

# Clinical Neurophysiology Course: EEG/Epilepsy

Director: Michael Devereaux, MD

Academic Education Coordinator: Doris Evans

The UH Neurological Institute's Clinical Neurophysiology Course: EEG/Epilepsy Track is ideal for those medical professionals seeking more in-depth knowledge and detailed experience in epilepsy and clinical neurophysiology.

Taught by Epilepsy Center faculty, the course begins with an introduction to EEG Electronics and covers a wide variety of topics. Morning sessions feature traditional classroom lectures. During afternoon sessions, trainees read with the supervising fellows and attending physicians in the routine EEG and video-EEG monitoring units.

This freestanding course is available twice a year to all residents, EEG/Epilepsy fellows, fellows of related specialties and other medical professionals. The course is not exclusively reserved to those awarded fellowships.

## Course and Lecture Topics

<b>Week 1</b>	EEG Electronics
<b>Week 2</b>	Normal EEG Sleep Social and economic concerns
<b>Week 3</b>	EEG in Epilepsy & Encephalopathy EEG Criteria: Brain Death Epileptogenesis
<b>Week 4</b>	Epidemiology & Prognosis EEG Classification Semiology
<b>Week 5</b>	Genetics Presurgical Evaluation Neuroimaging Neurophysiological Evaluation Neuropathology Surgical Therapies
<b>Week 6</b>	Intraoperative Monitoring Evoked Potentials
<b>Week 7</b>	Anti-seizure medications
<b>Week 8</b>	Neonatal EEG & Seizures EEG Maturation Pediatric Epilepsy/Paroxysmal Events Ketogenic Diet/Teratogenesis
<b>Final Exam</b>	Held last Friday of the session

## Fees and Accommodations

The course is free but attendees are responsible for their own transportation and accommodations. Dorm room or host housing is available through Case Western Reserve University. Attendees are encouraged to bring their laptops. Academic Education Coordinator Doris Evans can assist with finding appropriate housing. She can be reached at 216-844-3100 or Doris.Evans@UHhospitals.org.

## Dates Offered

The eight-week sessions are held twice a year – beginning the first full weeks of February and July.

## Visa

Participants in the two-month EEG/Epilepsy Course do not require any special visa – a tourist visa is sufficient. However, participants who are interested in a more prolonged exposure of six months or more as research or clinical fellow will need to apply for special training visas – J1 or equivalent.



## About the UH Neurological Institute

University Hospitals Neurological Institute delivers innovative, integrated and individualized care to patients with diseases affecting the nervous system at convenient locations throughout Northern Ohio.

Our multidisciplinary team of neurosurgeons and neurological specialists provides a full spectrum of services, including diagnosis and treatment of brain tumors, epilepsy, strokes, spine and pain disorders, Parkinson's, Alzheimer's and more.

Leading experts in neurology, neurosurgery, neuroradiology and other specialties collaborate to devise personalized care plans using the latest clinical advances and cutting-edge technologies through our 16 **Centers of Excellence:**

- Brain Tumor & Neuro-Oncology Center
- Center for Music & Medicine
- Community Neurology Center
- Epilepsy Center
- Memory and Cognition Center
- Minimally Invasive Neurosurgery Center
- Movement Disorders Center
- Neurocritical Care Center
- Neurological Outcomes Center
- Neuromuscular Center
- Neuropsychiatry Center
- Neuroscience Nursing Practice Center
- Rainbow Neurological Center
- Spinal Neurosurgery Center
- Stroke & Cerebrovascular Center
- Translational Neurosciences Center

## Community Access

We offer unparalleled access and convenience to our integrated health care system through our hub at UH Case Medical Center and our network of community facilities located throughout the region.



Cleveland | Ohio

## Clinical Neurophysiology Programs (Epilepsy)



## The Epilepsy Center

With a level IV designation from the National Association of Epilepsy Centers, the Epilepsy Center provides solutions to adult and pediatric patients, helping them lead more comfortable, fulfilling lives. Our world renowned epileptologists classify, quantify and localize seizure-producing areas of the brain using the most advanced diagnostic methods and medical facilities. Our team develops personalized treatment plans – including clinical drug trials, novel medications and advanced surgical therapies – depending on the unique needs of each patient. Working in conjunction with UH Rainbow Babies & Children's Hospital, the Division of Pediatric Epilepsy provides comprehensive, integrated and state-of-the-art care to children with epilepsy. With access to a vast number of specialists and surgeons at both UH Case Medical Center and UH Rainbow Babies & Children's Hospital – as well as dedicated adult and pediatric epilepsy monitoring units – the center offers the most advanced approaches to diagnosing, managing and treating epilepsy in adults and children.

## Center of Excellence

The Neurological Institute is the only Neuroscience Center of Excellence in the State of Ohio with a Stage 4-Institute Designation, according to the NeuStrategy Neuroscience Center of Excellence Survey. The COE Survey is the only one of its kind in neurosciences and is the industry standard for evaluating program infrastructure. The Stage 4-Institute Designation reflects the UH Neurological Institute's multispecialty approach to care and ability to offer the most comprehensive range of neurological specialists and patient services available anywhere.





Because University Hospitals Neurological Institute's Epilepsy Center is housed in one of the country's premier academic medical centers, it has incorporated post-graduate training of clinical neurophysiologists and epileptologists as one of its primary missions.

University Hospitals Case Medical Center and the UH Neurological Institute offer a depth of care and scope of services that no other medical center in Ohio can deliver. As the primary affiliate of Case Western Reserve University School of Medicine, UH Case Medical Center has unparalleled access to top talent, emerging technologies and therapies, and unequaled research resources.

## Mission

The mission of the EEG/Epilepsy Neurophysiology Fellowship Program is to train academic adult and pediatric epileptologists. The program gives trainees a solid education in basic clinical neurophysiology, comprehensive medical management of patients with epilepsy, selection and evaluation of epilepsy surgery candidates, and the basic and clinical research tools used in epileptology.

Each day, the UH Neurological Institute lives the system mission – *To Heal. To Teach. To Discover.* – by providing personalized, leading-edge care, by teaching future generations of clinicians and scientists, and by discovering novel treatments and best practices. Our physicians and researchers – who also serve as the faculty of Case Western Reserve University School of Medicine – are leaders in their respective fields and their ongoing research programs push the boundaries of medical progress.

This wealth of medical, educational and research assets is an ideal setting for medical students seeking challenging and rewarding resident and fellowship opportunities – particularly in epilepsy.

## Clinical Neurophysiology Programs (Epilepsy)

UH Neurological Institute's Epilepsy Center offers three fellowship programs for residents, EEG/Epilepsy fellows, fellows of related specialties and other medical professionals.

### ACGME-approved Clinical Fellowships

The Epilepsy Center has five ACGME-approved Clinical Fellowships available. Successful candidates, who receive a stipend from University Hospitals, must have completed an ACGME-approved neurology residency in the United States to be eligible. Training at both UH Rainbow Babies & Children's Hospital and University Hospitals Case Medical Center ensures a broad exposure to both pediatric and adult epilepsy. Candidates also have the opportunity to participate in a variety of research projects.

### Non-ACGME-approved Clinical Fellowships

The Epilepsy Center also has Non-ACGME-approved Clinical Fellowships available for candidates who have completed a residency in neurology, neurosurgery, psychiatry or an equivalent residency in their country of origin and have passed all the tests necessary to obtain a training medical license in the State of Ohio. Training at both UH Rainbow Babies & Children's Hospital and University Hospitals Case Medical Center ensures a broad exposure to both pediatric and adult epilepsy. Candidates also have the opportunity to participate in a variety of research projects.

### Research Fellowship

The Epilepsy Center offers research fellowships to candidates who have completed a residency in neurology, neurosurgery, psychiatry or an equivalent residency in their country of origin. Occasional exceptions are made for those who still have not completed their residency training.

### How to Apply

**For more information or to download an application for the fellowships or EEG/Epilepsy Course, please contact Doris Evans, Academic Education Coordinator, at 216-844-3100 or visit our website at [UHhospitals.org/epilepsy](http://UHhospitals.org/epilepsy) and [RainbowBabies.org/epilepsy](http://RainbowBabies.org/epilepsy).**

### EEG/Epilepsy Course

The University Hospitals Neurological Institute's Clinical Neurophysiology Course: EEG/Epilepsy Track is an eight-week intensive class designed to instruct in epilepsy and clinical neurophysiology core competencies and features formal daily lectures given by experts in the field.

### Expectations

- Daily assignments are reviewed and include one EEG recording interpretation and one or more "EEG unknowns."
- Trainees are expected to attend weekly Epilepsy Grand Round, Neurology Grand Rounds, Patient Management Meetings and Epilepsy Case Presentations.
- Each attendee will review an article related to EEG/Epilepsy and present it to the group as PowerPoint presentation.
- Optional participation in Epilepsy Monitoring Unit rounds on Saturdays or Sundays is available.
- Daily attendance of EEG reading sessions (1.5 hours)

### Exams

A midcourse exam is offered at four weeks and a final exam is held at the end of the course.

## Faculty

Directed by Hans Lüders, MD, the University Hospitals Epilepsy Center has a level IV designation and is comprised of a collaborative team of both pediatric and adult epileptologists employing state-of-the-art technology to treat epilepsy. Faculty include:



### Hans Lüders, MD, PhD

Epilepsy Center Director  
Professor, Case Western Reserve University School of Medicine

Special Interests: Clinical Neurophysiology, EEG – Electroencephalography, Epilepsy, Higher Cortical Functions, Language Mapping



### Michael Devereaux, MD

Clinical Neurophysiology Program Director  
Professor, Case Western Reserve University School of Medicine

Special Interests: Epilepsy, General Neurology, Multiple Sclerosis, Neuro-Ophthalmology



### Shahram Amina, MD

Assistant Professor, Case Western Reserve University School of Medicine

Special Interests: Clinical Neurophysiology, Epilepsy, Intraoperative Monitoring, Neurology



### Tanvir Syed, MD, MPH

Assistant Professor, Case Western Reserve University School of Medicine

Special Interests: Biostatistics, Epilepsy, Higher Cortical Functions, Intraoperative Monitoring, Language Mapping, Outcomes Research, Pseudoseizures, Psychogenic Nonepileptic Seizures



### Mohamad Koubeissi, MD

Assistant Professor, Case Western Reserve University School of Medicine

Special Interests: Epilepsy, Forgetfulness, Higher Cortical Functions, Language Mapping, Memory, Psychological Testing, Seizures, Surgery for Epilepsy



### Kitti Kaiboriboon, MD

Assistant Professor, Case Western Reserve University School of Medicine

Special Interests: Epilepsy, EEG Source Imaging, Large Database and Outcome Research, Status Epilepticus, Pharmacological Therapy, Epilepsy Surgery, Intraoperative Monitoring



### Ingrid Tuxhorn, MD

Chief, Division of Pediatric Epilepsy  
Professor, Case Western Reserve University School of Medicine

Special Interests: Pediatric Epilepsy, Surgery, Neurology, Neurophysiology



### Samden Lhatoo, MD

Professor, Case Western Reserve University School of Medicine

Special Interests: Epilepsy, Refractory Epilepsy, Surgical Epilepsy, Magnetoencephalography and General Neurology



### Jonathan Miller, MD

Director, Functional and Restorative Neurosurgery

Assistant Professor, Case Western Reserve University School of Medicine

Special Interests: Epilepsy Surgery, Facial Pain, Functional & Stereotactic Neurosurgery, Gamma Knife and Cyberknife Stereotactic Radiosurgery, Movement Disorders/Parkinson Disease, Peripheral Nerve Surgery, Surgical Pain Management



### Shenandoah Robinson, MD

Director, Pediatric Epilepsy Surgery  
Associate Professor, Case Western Reserve University School of Medicine

Special Interests: Pediatric Epilepsy Surgery, Pediatric Neurosurgery, Spasticity Surgery



### Asim Shahid, MD

Assistant Professor, Case Western Reserve University School of Medicine

Special Interests: Electroencephalography, Pediatric Epilepsy, Pediatric Neurology



### Elia Pestana-Knight, MD

Assistant Professor, Case Western Reserve University School of Medicine

Special Interests: Channelopathies, Epilepsy Surgery, Genetic Epilepsies, Infantile Spasms, Ketogenic Diet, Neonatal Seizures, Outcome of Pediatric Epilepsy, Pediatric Encephalography, Pediatric Epilepsy, Pregnancy and Epilepsy, Refractory Seizures, Vagus Nerve Stimulator