

NEUROLOGY

TRAINING PROGRAMS

2015 - 2016

UT Southwestern
Medical Center



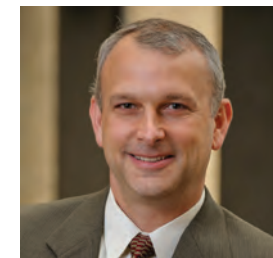
Welcome to UT Southwestern Neurology

We are excited to share some information about post-graduate training opportunities in the Department of Neurology and Neurotherapeutics at UT Southwestern Medical Center at Dallas. UT Southwestern is a leader in patient care, biomedical research, and medical education. The neurology faculty is nationally recognized for outstanding clinical care, teaching, and research in the neurosciences.

The post-graduate training opportunities in the department are extensive. Our adult neurology residency program is a categorical 4-year residency program providing innovative and outstanding clinical training as well as opportunities for research endeavors. The division of child neurology offers categorical residency programs in child neurology (5-year) or neurodevelopmental disorders (6-year) based at Children's Medical Center of Dallas. Fellowship programs are available in twelve neurological subspecialties. All of our training programs are fully accredited.

We provide the highest quality training in general neurology and the major neurological subspecialties with a focus on neurotherapeutics. Trainees receive extensive clinical experience through inpatient and outpatient settings supervised by an active, energetic faculty with a wide range of clinical and research interests. Teaching conferences and electives supplement the basic curriculum and provide residents with a strong foundation in neuroscience and evidence-based neurology.

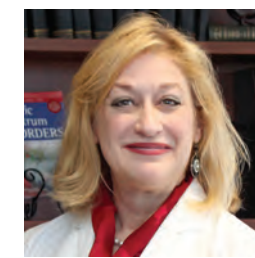
As directors of the neurology training programs, we maintain an absolute commitment to quality and integrity while encouraging innovation and flexibility. We aim to keep UT Southwestern at the forefront of neurology education and continue to train the future leaders in neurology.



Steven Vernino, MD, PhD
Neurology Residency
Program Director



Rana Said, MD,
Child Neurology Residency
Program Director



Patricia Evans, MD, PhD
Neurodevelopmental
Disabilities Residency
Program Director



Mark Goldberg, MD
Chair
Department of Neurology
and Neurotherapeutics



Table of Contents

- 3 Welcome to UT Southwestern Neurology
- 4 Campus and Facilities
- 6 Adult Neurology Four-Year Program
- 10 Child Neurology Program
- 13 Neurodevelopmental Disabilities Program
- 14 Fellowships
- 20 UT Southwestern by the Numbers
- 21 Living in Dallas
- 24 Neurology Faculty
- 25 Current Residents and Fellows
- 26 Campus Map

For more information

www.utsouthwestern.edu/neurologyresidency
neurologyresidency@utsouthwestern.edu
neurofellowship@utsouthwestern.edu

Campus and Facilities

The University of Texas Southwestern Medical Center campus is located a few minutes north of downtown Dallas and includes UT Southwestern Medical School, Graduate School of Biomedical Sciences, UT Southwestern School of Health Professions, four hospitals, numerous outpatient clinics and a large research complex. Two new facilities have been open to patients for less than one year - Parkland Hospital and William Clements Jr. University Hospital. UT Southwestern is the major tertiary referral center for neurological disorders in the region and the premier neurology training program in Texas.

The new Parkland Hospital opened in August 2015 and offers 862 single-patient private rooms. The 2.8 million-square-foot campus has been designed to meet the needs of Dallas County, one of the largest, fastest growing regions in the country. Parkland is one of the busiest public hospitals in the nation, with more than 1 million patient visits each year. Parkland is the primary teaching facility at UT Southwestern and all neurology residents take part in weekly outpatient clinics at the hospital. The public, tax-supported facility has earned a national reputation for patient care as well as medical education and training.



Zale-Lipshy University Hospital is one of the world's premier neurological diagnostic and treatment centers. The 152-bed, tertiary referral teaching hospital is home to the Peter O'Donnell Jr. Brain Institute. Patients benefit from the latest advances in neurovascular surgery, interventional neuroradiology, and neurological intensive care. The Joint Commission certified Zale Lipshy as an Advanced Comprehensive Stroke Center in 2014.

William P. Clements Jr. University Hospital, a 1.3-million-square-foot facility that houses 460 single-patient rooms, opened in December 2014. The hospital's W-shaped design is distinctive and functional. Dispersed workstations place nurses in close proximity to their patients; research areas on each patient floor integrate clinicians and scientists into patient care teams; and teaching spaces provide areas for health care teams to collaborate.



Children's Medical Center of Dallas (CMC) has 562 beds and is the 7th largest pediatric healthcare provider in the nation, with more than 50 pediatric specialty and subspecialty programs. The Pediatric Neurology Division at Children's sees patients with conditions across the neurological and developmental spectrum, from birth to early adulthood. The pediatric epilepsy program at Children's is the only one in the country to be certified by the Joint Commission.

The Dallas Veterans Affairs Medical Center (VAMC) is a 289-bed hospital located south of downtown Dallas. The Dallas VAMC serves a 30-county area with approximately 430,000 veterans. In addition to the hospital, the VAMC includes a 30-bed spinal cord injury unit and long-term care facilities. Residents provide inpatient neurology consultation and outpatient clinics for spinal cord injury, MS, epilepsy, sleep disorders and general neurology.

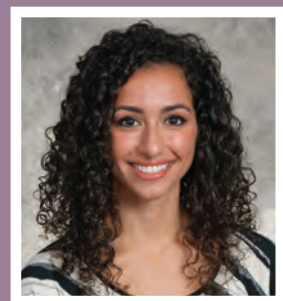
Texas Scottish Rite Hospital for Children (TSRH), located one mile south of UT Southwestern, is recognized internationally for clinical care and research in chronic neurological and orthopedic disorders. Neurology residents rotate at TSRH for a unique experience with rare chronic neurological problems. Each year, the Carell-Krusen neuromuscular symposium provides a forum for residents to present and to learn from national experts.

Adult Neurology 4-Year Program

Chief Residents' Welcome



Niravkumar Barot, M.B.B.S.



Shaida Khan, D.O.

On behalf of the neurology residents at UT Southwestern, we welcome you to Dallas. We have a comprehensive program where you will train at the state-of-the-art neuroscience facility, Zale-Lipshy University Hospital, as well as one of the nation's largest public hospitals, Parkland, and the VA hospital of Dallas. These facilities provide excellent exposure to a wide range of neurological diseases and offer the highest level of clinical training.

Our faculty members are leaders in their fields and are highly invested in our education, patient care and clinical research. We have well-organized didactic sessions that include daily noon conference lectures and afternoon report. Multiple research opportunities are available in clinical, translational and basic science with protected time during your senior year.

Neurology training at UT Southwestern will provide you opportunities for excellent training and prepare you to be a leader in the field. We hope you enjoy your experience at UT Southwestern and sunny Dallas!



Adult neurology residents and program directors at Graduation 2015

1 1st Year - Internship

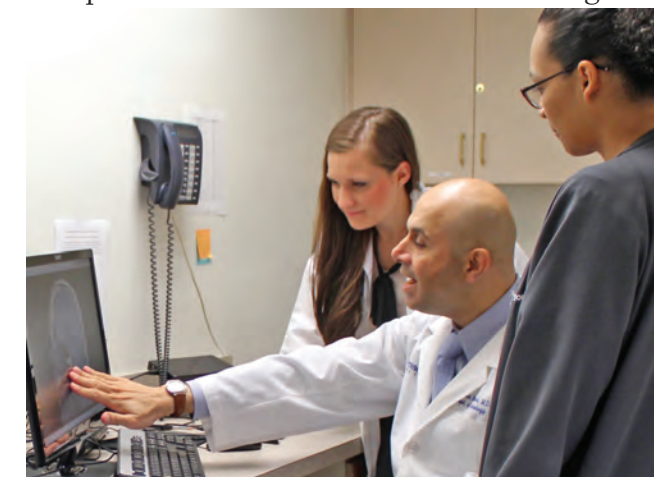
Residents spend their first year as an integrated member of the Internal Medicine program at UT Southwestern. The year includes nine months on various inpatient services including general medicine wards, Medical Intensive Care Unit (MICU), Cardiac Care Unit (CCU) and General Cardiology. One month is spent on Emergency Medicine and one month in an elective rotation. After completion of each inpatient block (four weeks), one week is spent in various outpatient clinics including neurology clinics at Parkland (continuity) and the VA, as well as Internal Medicine subspecialty clinics such as Rheumatology and Endocrinology (Diabetes clinic). Other clinics might also include the Spine and Traumatic Brain Injury Clinic.

The final block of the PGY-1 year serves as a dedicated transition from Internal Medicine to Neurology with an "Introduction to Neurology" series. These weeks are devoted to education as the residents enter the neurology aspect of their training without the burden of clinical responsibilities. While residents receive focused review of neuroscience, neuroanatomy, neuropathology and neuroradiology - the foundation of their learning - special instruction is also given to the presentation of common neurological disease and acute neurologic emergencies. The neurological examination is also taught and demonstrated with reinforcement of examination skills during rotation through outpatient subspecialty clinics during the latter part of the experience.

2 2nd Year - Intro to Neurology

The focus of the PGY2 year is direct care of hospitalized patients with acute neurologic disease. Residents spend approximately ten months on the neurology inpatient and consult services at the teaching hospitals. During these rotations, residents will develop diagnostic skills and become familiar with management of acute neurological issues under direct supervision of senior residents and attending faculty. The additional rotations completing the PGY-2 year include rotations in the Neurosciences Intensive Care Unit (Neuro ICU), Epilepsy Monitoring Unit (EMU) and Neuropathology.

Integrated throughout the training is a weekly Neurology Continuity Clinic where residents follow patients longitudinally. Residents will be exposed to a wide variety of both common and uncommon neurologic disorders providing the opportunity to follow patients over the course of their training.



Dr. Pravin Khemani answers questions from resident Elizabeth Chambers and nurse Lachandra Lara.

3 3rd Year - Mastering Skills

The third year of training provides a more diverse experience with three months of the year spent with Child Neurology. This time is divided into two months on the inpatient neurology consult service at Children's Medical Center (CMC) with an additional month in outpatient clinics divided between Texas Scottish Rite Hospital (TSRH) and CMC. PGY-3 residents also rotate on the inpatient psychiatry consult service. During this year, PGY-3 residents present at clinicopathological case (CPC) conference, considered one of the educational milestones of the training program.

Residents have scheduled rotations within subspecialty clinics including Neuromuscular, Movement Disorders, and Epilepsy (EEG). Based on declared interests, additional outpatient electives offered are Neuro-Immunology/Multiple Sclerosis, Sleep Medicine, Neuro-Oncology, Palliative Care, Headache and Neuro-Ophthalmology.

4 4th Year - Becoming a Neurologist

PGY-4 residents spend this year in a more supervisory role building on skills accumulated over their training. On both inpatient and consult services, PGY-4 residents assume the major teaching duties and lead teams consisting of medical students, rotating residents from other services and junior neurology residents.

Residents also have the opportunity to learn about being a private practice physician at our outpatient neurology clinic at UT Southwestern where they will learn about management, billing and outpatient consultation.

Similar to the PGY-3 year, elective time is built into this final year of training and is designed to be flexible to meet the individual needs of the resident in preparation for fellowship training or a career in private practice.

All residents complete a scholarly project. On Research Day, held each spring, the PGY-4 residents present a topic of particular research or clinical interest. Research Day is attended by the entire department with a keynote address by a prominent clinical or basic science researcher.

Academic Leadership Committee

Steven Vernino, MD, PhD – Vice Chair of Education, Residency Program Director

Shilpa Chitnis, MD, PhD – Associate Program Director and Director, Fellowship Consortium

Pravin Khemani, MD – Assistant Program Director and Curriculum Director

Pepper Wedgewood – Academic Programs Manager

Angela Colon – Education Assistant

Niravkumar Barot, MBBS, and Shaida Khan, DO – Neurology Chief Residents

Electives

Residents may choose from a wide variety of clinical and research electives. Some electives are essential to the training of a well-rounded neurologist such as multiple sclerosis, sleep medicine, and neuroradiology. Other electives may be coordinated exclusively to meet the career goals or interests of an individual resident.

The residency program endorses the concept of flexible residency training in neurology and offers up to nine months during the PGY-3 and PGY-4 years for electives and/or research. At the start of the PGY-3 year, residents work with the program director to develop career goals and focus their training accordingly.

For residents with basic science research interests, a research track schedule sets aside 6-9 months for basic research. This track is available to residents with appropriate background and career goals. Post-residency research fellowships are available to continue work in one of the clinical or basic neuroscience research laboratories and to prepare an initial research grant proposal.

Teaching Conferences

Core teaching conferences

- Attending rounds (7 days per week) are conducted on all inpatient neurology services
- Afternoon report – daily case discussions Monday to Thursday focused on diagnosis and management.
- Professor rounds – each Friday residents challenge Dr. Roger Rosenberg with a complex case.
- Resident teaching conferences every day at noon. Lectures are recorded and available in the resident online video library.
- Monday and Tuesday - comprehensive neurology didactic lecture series covering the breadth of clinical neurology and related topics.
- Wednesday - neurology Grand Rounds featuring visiting lecturers or local presenters and clinical pathological conferences (presented by PGY-3 residents)
- Thursday and Friday – rotating subspecialty teaching conferences (including stroke, headache, movement disorder video rounds, neuroimaging rounds.)

Additional conferences

- Monthly subspecialty journal clubs in neuromuscular, behavioral neurology, neurocritical care, and child neurology.
- Weekly EMG case conference.
- Neuro-Oncology case conference.
- Epilepsy patient care conference.
- Neuromodulation case conference.
- Weekly neuropathology conferences (brain cutting, nerve/muscle pathology).

Child Neurology 5-Year Program

Our categorical program includes 2 years of pediatrics training with our rigorous, ACGME-accredited Pediatrics Residency at Children's Medical Center of Dallas. After completion of these 2 preliminary years, our residents start their 3 years of child neurology training.

1-2 **Pediatric Training**

Residents spend their first 2 years as integrated members of the Pediatrics Residency program at UT Southwestern – Children's Medical Center. During this time, requirements are met to fulfill American Board of Pediatrics specialty pathway training; this makes residents eligible to sit for the American Board of Pediatrics at the completion of the 5-year training.

3 **Adult Neurology & Intro to Child Neurology**

The first block of this year is dedicated to “An Introduction to Neurology” and “Management of Acute Neurologic Emergencies.” This focused review of neuroscience, neuroanatomy, neuropathology and neuroradiology occurs without the burden of primary clinical responsibilities. The neurologic exam in both pediatrics and adults is also taught and demonstrated.

Residents complete their required 6 months of adult neurology with the focus on direct care of patients with acute neurologic disease on the neurology inpatient and consult services, including the Neurosciences Intensive Care Unit (ICU) and Epilepsy Monitoring Unit (EMU) while under the direct supervision of adult senior residents and attending faculty. The remainder of training includes 2 blocks of adult neurology outpatient clinics, 2 blocks of inpatient child neurology service at Children's Medical Center, 2 blocks of child

Integrated throughout training is a weekly Child Neurology Continuity Clinic where residents follow patients longitudinally and assess disease progression and management, especially as it pertains to a developing child. Residents will be exposed to common and uncommon neurologic disorders providing the opportunity to follow patients over the duration of their training.



4 **Mastering Skills in Child Neurology**

During the fourth year, residents will complete their adult neurology training requirements, including Adult OPD (2 blocks) and adult neurology elective (2 blocks). Residents spend more time developing and mastering their skills in child neurology. They develop diagnostic skills and become familiar with the management of acute and chronic child neurologic issues under direct supervision of senior residents and attendings, in a variety of settings. These include the Pediatric ICUs, the neuroscience floor, the Cardiac ICU, the Neonatal ICUs, several general pediatrics floors, the Emergency room, and during outpatient clinic rotations. Residents also complete a rotation in the Pediatric Epilepsy Monitoring Unit (EMU) at Children's and in Pediatric Neuroradiology.

5 **Becoming a Child Neurologist**

Senior residents spend year 5 in a more supervisory role. On the Supratentorial Team (consultation services to the PICUs and Neuroscience floor) and the Basal Gang Team (consultation services to the rest of the primary teaching hospital – Neonatal ICUs, ER, pediatrics beds, Cardiac ICU), senior residents assume the major teaching duties and lead teams consisting of medical students, junior child neurology residents, and rotating residents from other services. Residents also complete scheduled rotations within general neurology and subspecialty pediatric neurology clinics, including:

- Stroke
- Epilepsy
- Neurodevelopmental Disabilities
- Neurogenetics
- Headache
- Neuromuscular Medicine
- Rare Disorders Clinic
- Neuro-immunology,
- Neuro-Oncology.



Graduation 2015: (from l-r) Dr. Isaac Marin-Valencia; Kellie Shaw, Child Neurology Program Coordinator; Dr. Jennifer Muncy; Dr. Rana Said, Program Director; Dr. Daniel Gossett.

Child Psychiatry rotation is also completed during this year. Residents have 6 blocks of electives (although one is typically completed during year 4); this is designed to be flexible to meet the needs of the resident in preparation for fellowship or a career in practice.

In the Fall, residents will also present at clinicopathologic case (CPC) conference, an educational milestone of the training program. In the spring of their final year, they present a topic of their particular research or clinical interest at Research Day. This is attended by the entire division of child neurology and the department of neurology with a keynote address by a prominent clinician or scientist.

Child Neurology Core Teaching Conferences

Our program offers a variety of educational opportunities for residents including the adult neurology core teaching conferences, didactics, and Grand Rounds. In addition, child neurology residents attend and present at the following conferences:

- Pediatric Neurology Journal Club – one Wednesday per month, 10 AM-11 AM
- Pediatric Neurology Morbidity and Mortality – one Wednesday per month, 10 AM-11 AM
- Pediatric Neurology Case Study Conference – 1-2 Wednesdays per month, 10 AM-11 AM
- Pediatric Neuroradiology Conference – Wednesdays weekly, 11 AM – 12 PM
- Pediatric EEG rounds – daily Monday-Friday, 4 PM



Child Neurology Program 2015

Neurodevelopmental Disabilities Residency Program

The **Neurodevelopmental Disorders (NDD) Residency**, under the direction of Dr. Patricia Evans, is an independent, four-year, ACGME-accredited program. NDD is a relatively new neurological subspecialty that allows the potential candidate to be eligible for three boards: Pediatrics (American Board of Pediatrics); Neurology with Special Certification in Child Neurology (American Board of Psychiatry & Neurology) and Neurodevelopmental Disabilities (ABPN). NDD physicians are highly sought after in private and academic settings and pursue a wide range of professional interests.

The NDD program focuses on the diagnosis and treatment of a range of conditions in children, adolescents, and adults:

- Cognitive developmental disabilities: autism, intellectual disability, ADHD, developmental delay and learning disabilities.
- Metabolic and genetic conditions: chromosomal abnormalities, Trisomy 21, Fragile X and mitochondrial diseases.
- CNS conditions: epilepsy, cerebral palsy, traumatic brain injury.
- Nerve and muscle disorders: muscular dystrophy, neuropathies.

An NDD physician is required to complete two years of an ACGME-approved categorical pediatrics program; four years of NDD residency including eighteen months of clinical child neurology and neurodevelopmental disabilities; and eighteen months of clinical and basic science education

Our program offers training in a world-class, multidisciplinary setting - the newly opened Center for Autism and Developmental Disabilities (CADD). Therapists, psychologists, and psychiatrists treat patients of all ages as well as provide dedicated space for cognitive research.

NDD residents can also undertake fifteen classroom hours for a Masters in Science degree at UT Southwestern for formal training in reading, critiquing, and designing their own research projects. They will also enjoy fully integrated training with pediatric neurology faculty and residents which greatly enriches the NDD experience. Some residents can also be part of a research team investigating a range of important translational projects.

Fellowships

Nearly all of our graduating residents decide to pursue additional training at UT Southwestern and other institutions. UT Southwestern offers fellowship training in many clinical subspecialties; laboratory-based research fellowships are available for those pursuing clinician-scientist careers. Many of the fellowship programs provide tracks for adult or pediatric focused training.

Behavioral Neurology and Dementia Fellowship. The Behavioral Neurology and Dementia Fellowship, under the direction of Dr. Mary Quiceno, prepares the trainee to understand the links between neuroscience and behavior. The fellow will gain experience in diagnosing and caring for individuals with neurologically-based behavioral disturbances and neurodegenerative diseases such as Alzheimer disease. With the increasing prevalence of dementia and the aging of the population in the U.S., it is vitally important that we train the next generation of physicians to care for these patients and find better treatments. The fellow will have completed a residency in Neurology.

Dr. Quiceno is a state licensed, board-certified neurologist with certification by the United Council for Neurologic Subspecialties in Behavioral Neurology & Neuropsychiatry. The program will apply for accreditation from the United Council for Neurologic Subspecialties in Behavioral Neurology & Neuropsychiatry.

Clinical Neurophysiology. The Clinical Neurophysiology Fellowship is an ACGME-accredited one-year program (with an optional second year of Epilepsy or Neuromuscular Fellowship.) The fellowship offers specialized training in the diagnosis and management of central, peripheral, and autonomic nervous system disorders using combined clinical evaluation and electrophysiologic testing such as electroencephalography (EEG), electromyography (EMG), and nerve conduction studies (NCS). Additional training in autonomic testing, polysomnography, and intraoperative monitoring is incorporated.

Fellows can select between an adult or pediatric-focused track. Regardless of track, exposure is offered to patients and expert faculty from both disciplines. The education program includes a comprehensive neurophysiology lecture series. There are also weekly clinical conferences for epilepsy surgery, EMG, and muscle biopsy review. The fellowship provides hands-on experience and intensive individual training by faculty in a variety of procedures and clinical activities including basic electronic and principles of neurophysiology; pharmacology of antiepileptic drugs; outpatient epilepsy clinics and EMG and nerve conduction studies.



Parkland Hospital Epilepsy Monitoring Unit

(from l-r) Dr. Abdulradha Alqal-laf, Epilepsy Fellow with Dr. Blake Freeman, PGY-4 Resident.

Epilepsy-EEG Fellowship. The Epilepsy Fellowship is an ACGME-accredited, one-year program and offers specialized training in neonatal, pediatric, and adult epilepsy and neurophysiology with an emphasis on the management of intractable epilepsy and epilepsy surgery evaluation. Fellows can select between an adult or pediatric-focused track. Regardless of track, exposure is offered to both adult and pediatric patients and expert faculty.

All fellows attend a combined weekly epilepsy surgery conference, and a comprehensive lecture series throughout the year covering pediatric and adult topics, plus journal club and EEG review sessions. Fellows will become knowledgeable of the various imaging modalities involved in the evaluation of intractable epilepsy, including MRI, interictal/ictal SPECT, PET, and fMRI. Additionally, the Epilepsy Fellowship provides hands-on experience and intensive individual training by faculty in a broad range of procedures and clinical activities including pharmacology of antiepileptic drugs, outpatient subspecialty epilepsy clinic and video EEG monitoring in an epilepsy monitoring unit.

Headache Medicine Fellowship. The Headache and Facial Pain Fellowship Program, under the directorship of Deborah I. Friedman, M.D., M.P.H., is accredited by the United Council for Neurologic Subspecialties (UCNS). The one-year program is multidisciplinary with partners in Sleep Medicine, Pain Management, Pediatric Neurology, Oromaxillofacial Surgery, Physical Therapy, Psychology, Obstetrics and Gynecology, and Plastic Surgery. Fellows can select between an adult or pediatric-focused track.

UT Southwestern is one of only a few resources available in North Texas to treat patients with complex headache disorders and have established our program as a regional leader in headache medicine with referrals from throughout the southwestern United States. Fellows will receive a comprehensive experience in outpatient, infusion center, inpatient headache and facial pain management, and will become proficient in procedures used in the treatment of headache patients (i.e., chemodenervation, peripheral nerve blocks.)

Headache Medicine Fellows are involved in clinical research and receive support to attend at least one national headache medicine meeting annually. There is a weekly teaching conference and the fellow accompanies the attending to supervise the resident neurology clinic at Parkland Memorial Hospital where many patients have headache disorders. The fellow will also see neuro-ophthalmology patients one half-day weekly to become familiar with the examination techniques and learn about disorders that overlap the two disciplines.

Movement Disorders Fellowship. The Clinical Center for Movement Disorders at UT Southwestern Medical Center offers a one-year, comprehensive fellowship. The fellow gains experience with the diagnosis and management of a wide spectrum of movement disorders including Parkinsons disease, essential tremor, atypical parkinsonian syndromes, dystonia, ataxias, and Huntington disease.

The fellow has an active role in the neuromodulation program including performing evaluations for patients considering surgery, presenting cases at interdisciplinary meetings, participating in intraoperative stereotactic planning and microelectrode recordings and programming DBS devices and assessing outcomes. The fellow gets hands-on training in EMG-guided botulinum toxin treatment of hyperkinetic movement disorders and spasticity.

Fellowship didactic curriculum includes video rounds of complex phenomenology of movements and their management, journal clubs, and case presentations. The fellow will also have an opportunity to attend the Aspen movement disorders course offered through Columbia University with course directors Dr. Stanley Fahn and Dr. Joseph Jankovic.

Neuroimmunology/MS Fellowship. The Multiple Sclerosis Center at UT Southwestern under the direction of Elliot Frohman, M.D., Ph.D., emphasizes a comprehensive approach to the triad of patient care, clinical and basic research, and teaching. Fellows receive training in the clinical evaluation and management of the MS patient and related disorders (e.g. neuromyelitis optica, neurosarcoid, CNS vasculitis, Susac's, transverse myelitis.) The complete range of immune-modulating therapies is employed allowing the fellow to participate in varied treatment approaches.

Training also emphasizes neuro-ophthalmologic and neuro-vestibular examination techniques; innovative symptom management of fatigue, spasticity, bowel and bladder dysfunction, sexual difficulties, mood disorders, pain, osteoporosis, and assistive device utilization.

Autoimmune Neurology Fellowship. The autoimmune neurology fellowship provides clinical and research training in neuroimmunological disorders beyond multiple sclerosis. The conditions include transverse myelitis, neuromyelitis optica, paraneoplastic disorders, myasthenic syndromes and autoimmune encephalitis. Program directors, Dr. Ben Greenberg and Dr. Steven Vernino, are international experts in autonomic neurology.

Participants can choose to have a focus on CNS disorders, PNS disorders or both. Participants will spend time in the multidisciplinary clinics for both pediatric and adult patients. They will master both inpatient and outpatient management of these complex patient populations, develop expertise in the use of immunomodulatory therapies, and embark on investigator-initiated research projects.

Neuro-Critical Care Fellowship. The Neurocritical Care Fellowship is a two-year program accredited by the United Council for Neurologic Subspecialties and based on UCNS Training Requirements and Curriculum. The fellow will spend 12-14 months in the Neuro ICU, 4 months in the MICU, SICU, Trauma and CCU; 1 month in anesthesia, 1 month in neurosonology and 4-6 months electives. Some of the available electives include Neurosurgery, Epilepsy/EEG, and stroke.

We have weekly didactic conferences attended by faculty, fellows, residents and NP/PAs which include journal article exchange, lectures on neurological and general critical care, interesting case presentations, and M&M. Procedural skills are developed first with simulation for central venous cannulation, arterial cannulation, noninvasive ventilation, endotracheal intubation, and bedside critical care ultrasound. Training in EVD and intracranial monitor placement is supported by the Neurosurgery department.

The Neurocritical Care Division is involved in several clinical trials and we have a weekly Neurocritical Care/Neurotrauma research meeting to propose new research ideas, discuss ongoing progress of current research, and hear from invited presenters from other departments. There is also opportunity for involvement in translational research with neural engineering and cortical plasticity.



Neuro ICU at Zale Lipshy University Hospital

Neuromuscular Medicine Fellowship. The Neuromuscular Medicine (NM) Fellowship Program is a collaborative one-year program with UT Southwestern Medical School and Children's Medical Center Dallas. The adult NM fellows see patients in the clinics in the mornings. We see a wide variety of NM diseases such as myasthenia gravis, muscular dystrophy, inflammatory myopathies, peripheral neuropathy, amyotrophic lateral sclerosis, autonomic disorders, paraneoplastic disorders, and muscle channelopathies. Three clinics a week are sponsored by the Muscular Dystrophy Association. The fellows work in the EMG laboratory each afternoon and also have an opportunity to train in autonomic studies and single fiber EMG.

Pediatric NM fellows interact with a wide variety of patients with NM diseases such as muscular dystrophy, spinal muscular atrophy, rare congenital myopathies, Charcot-Marie-Tooth disease, and myasthenia gravis. The patient population totals about 650 unique patients aged 0-21 years. Besides clinics, there are 5-6 pediatric EMGs and 2 pediatric muscle biopsies done per week.

Fellows also receive instruction on the interpretation of nerve and muscle biopsies at the NM Biopsy Conference on Tuesday evenings. Other conferences include the monthly NM Journal Club, the weekly NM and Neurophysiology didactic lecture series, weekly multidisciplinary ALS conference, weekly EMG Review conference, and a monthly CPC conference. At the end of one year of training, the fellows will be competent in the diagnosis and treatment of patients with NM disease, the performance and interpreta-

Neuro-Oncology Fellowship. The fellowship, accredited by the United Council for Neurologic Specialties (UCNS), provides advanced training in the diagnosis and management of primary brain tumors as well as the neurological complications of cancer. UT Southwestern neuro-oncology patients are seen in the Harold C. Simmons Cancer Center, the only NCI-Designated Cancer Center in North Texas.

Fellows receive a comprehensive clinical experience as part of a large multidisciplinary brain tumor team. Fellows work closely with colleagues in neuroradiology, neuropathology, neurosurgery, and radiation oncology. Training centers on the management of gliomas, but includes exposure to the entire spectrum of primary and metastatic intracranial and intraspinal tumors. Fellows are expected to be closely involved with investigator-initiated and consortium clinical trials involving cutting-edge experimental treatments for brain tumors. The second (optional) year of fellowship is devoted to basic and translational neuro-oncology research under the direction of Dr. Edward Pan.

Sleep Fellowship. The Clinical Center for Sleep and Breathing Disorders (CCSBD) at UT Southwestern and the Sleep Disorders Center (SDC) at Children's Medical Center in Dallas offer a one-year, comprehensive ACGME-accredited fellowship in sleep medicine. The fellow will be actively involved in the diagnosis and management of outpatient adults and children as well as inpatient care of adults at University Hospitals.

The fellow sees a wide spectrum of sleep disorders including sleep-related breathing disorders, hypersomnia and narcolepsy, insomnia and circadian rhythm disorders. Trainees receive expert supervision and hands-on training

from a multi-disciplinary group of faculty board-certified in sleep medicine including neurologists, pulmonologists, clinical psychologists, pediatric pulmonologists, and a sleep pediatrician. Weekly didactics cover a spectrum of sleep disorders and sleep physiology. Case presentations, journal clubs and neuroscience conferences will provide interaction with faculty and exposure to campus-wide research.

Sports Neurology Fellowship. The Sports Neurology fellowship provides training in the management of sports-related neurological injuries that may develop as a result of participation in athletic activities. Fellows will become experts in treating patients with concussion and associated sequelae including headaches, sleep, vestibular, cognitive and mood disorders.

Fellows will also become skilled in recognizing and treating peripheral nerve injuries that result from participation in sports. In addition, fellows will receive training in the interpretation of neuropsychological testing, advanced neuroimaging techniques and will have the opportunity to participate in research projects. Participants will have sideline exposure at athletic events and will develop expertise in return-to-play decision-making.

Vascular Neurology/Stroke Fellowship. The Vascular Neurology Fellowship offers a one-year, ACGME-accredited comprehensive program in the management of cerebrovascular diseases. Training includes experience in acute and chronic research protocols and experience in the management of complicated cerebrovascular disorders requiring experimental therapies. Vascular neurologists, vascular neurosurgeons, neurointerventionalists, and neurointensivists participate in the fellowship program.

Fellows will gain inpatient clinical experience at Parkland Hospital as well as the University Hospitals. The outpatient clinical experience is provided in the Aston Ambulatory Care Center Cerebrovascular and Stroke clinic. Patients are offered participation in acute and chronic research protocols and experimental, cutting-edge therapies.

The fellowship follows the curriculum proposed by the American Academy of Neurology Section on Stroke and Vascular Neurology. Core knowledge includes: mechanisms of brain ischemia and hemorrhage, pathophysiology, clinical manifestations of the spectrum of stroke syndromes, diagnostic and therapeutic considerations, neuroimaging modalities (including CT, MRI, MRA neck and intracranial, MRP, conventional digital subtraction angiography and rotational angiography, SPECT, helical-CT angiography, CTP transcranial Doppler ultrasonography, and carotid ultrasonography and Duplex imaging), and others.

By the Numbers



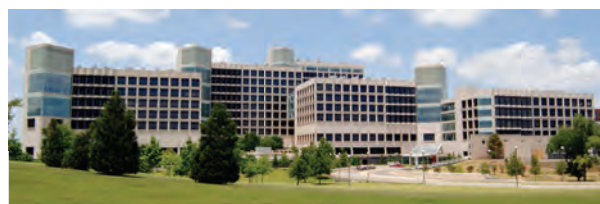
UT Southwestern Neurology

73 full-time clinical faculty (58 adult, 15 child neurology)

Top 20 neurology residency program*

49 adult neurology residents and fellows

13 child neurology residents and fellows



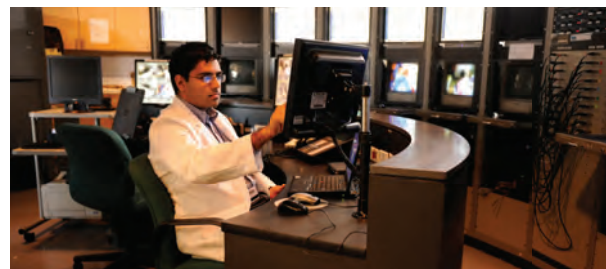
UTSW Medical Center

6 Nobel laureates

21 faculty who are members of National Academy of Sciences

425 million dollars in research funding

Top 20 medical school in research and primary care*



Hospital Neurology Services

Opening of new 460-bed William P. Clements Jr. University Hospital

2015 Opening of new Parkland Hospital

2 acute stroke and neurocritical care units

2 epilepsy monitoring units (more than 40 epilepsy surgeries per year)



Dallas, Texas

9th largest city in the United States

6% below national average for cost of living

76°/55° average high and low temperature in Dallas

62 miles of running and biking trails and 17 lakes

18 Fortune 500 companies

0 state income tax

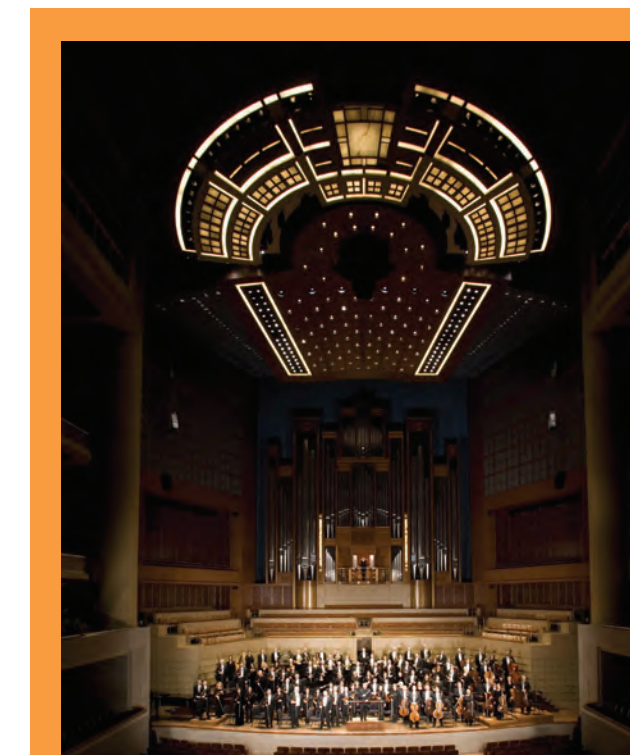
Living in BIG D



Dallas is many things — an affordable place to live, a convenient place to learn, a thriving business community and a great place to have fun. The Dallas-Fort Worth metro area offers a varied selection of places to call home, strong schools - both public and private - and plenty of choices for entertainment.

Getting Around Town.

Dallas Area Rapid Transit (DART) and Texas Rail Express (TRE) operate trains, busses and light rail which makes commuting within the metro area affordable and convenient. Two major airports serve the area - Dallas-Fort Worth International (DFW) and Dallas Love Field. Located within minutes of UT Southwestern, Love Field airport offers a quick, convenient option for weekend getaways. Southwest Airlines, at Love offers direct flights to nearly all cities in the continental U.S.



Winspear Opera House in the Dallas Arts District

Arts and Culture.

Dallas-Fort Worth is noted for numerous museums and galleries including the Dallas Museum of Art, Nasher Sculpture Center, Kimbell Art Gallery and the Perot Museum of Nature and Science. The Dallas Arboretum and Botanical Garden is unquestionably one of the more beautiful grounds in Dallas, located on scenic White Rock Lake.

The metroplex also offers world-class performing arts, held at venues such as the Meyerson Symphony Center, Bass Performance Hall and the Winspear Opera House. Those who are fans of theatre will appreciate “Broadway in Dallas” where top shows from the Great White Way are performed on stages throughout the arts district.

*Data from Doximity and U.S. News

Lifestyle.

Whether you are single or married with children, the DFW area has plenty to do. The Dallas Zoo, Dallas Arboretum and Six Flags Over Texas are fun options for a day trip with family. Each fall, the Texas State Fair comes to town complete with amusement park rides, tasty treats



Big Tex at the State Fair of Texas



Dr. Roger Rosenberg (top right) takes residents sailing on Lake Grapevine



The Dallas area abounds with parks, tennis courts, golf courses, jogging and cycling trails, and lakes for water sports and sailing. Some of the most popular outdoor spaces are Klyde Warren Park, a 5.2-acre green space in the heart of Downtown Dallas, the Katy Trail and the White Rock Lake area.

For fans of professional sports, Dallas has a team for you. Dallas is home to the Dallas Cowboys, Dallas Mavericks, Texas Rangers, Dallas Stars hockey team, and FC Dallas soccer.

Klyde Warren Park Downtown Dallas (right)



Making Dallas Home. The Dallas-Fort Worth region offers a wide variety of neighborhoods from downtown lofts to a wide selection of suburbs. Within two miles of the medical center is Uptown Dallas featuring apartments and condominiums occupied by the city's many young professionals. Uptown boasts outstanding restaurants, shops, parks, and bustling nightlife.

Living within walking distance of the medical center is now possible with the recent construction of several apartment and condominium developments.

Some trainees prefer to purchase affordable homes in nearby suburbs including Irving, Las Colinas, Coppell, Plano, and Richardson. These are excellent areas to raise a family with outstanding public education and safe environments. Best of all, these communities are within a reasonable commute of UT Southwestern.



West Village in Uptown Dallas



Dallas skyline at night. Photo courtesy of Clayton Rider.



Neurology Faculty

Chair

Mark Goldberg, MD

Vice-Chairs

Steven Vernino, MD, PhD**
Mark Alberts, MD

Cognitive & Memory Disorders

Roger Rosenberg, MD
Ramon Diaz-Arrastia, MD, PhD
John Hart, Jr, MD
Mary Quiceno, MD*
Benjamin Williams, MD, PhD
Kyle Womack, MD

Critical Care Neurology

Venkatesh Aiyagari, MBBS, DM
Stephen Figueroa, MD*
Sankalp Gokhale, MD
Christiana Hall, MD
David McDonagh, MD
Roberta Novakovic, MD
DaiWai Olson, RN, PhD
Michael Rubin, MD

Epilepsy

Mark Agostini, MD
Kan Ding, MD
Marisara Dieppa, MD
Ryan Hays, MD*
Ghazala Perven, MD

General Neurology

Worthy Warnack, MD
Mehari Gebreyohanns, MD
Paul Hurd, MD
Alison Leston, MD
Shanan Munoz, MD
Craig Powell, MD, PhD
Joseph Vaughan, MD

Headache Medicine

Deborah Friedman, MD*
Paul Hurd, MD
Tonia Sabo, MD
Bert Vargas, MD
Joseph Vaughan, MD

Movement Disorders

Richard Dewey, MD
Shilpa Chitnis, MD, PhD** *
Elmyra Encarnacion, MD
Pravin Khemani, MD**
Padraig O'Suilleabhain, MD
Neepa Patel, MD

Multiple Sclerosis

Elliot Frohman, MD, PhD*
Shin Beh, MD
Angela Flores, MD
Ben Greenberg, MD*
Nancy Monson, PhD
Shanan Munoz, MD
Darin Okuda, MD
Olaf Stuve, MD, PhD

Neuromuscular

Jeffrey Elliott, MD
Diana Castro, MD
Ronald Haller, MD
Susan Iannaccone, MD
Sharon Nations, MD
Jaya Trivedi, MD*
Steven Vernino, MD, PhD**

Neuro-Oncology

Bruce Mickey, MD
Robert Bachoo, MD, PhD
Amyr Habib, MD
Elizabeth Maher, MD, PhD
Ed Pan, MD*
Toral Patel, MD

Pediatric Epilepsy

Susan Arnold, MD*
Alison Dolce, MD
Muna Khan, MD
Rana Said, MD**
Deepa Sirsi, MD

Neurobehavioral Child Neurology

Patricia Evans, MD**
Sailaja Golla, MD

Pediatric Neurology

Susan Iannaccone, MD
Diana Castro, MD
Mauricio Delgado-Ayala, MD
Lauren Dengle, MD
Michael Dowling, MD, PhD
Saima Kayani, MD
Juan Pascual, MD, PhD
Tonia Sabo, MD
Steve Sparagana, MD
Jennifer Thomas, MD
Peter Tsai, MD, PhD

Sleep Medicine

Jeff Ortstadt, MD
Greg Carter, MD, PhD*
Ryan Hays, MD**
Benjamin Williams, MD, PhD

Stroke/Vascular Neurology

Mark Johnson, MD
Mark Alberts, MD
Mehari Gebreyohanns, MD
Mark Goldberg, MD
Alejandro Magadan, MD
Ty Shang, MD, PhD*

TBI/Sports Neurology

Marisara Dieppa, MD
John Hart, MD
Tonia Sabo, MD
Bert Vargas, MD

Interventional Neuroradiology

Phillip Purdy, MD
Roberta Novakovic, MD
Lee Pride, MD*
Kim Rickert, MD
Babu Welch, MD
Jonathan White, MD

Current Residents and Fellows

Class of 2016

Niravkumar Barot, MD
Divyanshu Dubey, MD
Deepali Eksambe, MD*
Blake Freeman, MD
Myrtle Jeroudi, MD
Shaيدا Khan, DO
Lu Lin, MD
Ram Narayan, MD
Eric Remster, MD*
Erica Rivas, MD
Dallas Armstrong, MD*

Class of 2017

Jacob Buhrow, MD
Elizabeth Chambers, MD
Alex Doyle, MD
Nancy George, MD*
Lisa Golden, MD
Lindsay Horton, MD
Andrew Hurd, MD*
Katherine Labiner, MD*
Paul Litvak, MD
Meagen Salinas, MD
Afsaneh Shirani, MD

Class of 2018

Kristen Arredondo, MD*
Kyle Blackburn, MD
Joel Campbell, MD
Michelle Devine, MD
Kimberly Goodspeed, MD**
Anirudh Gupta, MD, PhD
Brian Hitt, MD, PhD
Khalil Husari, MD
Michelle Machie, MD*
Peter Sguigna, MD
Mathew Stokes, MD*
Melanie Truong, DO
Samra Vazirian, MD

Class of 2019

Rahul Abhyankar, MD
Ryan Cheung, MD
Kate Delaney, MD
Darrah Haffner, MD*
Travis Ho, MD
Alka Khera, MD
Niyatee Samudra MD
Lauren Tardo, MD
Tresa Zacharias, MD
Yinan Zhang, MD

Fellows

Abdulradha Alqallaf, MD
Meredith Bryarly, MD
Omar Elghawanmeh, MD
Yathish Sreekantaiah, MD
Rashedul Hasan, MD
Junaid Kalia MD
Safia Khan, MD
Andrea Lowden, MD
Zack Mahdavi, MD
Zabeen Mahuwala, MD
Shradda Mainali, MD

Aashoo Mentreddi, MD
Trung Nguyen, MD
Claudia Perez, MD
Naregnia Pierre-Louis, MD
Drew Thodeson, MD
Cristina Wohlgelegen, MD



Clinical Neurophysiology Fellows with fellowship directors at Graduation 2015.

* Child neurology resident ** Neurodevelopmental Disabilities resident

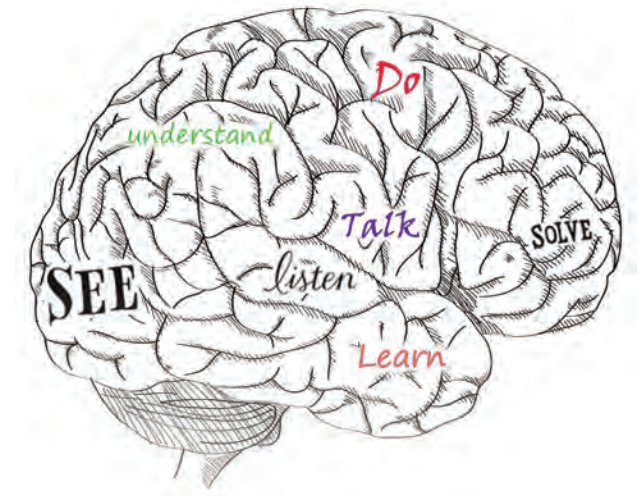
**Residency Director *Fellowship Director

Notes

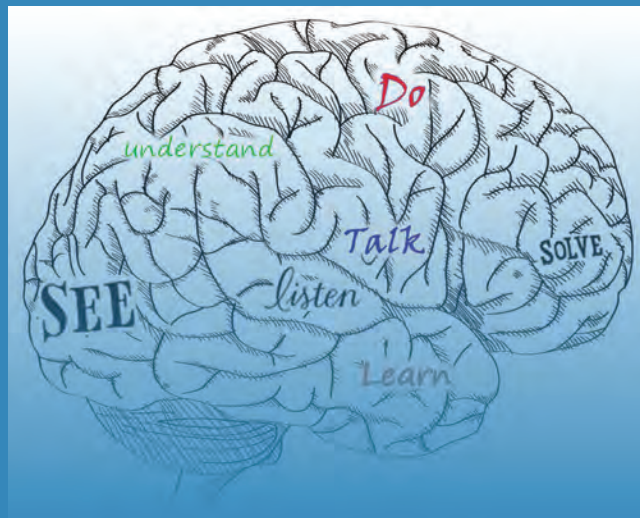
Campus Map



UT Southwestern is an equal opportunity institution. To the extent provided by applicable law, no person shall be excluded from participation in, denied the benefits of, or be subject to discrimination under any program or activity sponsored or conducted by the University of Texas System or any of its component institutions, on the basis of race, color, national origin, religion, sex, age, veteran status, or disability.



NEUROLOGY TRAINING PROGRAMS 2015 - 2016



UT Southwestern
Medical Center

UT Southwestern
Medical Center

Neurology Training Programs

2015 - 2016

