Jury/Witness Duty

Upon request to the program director, leave is provided to trainees who are subpoenaed to testify before a court or legislative committee concerning the University or the federal or state government.

Jury Duty: Upon request to the program director, leave is provided to trainees who are called to serve on a jury. Trainees do not lose pay when serving on a jury or testifying as described above. The training program and the fellow may write a letter to the court asking that the appointment for jury duty be deferred based on hardship to the trainee and the program. The decision for deferment is made by the court.

Medical Leave

A trainee shall be granted, upon request to the program director, a leave of absence for their serious illness/injury that requires an absence of greater than 14 days. The trainee may qualify for Short-Term and Long-Term Disability benefits. Refer to those sections. The trainee must give notice, in writing, of intent to use medical leave to their program director at least four weeks in advance, except under unusual circumstances. Trainees are expected to make every effort to find coverage for their call during their absence and must notify their sites of their absence.

Bereavement Leave

Trainees shall be granted, upon the approval of the program director, up to 5 days off to attend the funeral of an immediate family member. Sick or vacation time must be used. Immediate family shall include spouse, cohabiters, registered same sex domestic partners, children, stepchildren, parents, parents of spouse, and the stepparents, grandparents, guardian, grandchildren, brothers, sisters, or wards of the trainee.
Military Leave

Please refer to the Institutional Policy manual for the policy on military leave.

Personal Leave of Absence

Only under unusual circumstances such as a personal or family emergency, will a personal leave of absence be considered. Trainees must give notice, in writing, of intent to use personal leave to the Program Director at least four weeks in advance, except under unusual circumstances. Residents are expected to make every effort to find coverage for their call/night float/shift and must notify their sites of their absence. If a trainee takes a leave, this will be considered when approving future vacation requests (especially when the request is for the same time period as a resident who has not taken a leave). A resident requesting a non-medical personal leave must use all remaining vacation and sick days, if the trainee does not have any vacation/sick time left, they will be required to use unpaid time.

Professional Leave

Fellows may be approved to attend off site conferences. Time away for conferences must be requested and approved in the same manner as other leaves. Check with the program director regarding availability of funds for reimbursing conference travel; funds are not available every year.

PROFESSIONAL LIABILITY INSURANCE

Professional liability insurance is provided by the Regents of the University of Minnesota. The insurance carrier is RUMINCO Limited. Coverage limits are $1,000,000 each claim/$3,000,000 each occurrence and form of insurance is claims made. “Tail” coverage is automatically provided. The policy number is currently RUM-1005-14.

Coverage is in effect only while acting within the scope of your duties as a trainee. Claims arising out of extracurricular professional activities (i.e. moonlighting) are not covered. Coverage is not provided during unpaid leaves of absence.

For further information about this coverage, visit the ‘Resident and Fellow information and Resource Guide’ at http://www.med.umn.edu/residents-fellows/current-residents-fellows and see the ‘Medical Malpractice section.

MEAL TICKETS/FOOD SERVICE

The Clinical Neurophysiology fellows do not take in-hospital call, so are not allocated meal tickets.

PARKING SERVICES

Parking is provided at both UMMC and HCMC at no cost to the trainee. See Cheryl Neel for
parking arrangements at HCMC, and Pat Bulgerin for parking arrangements at UMMC.

In the event that a UofM parking ramp card is lost, the trainee must visit the Parking Services office at 300 Washington Ave and pay $15 for a replacement card. Parking Services will want to know the number on the lost card – the Program Coordinator has a master list and can help find that number. The trainee must also inform their Program Coordinator of the number on any new cards assigned to them.

All parking cards are the property of the University of Minnesota, and must be turned in at the end of the fellowship.

For a nominal fee, UMMC also offers residents/fellows off-hour parking in their patient/visitor ramp. To get approved for this parking, and learn the related policies, visit the Fairview Parking/Security desk in Mayo B340.

SHUTTLE SERVICE, INTERCAMPUS

A Fairview shuttle service is available between the Riverside and University campuses from 5:20 a.m. to 8:30 p.m. See the shuttle schedule near the boarding locations on each campus. The shuttle picks up and drops off at the Variety Club Research Center (VCRC) circle at 401 East River Pkwy on the University campus and in the West circle entrance outside Subway restaurant on the Riverside campus.

FALL, SPRING & SUMMER SEMESTERS:  
(No service during weekends, breaks and holidays.)
Monday–Friday   7:00 am – 5 pm  every 15 minutes  
Monday–Friday   5:00 pm – 10 pm  every 30 minutes  (Fall and Spring Semester ONLY)

SHUTTLE SERVICE, CLINIC AND SURGERY CENTER

There are shuttles running every 5-10 minutes from the UMMC lobby door to the new CSC clinic building.

STIPENDS and PAY DATES

Trainee stipends are determined centrally by the Graduate Medical Education office. For Academic Year 2017-2018, the stipend rate relevant to this fellowship is:

Level 5  $61,466 annually

Direct deposit is strongly encouraged. The deposit notice is available 48 hrs in advance of each deposit by visiting the MYU website and going to the MyPay section.

The University of Minnesota pays employees on a biweekly pay period basis, with each pay period starting on a Monday and ending on a Sunday. Employees are paid every other Wednesday, 10 days after the end of the pay period.

Trainees will receive paychecks in one of two ways: a paper paycheck or Direct Deposit. Paper checks are mailed to each fellow’s home address. Direct Deposit notices can be viewed, online only, the day before the Wednesday availability of the deposit. Whether receiving a paper paycheck or Direct Deposit, fellows can view their pay statements online, through the MyU website.
VISA SPONSORSHIP

The J-1 alien physician visa sponsored by ECFMG is the preferred visa status for foreign national trainees in all UMN graduate medical education programs; therefore, the Clinical Neurophysiology fellowship, in the Department of Neurology, sponsors only J-1 visas. More information on the J-1 visa can be found on the UMN-GME webpage.

WORKERS’ COMPENSATION

The University is committed to providing trainees with comprehensive medical care for on-the-job injuries. Under Minnesota statute, Medical trainees are considered employees of the University of Minnesota for Workers’ Compensation insurance purposes. When a trainee is injured during training, they must take immediate steps to report injury to the University. The University cannot pay bills for trainee treatment unless an injury report is on file. The Medical Resident/Fellow must complete the following steps in case of a work related injury:

1. Report any work related injury to your Supervisor on the day or shift that it occurs. You must complete an Injury Report form at the rotation site where the injury occurred and follow the sites protocol for the specific injury (e.g. needle sticks, surgical injuries, etc.).
2. You MUST also complete and sign a University of Minnesota “Employee Incident Report” as soon as possible following the injury. To obtain the Employee Incident Report form contact your Program Coordinator. Complete the form and return to your coordinator for forwarding to Workers’ Compensation. Also forward any medical bills that you have received regarding the injury. The University of Minnesota Workers’ Compensation Department will review for payment.

NEEDLE STICKS AND BLOOD BORNE PATHOGEN EXPOSURE (BBPE) MANAGEMENT

24 Hour Help Line: 612-339-3663

Quick Steps – What to Do First!

1. Clean it.
2. Get treated.
3. ID the source patient.
4. Report it. Contact the faculty on service. (ALSO within 24 hours contact your Program Coordinator to obtain an Employee Incident Report).
5. Get a follow-up exam.
   Contact Occupational & Environmental Medicine at 952-883-6999.

IMPORTANT: The Centers of Disease Control and Prevention recommend that the exposed person seek treatment within 1-2 hours after initial exposure.

Note: If you are a resident/fellow, it is your responsibility to learn facility-specific exposure protocols when you begin your rotation. Please see employee health at your facility to learn procedures.

The detailed steps to manage an exposure are on the Occupational Health and Safety website, as well information on the Bloodborne Pathogen Training Program.
If you are on rotation at one of our major affiliated sites, their Occupational Health and Safety (OHS) offices are available to help you during their regular business hours.

After you have completed the steps listed above, please make sure that a First Report of Injury (FROI) form is **completed within 8 business hours (1 work day)**. This is required by the Department of Labor and Industry and is also necessary to pay the bills that are incurred as a result of the injury.

The preferred method of completing a First Report of Injury (FROI) form is via the on-line e-FROI. In order to access the e-FROI, you must log-in with the employee ID or the x500 of the injured party. The e-FROI guides you through the process of completing the required information. Upon submission, the completed e-FROI goes directly to Sedgwick Claims Management and Peggy Handt, your area contact, at 612-624-6019. **Be sure to choose "Twin Cities All Other" in the drop-down for the campus in the e-FROI.**

If the e-FROI is not available for accessing online, it is possible that the system is temporarily down; instead, you can submit a fillable First Report of Injury (FROI) form. Complete all required information in the fillable FROI, save as a PDF, and email the completed FROI to 211@sedgwickcms.com.

If you print off the FROI and complete it manually, fax the completed form directly to Sedgwick Claims Management (SCM) at 952-826-3785.

You should hear from an adjuster at Sedgwick Claims Management (SCM) within 3 business days of submission of the completed e-FROI. If you do not hear from SCM within 3 business days, contact Peggy Handt at 612-624-6019 to make sure that your e-FROI was received at Sedgwick.

A Supervisor Incident Investigation Report is also required and must be completed within 24 business hours (3 work days). This form can be found at: http://policy.umn.edu/Policies/hr/Benefits/WORKERSCOMP.html. It is located under "forms/instructions". Fax the completed form directly to Sedgwick Claims Management at 952-826-3785.

Further instructions can be found in the **Reporting Workers Compensation Related Injuries policy** on the Uwide Policy Library.

**If you receive a bill as a result of the injury, please retain the bill and fax it to Sedgwick Claims Management at 952-826-3785.**
**If you receive initial treatment for a BBPE at a training site Employee Health Office or Emergency Room, please identify yourself as a UM resident/fellow.**
**The cost of testing the source patient is the responsibility of the site at which the needlestick/blood borne pathogen exposure occurred.**
SECTION 3 - INSTITUTION RESPONSIBILITIES


SECTION 4 - DISCIPLINARY AND GRIEVANCE PROCEDURES

Please refer to Institution Policy Manual located on the GME website at http://z.umn.edu/gmeim

There are no Clinical Neurophysiology policies that are more specific than the institutional policies.

SECTION 5 - GENERAL POLICIES AND PROCEDURES

CLINICAL NEUROPHYSIOLOGY PROGRAM OVERVIEW

Clinical neurophysiology (CNP) is an area of medicine in which selected neurological disorders involving central, peripheral, and autonomic nervous systems and muscles are assessed, monitored, and treated using a combination of clinical evaluation and electrophysiological testing. This subspecialty requires a detailed knowledge of the normal physiology of the nervous system; the altered, abnormal electrophysiology; and the disease states involved.

This is a one-year ACGME-accredited fellowship, with training at the University of Minnesota and affiliated hospitals

- University of Minnesota Medical Center, Fairview (UMMC)
- Hennepin County Medical Center (HCMC)
Minneapolis VA Health Care System (MVAHCS)

Minnesota Epilepsy Group (MEG) which includes training at their private practice as well as inpatient coverage at: United Hospital, and/or St. Paul Children’s Hospital that provides in-depth training in the testing, diagnosis, and management of patients with neuromuscular diseases, epilepsy, and sleep disorders, with emphasis on the performance, analysis and interpretation of electrodiagnostic techniques.

Fellows who successfully complete this program are expected to sit for the sub-specialty board examination in Clinical Neurophysiology (American Board of Psychiatry and Neurology) within three years of graduation from this program, as well as sit for the EMG boards (American Board of Electrodiagnostic Medicine) and/or EEG boards (American Board of Clinical Neurophysiology).

This fellowship offers intensive training in all areas of clinical neurophysiology, and provides fellows with the opportunity to concentrate in selected disciplines (EMG/neuromuscular, EEG/Epilepsy, or a blended combination of all areas). The training experiences and required rotations differ for the areas of concentration.

ACGME COMPETENCIES

(The ACGME competencies are tied to all Goals and Objectives in the various CNP fellowship training tracks and rotations defined below.)

Patient Care (PC)- Fellows must be able to provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health.

Medical Knowledge (MK)- Fellows must demonstrate knowledge of established and evolving biomedical, clinical, epidemiological and social-behavioral sciences, as well as the application of this knowledge to patient care.

Practice-based Learning and Improvement (PBLI)- Fellows are expected to develop skills and habits to be able to meet the following goals:

- systematically analyze practice using quality improvement methods, and implement changes with the goal of practice improvement; and,
- locate, appraise, and assimilate evidence from scientific studies related to their patients’ health problems.

Interpersonal and Communication Skills (ICS) - Fellows must demonstrate interpersonal and communication skills that result in the effective exchange of information and collaboration with patients, their families, and health professionals.

Professionalism (Prof) - Fellows must demonstrate a commitment to carrying out professional responsibilities and an adherence to ethical principles.

Systems-based Practice (SBP)- Fellows must demonstrate an awareness of and responsiveness to the larger context and system of health care, as well as the ability to call effectively on other resources in the system to provide optimal health care.
OVERALL PROGRAM GOALS

The overall goals of Clinical Neurophysiology (CNP) fellowship program are: (ACGME competencies that apply are specified in parentheses)

- Acquire and demonstrate skills necessary to evaluate and treat common and unusual patient problems in epilepsy and sleep disorders (PC, MK)
- Independently interpret EEGs, PSGs, and EPs in all age groups in an accurate and safe manner (PC, MK, PBLI)
- Design epilepsy-monitoring protocols for patients undergoing surgical epilepsy evaluation and spell characterization (PC, MK, PBLI)
- Develop the understanding of the principles, indications, contraindications, risk, cost and expected outcome of the various treatments (PC, MK, SBP)
- Continue development of appropriate communication skills with patients, families, peers and health care personnel (PC, CS, Prof)
- Develop skills in life-long learning and in critical analysis, synthesis and reassessment of knowledge, skills and professionalism (PC, Prof, PBLI)
- Ensure that fellows develop independent clinical expertise in evaluating patients with epilepsy and determining their most appropriate management strategy (PC, MK, CS, PBLI)
- Develop independent interpretation skills of intraoperative neurophysiological techniques including electrocorticography, intraoperative EEG and EP (PC, MK, PBLI, SBP)
- Develop independent clinical expertise in evaluating patients with various sleep disorders and their most appropriate management strategy (PC, CS, MK, PBLI)
- Develop an understanding of neuromuscular disease and the role of EMG in their diagnosis (PC, MK, PBLI)
- Develop skills that will enable independent clinical research (PC, MK, PBLI)

AVAILABLE TRAINING TRACKS

1. **EMG/Neuromuscular track**: Training in peripheral electrophysiology focuses on nerve conduction studies and needle electromyography, with additional training provided in single fiber EMG, quantitative MUP analysis, motor unit number estimate (MUNE) techniques, near nerve, autonomic testing, and botulinum toxin injections. Fellows attend various neuromuscular and ALS clinics, in which they develop expertise in the longitudinal care of patients with neuromuscular disorders. Fellows choosing this training concentration spend 10 months with the neuromuscular faculty at University of Minnesota Medical Center, Hennepin County Medical Center, and/or the Minneapolis VA Health Care system. The remaining two months are spent taking EEG or sleep.

2. **EEG/Epilepsy track**: Training in central electrophysiology encompasses electroencephalography, evoked potential studies, surgical monitoring, ambulatory EEG monitoring, inpatient video-EEG monitoring and the programming of vagal nerve stimulators. Fellows participate in the various epilepsy clinics offered within UMMC, MVAHCS, HCMC, or MEG/United systems. Fellows choosing this training concentration spend 10 months with the epilepsy faculty at University of Minnesota Medical Center, the Minneapolis VA Health Care system, and/or the Minnesota Epilepsy Group/United clinics. Invasive monitoring and an active surgical epilepsy program are available in this facility. The remaining two months are spent taking EMG or sleep electives.

3. **The EMG/EEG blended track** combines elements of both the electroencephalography and electromyography training; and also includes two months of electives, which can be in sleep, or additional EEG, EMG, or IOM training.
All trainees take the Orientation/BootCamp sessions part-time during their first two months.

**Orientation/Boot Camp**

Trainees from all training tracks take Orientation/BootCamp sessions part-time during their first month, since it serves as an introduction to clinical neurophysiology and the basic science foundations. Orientation comprises a set of lectures, demonstrations, and practice sessions. As part of Boot Camp each fellow will receive a copy of the proposed annual block schedule, and discuss with the Program Director their choices for elective rotations, before the block schedule is finalized. Each fellow also receives a copy of the fellowship Program Manual, and must sign a Receipt for same that will remain in their fellowship file.

**Learning Objectives:** Upon completion of these sessions, fellows are expected to:

- Understand nerve and muscle physiology (MK, PC)
- Understand circuit elements and circuits (MK, PC)
- Demonstrate familiarity with the major types of neurophysiologic equipment (PC, SBP)
- Understand the basic principles of EEG (MK, PC)
- Recognize Normal EEG’s (PC, MK, PBLI)
- Perform basic EEG monitoring (PC, MK)
- Understand the basic principles of NCS and EMG (PC, MK, PBLI)
- Understand the basic principles of EP (PC, MK)
- Understand the important elements in standard test results reports (MK, PC, CS)
- Present clinical cases/results to referring physicians/providers in a concise and effective manner (PC, MK, CS)

1. **EMG/Neuromuscular Track**

CNP fellows participating in the EMG/Neuromuscular track will spend three to four months at each of three hospital training sites: UMMC, MVAHCS, and HCMC. 80% of their time will be spent concentrating on neuromuscular related training, and the remaining 20% will be spent on electives.

a. **University of Minnesota Medical Center Learning Objectives:** Upon completion of the UMMC rotation fellows are expected to:

- Understand the peripheral nervous system neuroanatomy (MK, PC)
- Understand the indications for and limitations of electrodiagnostic testing (PC, MK, PBLI, SBP)
- Perform and interpret nerve conduction studies (PC, MK)
- Perform and interpret nerve conduction studies and needle electromyography (PC, MK, PBLI)
- Perform patient evaluation and develop treatment plans for patient with epilepsy (PC, MK)
- Conduct appropriate evaluation of patients with neuromuscular diseases/symptoms (PC, MK, CS)
- Formulate and implement appropriate treatment plans for patients with neuromuscular diseases (PC, MK, CS)
- Perform and interpret autonomic testing and understand the role of these tests in the evaluation and management of patients with autonomic symptoms (PC, MK)
- Effectively communicate complex and difficult diagnoses and information to patients and their families (PC, CS)
• Understand the role of hospice and palliative medicine in the care of patients with degenerative and terminal conditions (PC, MK, SBP)
• Work effectively with members of a multi-specialty and multi-disciplinary treatment team (PC, SBP, Prof)
• Communicate effectively in written and verbal communications with referring providers (PC, MK, SBP, CS)

b. HCMC Rotation Learning Objectives: HCMC is a level-one trauma center with a busy emergency department. There is a national ALS center, a neuromuscular clinic, an EMG Laboratory and an epilepsy program. The Minnesota Regional Sleep Disorders Center is housed in HCMC. The clinical experience at HCMC is divided between the clinical neurophysiology (EMG, EGG, sleep) laboratories and outpatient clinics. Fellows see a mixture of patients referred to the EMG laboratory and are involved in the interpretation of electroencephalograms performed on a wide range of patients drawn from both the inpatient and outpatient settings. The distinguishing features of the HCMC rotation are fellow participation in the sleep disorders clinic at the Minnesota Regional Sleep Disorder Center and the nationally recognized ALS Center. The Sleep Disorders clinic performs approximately 1000 polysomnograms yearly and logs several thousand patient visits annually, and is continually staffed by clinical neurophysiology faculty. CNP fellows gain experience with interpretation of polysomnograms, and multiple sleep latency tests, as well as seeing patients with a wide spectrum of sleep disorders.

Upon completion of the HCMC rotation, the CNP fellow is expected to:

• Understand the basics of nerve and muscle histopathology (MK, PC, PBLI)
• Perform and interpret nerve conduction studies and needle electromyography (PC, MK, PBLI)
• Become proficient in the reading of electroencephalograms and understand their significance as they pertain to patient management (PC, MK, PBLI)
• Evaluate and formulate management strategies for patients with neuromuscular disease (PC, MK)
• Understand the presenting symptoms and diagnostic testing of amyotrophic lateral sclerosis (PC, MK, PBLI)
• Understand the major principles of sleep disorder management (PC, MK, PBLI, SBP)
• Conduct an appropriate history and physical exam for patients with sleep issues and problems (PC, MK, CS)
• Score, analyze and interpret nocturnal polysomnography, MSLT, and CPAP/BiPAP recordings
• Identify artifacts during polysomnography (PC, MK)
• Identify and rectify equipment failure during polysomnography recording (PC, SBP)
• Understand role of genetic counselors in the treatment and management of degenerative neuromuscular diseases. (PC, MK, SBP)
• Effectively communicate difficult news and prognoses to patients and families with degenerative neuromuscular disease (PC, CS, MK)
• Effectively and sensitively, plan with patients and families symptom management and palliative treatment in cases of non-curable, progressive conditions. (PC, CS, SBP, MK)
• Work effectively with technical staff in performance of polysomnography (PC, Prof, SBP)

c. MVAHCS rotation learning objectives: Fellows spend four months working in the MVAHCS epilepsy and neuromuscular disease subspecialty clinics and in EMG and EEG training.

At the end of the MVAHCS rotation, the fellow is expected to:

• Perform and interpret nerve conduction studies (MK, PC)
• Perform and interpret needle electromyography (MK, PC)
• Evaluate and formulate management strategies for patients with neuromuscular disease (PC, MK)
• Become proficient in the reading of electroencephalograms and understand their significance as they pertain to patient management (PC, MK)
• Understand issues that present in the longitudinal care of patients with neuromuscular disease (MK, PC, SBP)
• Perform and interpret autonomic testing and understand the role of these tests in the evaluation and management of patients with autonomic symptoms (PC, MK, PBLI)
• Provide effective consultation to referring providers within the VA system (PC, MK, Prof, SBP)

2. EEG/Epilepsy Track

In this track, CNP fellows the will spend 10 months working at either: a) Minnesota Epilepsy Group (MEG) / St. Paul Children’s Hospital or b) University of Minnesota Medical Center (UMMC). The remaining two months are spent on electives.

a. Minnesota Epilepsy Group Learning Objectives: The Minnesota Epilepsy Group at United Hospital/St. Paul Children’s hospital houses an active pediatric epilepsy program with inpatient and outpatient pediatric epilepsy services. The areas of focus are epilepsy surgery evaluations, medical management of complex epilepsy patients, and involvement with investigational therapies for epilepsy management. Clinical experience is divided between the clinical neurophysiology laboratory, the outpatient clinics, and the inpatient service. Emphasis will be placed on learning techniques of invasive monitoring and electrocorticography.

Months 1-3 of training: Upon completion of the first three months, fellows are expected to:

• Perform and interpret routine EEGs (MK, PC, PBLI)
• Understand the principles of long term monitoring video EEGs (MK, PC)
• Perform and interpret ambulatory EEGs (MK, PC)
• Conduct an evaluation of a new patient (MK, PC, CS)
• Formulate and dictate an organized report and communicate the results to referring physicians (MK, PC, CS, SBP).
• Effectively work with members of the clinical team to provide efficient patient care (PC, Prof, SBP)

Months 4-7 of training: Upon completion of months, 4-7 fellows are expected to:

• Perform a through and appropriate work up of new patients (PC, MK, SBP)
• Perform and interpret long term monitoring video EEG’s (MK, PC)
• Understand the principles of intraoperative evoked potential recordings (PC, MK)
• Evaluate and formulate management strategies for patients with epilepsy (PC, MK, PBLI)
• Understand the principles of reading intraoperative electrocorticography, subdural electrode array recordings and intracranial depth electrode recordings, and understand their significance as they pertain to patient management (PC, MK, PBLI)
• Effectively obtain patient history, perform physical examination and tests, and formulate an opinion about neurologic localization, etiologic differential diagnosis and a management plan (MK, PC, PBLI)
• Formulate and dictate an organized report and communicate the results to referring physicians (PC, MK, CS, SBP)
• Provide effective ongoing care of patients with epilepsy in the clinic setting (PC, MK, CS, SBP)
- Provide clinical consultations on complex, hospitalized epilepsy patients (PC, MK, SBP)
- Read intra-operative electrocorticography, subdural electrode array recordings, and intracranial depth electrode recordings, and understand their significance as they pertain to patient management (PC, MK, PBLI)
- Understand the use of ancillary tests used in surgical epilepsy evaluations, such as MRI, PET, SPECT, fMRI, MEG (magnetoencephalography), and neuropsychological testing (PC, MK, PBLI, SBP)
- Understand the role of investigational treatment options, including new medications and deep brain stimulation in the treatment of patients (MK, PC, PBLI)
- Understand the role of less invasive alternatives to intracranial EEG monitoring and new therapeutic avenues for patients who are not candidates for surgical resection (PC, MK, PBLI)

**Months 8-10 of training**: Upon completion of months, 8-10 fellows are expected to:

- Formulate complex diagnoses of seizures, epilepsy and related conditions (PC, MK, PBLI)
- Provide effective care ongoing care for epilepsy patients including those with intractable epilepsy (PC, MK, CS, SBP, PBLI)
- Perform and interpret intra-operative evoked potential recordings (PC, MK)
- Display proficiency in the reading of intraoperative electrocorticography, subdural electrode array recordings and intracranial depth electrode recordings (PC, MK, PBLI)
- Appropriately use the results of intraoperative electrocorticography, subdural electrode array recordings and intracranial depth electrode recordings in patient management (PC, MK, PBLI)
- Review available clinical trials of investigational treatment options and direct and advise patients as appropriate (PC, MK, PBLI, Prof)
- Understand the role of less invasive alternatives to intracranial EEG monitoring and new therapeutic avenues for patients who are not candidates for surgical resection.

b. **UMMC Epilepsy Center Learning Objectives**:  
One of the CNP fellows on the EEG/Epilepsy track (track 2) will spend 10 months working within the Comprehensive Epilepsy Center at the University of Minnesota Medical Center. The remaining two months are spent in EMG and sleep. The comprehensive epilepsy center provides multidisciplinary care for epilepsy and seizure disorders. CNP fellows work as part of a team including neurologists, neurosurgeons, neuropsychologists, neuropharmacologists, neuroradiologists, psychiatrists, epilepsy nurses, speech therapists and social workers. The overall educational goals of this rotation are to develop in fellows a current understanding of the role of clinical neurophysiology in the comprehensive care of patients, provide extensive clinical/technical experience in the performance of clinical neurophysiological examinations, and to provide training in the clinical evaluation and management of patients with epilepsy.

**Months 1-3 of training**: Upon completion of the first three months, fellows are expected to:

- Perform and interpret routine EEGs (MK, PC, PBLI)
- Understand the principles of long term monitoring video EEGs (MK, PC)
- Perform and interpret ambulatory EEGs (MK, PC)
- Conduct an evaluation of a new patient (MK, PC, CS)
- Formulate and dictate an organized report and communicate the results to referring physicians (MK, PC, CS, SBP)
- Effectively work with members of the clinical team to provide efficient patient care (PC, Prof, SBP)
**Months 4-7 of training:** Upon completion of months 4-6, fellows are expected to:

- Perform a thorough and appropriate workup of new patients (PC, MK, SBP)
- Perform and interpret long term monitoring video EEG’s (MK, PC)
- Understand the principles of intraoperative evoked potential recordings (PC, MK)
- Evaluate and formulate management strategies for patients with epilepsy (PC, MK, PBLI)
- Understand the principles of reading intraoperative electrocorticography, subdural electrode array recordings and intracranial depth electrode recordings, and understand their significance as they pertain to patient management (PC, MK, PBLI)
- Effectively obtain patient history, perform physical examination and tests, and formulate an opinion about neurologic localization, etiologic differential diagnosis and a management plan (MK, PC, PBLI)
- Formulate and dictate an organized report and communicate the results to referring physicians (PC, MK, CS, SBP)
- Provide effective ongoing care of patients with epilepsy in the clinic setting (PC, MK, CS, SBP)
- Provide clinical consultations on complex, hospitalized epilepsy patients (PC, MK, SBP)
- Read intra-operative electrocorticography, subdural electrode array recordings and intracranial depth electrode recordings, and understand their significance as they pertain to patient management (PC, MK, PBLI)
- Understanding the use of ancillary tests used in surgical epilepsy evaluations, such as MRI, PET, SPECT, fMRI and neuropsychological testing (PC, MK, PBLI, SBP)
- Understand the role of investigational treatment options, including new medications and deep brain stimulation in the treatment of patients (MK, PC, PBLI)
- Understand the role of less invasive alternatives to intracranial EEG monitoring and new therapeutic avenues for patients who are not candidates for surgical resection (PC, MK, PBLI)

**Months 8-10 of training:** Upon completion of months 8-10, fellows are expected to:

- Formulate complex diagnoses of seizures, epilepsy and related conditions (PC, MK, PBLI)
- Provide effective care ongoing care for epilepsy patients including those with intractable epilepsy (PC, MK, CS, SBP, PBLI)
- Perform and interpret intra-operative evoked potential recordings (PC, MK)
- Display proficiency in the reading of intraoperative electrocorticography, subdural electrode array recordings and intracranial depth electrode recordings (PC, MK, PBLI)
- Appropriately use the results of intraoperative electrocorticography, subdural electrode array recordings and intracranial depth electrode recordings in patient management (PC, MK, PBLI)
- Review available clinical trials of investigational treatment options, direct, and advise patients as appropriate (PC, MK, PBLI, Prof)
- Understand the role of less invasive alternatives to intracranial EEG monitoring and new therapeutic avenues for patients who are not candidates for surgical resection (PC, MK, PBLI)

3. **EEG/EMG Blended track**

Fellows rotate through the core teaching facilities, spending three to four months each at University of Minnesota Medical Center (UMMC), Hennepin County Medical Center (HCMC) and the Minneapolis VA Health Care System (MVAHCS) for a total of 11 months. Busy EMG and EEG services, along with associated clinics, are housed in each facility. Fellows may take an elective as their 12th month of training.
a. **University of Minnesota Medical Center Learning Objectives:** Upon completion of the UMMC rotation fellows are expected to:

- Understand the peripheral nervous system neuroanatomy (MK, PC)
- Understand the indications for and limitations of electrodiagnostic testing (PC, MK, PBLI, SBP)
- Perform and interpret nerve conduction studies (PC, MK)
- Perform and interpret nerve conduction studies and needle electromyography (PC, MK, PBLI)
- Perform patient evaluation and develop treatment plans for patient with epilepsy (PC, MK)
- Conduct appropriate evaluation of patients with neuromuscular diseases/symptoms (PC, MK, CS)
- Formulate and implement appropriate treatment plans for patients with neuromuscular diseases (PC, MK, CS)
- Perform and interpret autonomic testing and understand the role of these tests in the evaluation and management of patients with autonomic symptoms (PC, MK)
- Understand the uses and limitations of intraoperative monitoring during surgical procedures (PC, MK)
- Effectively communicate complex and difficult diagnoses and information to patients and their families (PC, CS)
- Understand the role of hospice and palliative medicine in the care of patients with degenerative and terminal conditions (PC, MK, CS)
- Work effectively with members of a multi-specialty and multi-disciplinary treatment team (PC, SBP, Prof)
- Communicate effectively in written and verbal communications with referring providers (PC, MK, SBP, CS)

b. **HCMC Learning Objectives:** HCMC is a level-one trauma center with a busy emergency department. There is a national ALS center, a neuromuscular clinic, an EMG Laboratory and an epilepsy program. The Minnesota Regional Sleep Disorders Center is housed in HCMC. The clinical experience at HCMC is divided between the clinical neurophysiology (EMG, EGG, sleep) laboratories and outpatient clinics. Fellows see a mixture of patients referred to the EMG laboratory and are involved in the interpretation of electroencephalograms performed on a wide range of patients drawn from both the inpatient and outpatient settings. The distinguishing features of the HCMC rotation are fellow participation in the sleep disorders clinic at the Minnesota Regional Sleep Disorder Center and the nationally recognized ALS Center. The Sleep Disorders clinic performs approximately 1000 polysomnograms yearly and logs several thousand patient visits annually, and is continually staffed by clinical neurophysiology faculty. CNP fellows gain experience with interpretation of polysomnograms, and multiple sleep latency tests, as well as seeing patients with a wide spectrum of sleep disorders.

Upon completion of the HCMC rotation, the CNP fellow is expected to:

- Understand the basics of nerve and muscle histopathology (MK, PC, PBLI)
- Perform and interpret nerve conduction studies and needle electromyography (PC, MK, PBLI)
- Become proficient in the reading of electroencephalograms and understand their significance as they pertain to patient management (PC, MK, PBLI)
- Evaluate and formulate management strategies for patients with neuromuscular disease (PC, MK)
- Understand the presenting symptoms and diagnostic testing of amyotrophic lateral sclerosis (PC, MK, PBLI)
- Understand the major principles of sleep disorder management (PC, MK, PBLI, SBP)
- Conduct an appropriate history and physical exam for patients with sleep issues and problems (PC, MK, CS)
- Score, analyze and interpret nocturnal polysomnography, MSLT, and CPAP/BiPAP recordings
- Identify artifacts during polysomnography (PC, MK)
- Identify and rectify equipment failure during polysomnography recording (PC, SBP)
- Understand role of genetic counselors in the treatment and management of degenerative neuromuscular diseases. (PC, MK, SBP)
- Effectively communicate difficult news and prognoses to patients and families with degenerative neuromuscular disease (PC, CS, MK)
- Effectively and sensitively, plan with patients and families symptom management and palliative treatment in cases of non-curable, progressive conditions. (PC, CS, SBP, MK)
- Work effectively with technical staff in performance of polysomnography (PC, Prof, SBP)

c. **MVAHCS Learning Objectives:** Fellows spend four months working in the MVAHCS epilepsy and neuromuscular disease subspecialty clinics and in EMG and EEG training.

At the end of the MVAHCS rotation, the fellow is expected to:

- Perform and interpret nerve conduction studies (MK, PC)
- Perform and interpret needle electromyography (MK, PC)
- Evaluate and formulate management strategies for patients with neuromuscular disease (PC, MK)
- Become proficient in the reading of electroencephalograms and understand their significance as they pertain to patient management (PC, MK)
- Understand issues that present in the longitudinal care of patients with neuromuscular disease (MK, PC, SBP)
- Perform and interpret autonomic testing and understand the role of these tests in the evaluation and management of patients with autonomic symptoms (PC, MK, PBLI)
- Provide effective consultation to referring providers within the VA system (PC, MK, Prof, SBP)
- Perform and interpret routine EEGs (MK, PBLI)
- Understand the principles of long term monitoring video EEGs (MK, PC)
- Perform and interpret ambulatory EEGs (MK, PC)
- Conduct an evaluation of a new patient (MK, PC, CS)
- Formulate and dictate an organized report and communicate the results to referring physicians (MK, PC, CS, SBP)
- Effectively work with members of the clinical team to provide efficient patient care (PC, Prof, SBP)

4. **Electives** Trainees from all tracks will work with the PD during the first month of training to define their elective interests. This will allow the Program Coordinator sufficient time to organize the schedule and any paperwork needed to support the elective. Fellows in the EEG and EMG 80% tracks must take two months of clinical neurophysiology topics other than the area of their specialization. Fellows in the Blended track select topics of interest to them. The available electives are:

a. **Sleep Elective Learning Objectives** – available at HCMC or UMMC sites.
- Score, analyze and interpret nocturnal polysomnography, MSLT, and CPAP/BiPAP recordings
- Identify artifacts during polysomnography (PC, MK)
• Identify and rectify equipment failure during polysomnography recording (PC, SBP)
• Conduct an evaluation of a new patient (MK, PC, CS)
• Formulate and dictate an organized report and communicate the results to referring physicians (MK, PC, CS, SBP)
• Effectively work with members of the clinical team to provide efficient patient care (PC, Prof, SBP).

b. EEG Elective Learning Objectives– available at UMMC, MEG, or MVHCS sites.
• Perform a thorough and appropriate work up of new patients (PC, MK, SBP)
• Perform and interpret long term monitoring video EEG’s (MK, PC)
• Understand the principles of intraoperative evoked potential recordings (PC, MK)
• Evaluate and formulate management strategies for patients with epilepsy (PC, MK, PBLI)
• Understand the principles of reading intraoperative electrocorticography, subdural electrode array recordings and intracranial depth electrode recordings, and understand their significance as they pertain to patient management (PC, MK, PBLI)
• Effectively obtain patient history, perform physical examination and tests, and formulate an opinion about neurologic localization, etiologic differential diagnosis and a management plan (MK, PC, PBLI)
• Formulate and dictate an organized report and communicate the results to referring physicians (PC, MK, CS, SBP)
• Provide effective ongoing care of patients with epilepsy in the clinic setting (PC, MK, CS, SBP).

c. EMG Elective Learning Objectives– available at UMMC, HCMC, or MVHCS sites.
• Understand the peripheral nervous system neuroanatomy (MK, PC)
• Understand the indications for and limitations of electrodiagnostic testing (PC, MK, PBLI, SBP)
• Perform and interpret nerve conduction studies (PC, MK)
• Perform and interpret nerve conduction studies and needle electromyography (PC, MK, PBLI)
• Perform patient evaluation and develop treatment plans for patients with epilepsy (PC, MK)
• Conduct appropriate evaluation of patients with neuromuscular diseases/symptoms (PC, MK, CS)
• Formulate and implement appropriate treatment plans for patients with neuromuscular diseases (PC, MK, CS)
• Perform and interpret autonomic testing and understand the role of these tests in the evaluation and management of patients with autonomic symptoms (PC, MK)
• Effectively communicate complex and difficult diagnoses and information to patients and their families (PC, CS)
• Understand the role of hospice and palliative medicine in the care of patients with degenerative and terminal conditions (PC, MK, SBP)
• Work effectively with members of a multi-speciality and multi-disciplinary treatment team (PC, SBP, Prof)
• Communicate effectively in written and verbal communications with referring providers (PC, MK, SBP, CS).

d. Intra-operative Monitoring (IOM) Elective Learning Objectives– An IOM intensive EEG rotation is available at UMMC or MEG.
• Understand the principles of intraoperative evoked potential recordings (PC, MK)
• Understand the principles of corticography (PC, MK)
• Understand the principles of depth electrode intra carotid amobarbital testing (PC, MK)
• Understand the principles of cortical mapping in surgical planning (PC< MK)
• Understand the principles of reading intraoperative electrocorticography, subdural electrode array recordings and intracranial depth electrode recordings, and understand their significance as they pertain to patient management (PC, MK, PBLI)

• Effectively obtain patient history, perform physical examination and tests, and formulate an opinion about neurologic localization, etiologic differential diagnosis and a management plan (MK, PC, PBLI)

• Formulate and dictate an organized report and communicate the results to referring physicians (PC, MK, CS, SBP)

PATIENT CARE

The CNP fellowship is primarily an outpatient clinic experience, with most experiences taking place in the outpatient Neurology clinic setting or the EEG/EMG lab setting. CNP fellows do not have their own continuity clinic throughout the academic year, but instead attend the clinics at the site where they are rotating each month.

CNP fellows have a small number of inpatient experiences: when consults are requested, when patients are undergoing video EEG monitoring, and for intraoperative monitoring during invasive procedures.

SITUATIONS THAT REQUIRE CONTACTING FACULTY

Each institution has specific situational requirements mandating that a trainee must contact the supervising physician immediately. Examples of these situations are:

In outpatient neurology clinic:
• When patients are behaviorally disordered or threatening
• When there is need for a CODE team activation

When on the inpatient service or on consults:
• 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.

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.
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 and on campus. 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.

GRADED RESPONSIBILITY

Each patient will have an identifiable, credentialed and privileged faculty who is ultimately responsible for that patient’s care. That faculty will supervise and oversee the actions of the fellow.

At each site, the fellow will demonstrate to the faculty their level of competence in the various tasks. During the first months of fellowship, faculty will delegate and supervise specific assignments.

As increased competence is demonstrated, the faculty will delegate to the fellow progressive authority and responsibility, conditional independence, and a supervisory role in patient care.

At the same time, faculty will inform each fellow of the limits of his/her scope of authority, and the circumstances under which he/she is permitted to act with conditional independence.

Faculty always has the final responsibility for the care of the patient. In the event that a fellow may be unable to perform his/her patient care duties, the faculty will take over.

CONFERENCES

The following conferences are required:

- Boot Camp didactic lectures, on various dates during first two months of the academic year
o Weekly EEG/Epilepsy surgery conference, Thursdays, 11:45am, room 12-109 PWB, UofM
o Weekly neuromuscular conference, Fridays, 8:00 am, room 12-132 PWB, UofM

And when the content is relevant to CNP:
o Resident Friday School didactics, 2:15 pm Fridays, in 12-109 PWB
o Neurology Grand Rounds, noon Fridays, UofM, various rooms

Optional conferences include:
o Muscular Dystrophy Seminar Series, twice monthly, 9:00 am Fridays, various locations
o Clinical Neuroscience Conference, 7:30 am Tuesdays, room 12-109 PWB, UofM
o Resident Case Conference, 1:15 pm Fridays, room 12-109 PWB

TEXTBOOK AND REFERENCE LIST

Fellows will each borrow a copy of Clinical Neurophysiology, Third Edition, 2009, editors Jasper Daube and Devon Rubin, from the fellowship coordinator.

There are numerous standard texts and other resources available in each lab; as well as many online resources, including access to Up To Date through the University of Minnesota Biomedical Library and via Fairview Health Services.

RESEARCH

Fellows are required to participate in at least one research project of his/her choosing under the supervision of a faculty member.

Timeline
Fellows will narrow down the scope of research interest and select a faculty mentor by September; submit any required administrative paperwork needed for research, take needed training by December, and begin the research no later than January.

Presentation
Fellows are expected to briefly present their research project at the end-of-year fellowship research symposium, in late May/early June of each year.

PROCEDURE LOG

Each Clinical Neurophysiology fellow is 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 should be 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 final semi-annual evaluation report that the Program Director prepares at the end of the program.

ONCALL SCHEDULES
CNP fellows do not take call.

**LIFE SUPPORT CERTIFICATION**

Upon entering an accredited GME training program, such as the CNP fellowship, all trainees who have direct contact with patients must be certified in Basic Life Support (BLS). Certification is typically valid for two years. Once the initial certification expires, the trainee must take a recertification class.

For those trainees required by the hospital to have BLS or any other life saving certification, they will be recertified at the teaching hospital’s expense. Contact your fellowship coordinator or nelson1@fairview.org to get scheduled for training or re-training.

**SECURITY/SAFETY**

Security and personal safety measures are provided to trainees at all locations, including but not limited to parking facilities, on-call quarters, hospital and institutional grounds, and related clinical facilities (e.g. medical office buildings).

Contact Information:
- University of Minnesota Medical Center Security Office: 612-273-4544
- University of Minnesota Security Monitor Program: 612-624-WALK
- VA Medical Center Security Office: 612-467-2007 / office located on the first floor, in room 1U-162
- Hennepin County Security Office 612-873-2359 / office located at RL150

**MEDICAL RECORDS AND REFERENCE MATERIALS**

As part of the onboarding process at each site, every CNP fellow receives logon instructions for accessing that hospital’s electronic medical records system, and information about what reference materials are available in print in the clinic area. All CNP fellows also have access to electronic medical literature databases with search capabilities through the University of Minnesota’s Biomedical Library.

**UMMC Hospital**

There is access to the Fairview Medical Library both from hospital/clinic computers and using mobile devices. Visit [https://intranet.fairview.org/Resources/Information/MedicalLibrary/S_095521](https://intranet.fairview.org/Resources/Information/MedicalLibrary/S_095521) for details about which applications are available and how to access them with your mobile device.

**Bio-Medical Library**
All residents and fellows have access to full facilities of the University of Minnesota Bio-Medical Library, which is physically located in Diehl Hall (just south of Phillips Wangensteen). Through the Bio-Medical library website https://hsl.lib.umn.edu/biomed and with an x500 login, hundreds of online journals, textbooks, databases, etc, can be accessed. Reference sites, such as UpToDate, PubMed, ClinicalKey, Micromedex, Ovid Medline and more. And to E-Books and journals such as NEJM, JAMA, Neurology, Lancet, etc. (Some of these are accessible only from hospital computers.)

Library subject specialist Jonathan Koffel, jbkoffel@umn.edu, 612-626-5454, is available for help researching a topic or for tips on using library resources.

Moodle

The program maintain a Moodle site exclusively for the fellows. It currently contains many reference articles and can be customized to increase usefulness. Work through Coordinator Julie Pierce for major changes. https://moodle.umn.edu

Others

Other sites, like the American Academy of Neurology website, NIH website, etc, also have news articles, practice guidelines.

LABORATORY/PATHOLOGY/RADIOLOGY SERVICES

Inpatient clinical support services are available on a 24-hour basis at University of Minnesota Medical Center, Hennepin County Medical Center, and the Minneapolis VA Health Care System, to meet reasonable and expected demands, including intravenous services, phlebotomy services, messenger/transporter services, Inpatient Radiology services including laboratory and radiologic information retrieval systems allow prompt access to results.

DUTY HOURS

All residents and fellows at the University of Minnesota must record their duty hours using the web-based New Innovations RMS system found at: https://www.new-innov.com/Login/Login.aspx?Hospital=MMCGME

Duty hours should be logged frequently, and at least weekly. Record all patient care, administrative, and vacation/sick time. All hours worked and all moonlighting hours must be reported. Moonlighting hours count towards the 80 hours per week maximum allowed.

The combined total of hours worked should not exceed 80 hrs per week. Fellows are expected to have at least 8 hours off every day; 10 hours off preferred. Fellows must also have at least 1 day per week free of all educational duties, as averaged over a four week period.
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.

Your program coordinator can answer questions about what activity codes to use, why duty hours are submitted, how they are used, etc.

MOONLIGHTING

Fellows interested in moonlighting must discuss it with the Program Director. If moonlighting is approved, a form letter requesting approval must be downloaded from RMS and completed by both the trainee and the Program Director. The completed letter goes to the Fellowship Coordinator, and also gets uploaded to RMS. No moonlighting can be performed without an approval letter. All moonlighting hours must be reported via the RMS duty hours, and will be counted towards the 80 hour per week duty hour limit.

RESIDENT WELL-BEING

Program directors and teaching staff will be 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 or residents will be evaluated and modified.

Details about the support resources available to all residents/fellows can be found on the Graduate Medical Education web site https://www.med.umn.edu/residents-fellows. These include Needle Sticks and Blood Borne Pathogen Exposure Mgmt instructions, a Dispute Resolution Process, Well-Being Tools, a Resident Assistance Program (RAP) at 651-430-3383, and an on-site consultant (Scott Slattery, Ph.D., at 612-626-7196.), among others.

OTHER EDUCATIONAL RESOURCES TO BE USED

Fellows have at their disposal a learning area in the department, which includes several computers, computer-based teaching tools covering neurology, neuroradiology and pathology, and the most frequently used, up-to-date textbooks. The computers provide Medline searches. In addition, fellows have access to the hospital and biomedical libraries, which include a sizeable collection of neurology journals and classic textbooks.

EVALUATION METHODS

Evaluation by faculty, of faculty, of rotations

Each quarter, fellowship faculty are asked to evaluate each fellow’s performance, via evaluations in the New Innovations RMS web-based system.

Also each quarter, fellows are asked to evaluate the program faculty, as well as the various rotations they have completed.
Clinical Neurophysiology Milestones

One of the ACGME program requirements is that all trainees be rated using the Milestones twice a year. The fellowship’s Clinical Competency Committee (CCC) rates each fellow in early December and early June. The results will be shared at the semi-annual meeting with the program director (see below).

360 Degree Evaluation

Semi-annually, there is a semi-annual “360-degree” assessment of each trainee by the clinic and lab technical and nursing staff, as well as patients.

Semi-annual meeting with PD

One of the ACGME program requirements is a meeting between each trainee and the program director on a semi-annual basis.

At these meetings, the PD will review each trainee’s ratings and evaluations submitted by himself and other faculty. Also discussed will be any 360 degree evaluations received and the Milestone ratings from the CCC. A written evaluation summary will be prepared and signed by both the PD and the trainee.

Annual Meetings

Annually, the Program Director completes a slightly more extensive evaluation of each fellow that summarizes their performance during the full year and indicates whether the fellow is ready to assume increased responsibility or whether he/she has demonstrated sufficient competence to enter clinical neurophysiology practice without direct supervision.

Also annually, fellows and faculty are encouraged to complete confidential written evaluations of the program itself. These are also scheduled and completed through the New Innovations RMS system. Anonymous, aggregated information from all rotation and program evaluations are used in an ACGME required annual, formal, fellowship evaluation meeting.

The results of the above annual evaluations, the rotation evaluations, the faculty evaluations, and the quarterly fellow evaluations all become part of the material considered in the formal, ACGME-required, annual Program Evaluation meeting. All faculty and fellows are invited to attend.

IN-TRAINING EXAMS

All fellows, regardless of their selected training track, take two inservice examinations:


BOARD EXAMINATIONS

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

American Academy of Neurology

The Department of Neurology shares with the American Academy of Neurology the name and training level of each residents/fellow in our programs.

SECTION 6 - ADMINISTRATION

IMPORTANT CONTACTS

Program Director Zhiyi Sha, MD, PhD zysha@umn.edu
Fellowship Coord Julie Pierce 612-624-7374 mjpierce@umn.edu

Site Contacts:

HCMC: Cheryl Neel, Education Coord 612-873-2595 Cheryl.Neel@hcmed.org
Adam Loavenbruck, MD (Site Director) Adam.Loavenbruck@hcmed.org
Neurology clinic 612-873-2515
EMG Lab 612-873-9320

MEG: Julie Hanna, MD (MEG/United/Childrens Site Dir) jhanna@mnepilepsy.net
Kathy Wedan, trainee coordinator kwedan@mnepilepsy.net

UMMC: Georgios Manousakis, MD (NM Site Dir) gmanousa@umn.edu
Thomas Henry, MD (UMMC Epilepsy Site Dir) trhenry@umn.edu
EEG Clinic Desk 612-626-3623
EMG Clinic Desk 612-626-6680
Neurology Clinic 612-626-6688
Dept of Neurology AdminMain Line 612-625-9900

VA: Stephen Holloway, MD, PhD (VA Site Director) hollo009@umn.edu
Thomas Krug – admin support 612-467-2047 Thomas.Krug2@va.gov
Gregg Meekins, Department Head & faculty gmeekins@umn.edu
HOLIDAYS

The Department of Neurology fellowships follow the University of Minnesota Twin Cities staff holiday schedule, which differs from the medical student and residency schedule, and can be found at:

http://www1.umn.edu/ohr/benefits/leaves/holiday/tcroc/index.html

Other sites might follow different holiday schedules, so keep in contact with the staff at each site where you rotate, and be sure to keep them informed about any dates you will not be there.

FELLOW CONTACT INFORMATION

Fellows are expected to keep both their program coordinator and the University Payroll department informed of any changes to their contact information. Address and phone number changes can be completed online by visiting the my website and selecting the MyInfo tab.

CONFIRMATION OF RECEIPT OF FELLOWSHIP ADDENDUM

All fellows must complete a form indicating that they have received and reviewed the program manual. The form to complete is on the next page.
University of Minnesota
Department of Neurology

CLINICAL NEUROPHYSIOLOGY FELLOWSHIP

Confirmation of Receipt of your Fellowship Addendum
for Academic Year 2017-2018

By signing this document you are confirming that you have received and reviewed your Fellowship Addendum for this academic year. This policy manual contains policies and procedures pertinent to your training program.

This receipt will be kept in your personnel file.

Fellow Name (Please print) ______________________________________________

Fellow Signature

______________________________

Date ________________

Coordinator Initials __________

Date ________________

Last updated June 2017