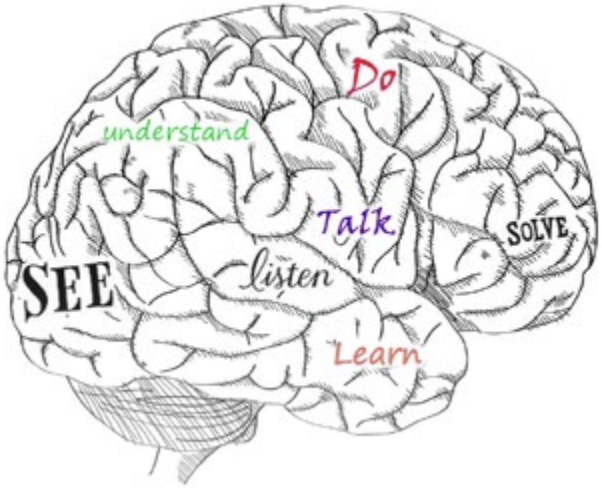


NEUROLOGY

TRAINING PROGRAMS

2014 - 2015

UT Southwestern
Medical Center

Table of Contents

For more information

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

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. 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 eleven 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

Campus and Facilities

The University of Texas Southwestern Medical Center is located a few minutes north of downtown Dallas and includes UT Southwestern Medical School, Graduate School of Biomedical Sciences, School of Health Professions, four hospitals, numerous outpatient clinics and a large research complex. Two new facilities will open to patients in the coming year - Parkland Memorial Hospital and William Clements Jr. 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, scheduled to open in June 2015, will offer 862 single-patient private rooms and space for family and visitors. The 2.5 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 the primary teaching facility at UT Southwestern. All neurology residents take part in weekly outpatient clinics at Parkland. The public, tax-supported hospital 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 Clinical Center for Neurosciences. 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 will open its doors November 2014. The 1.3-million-square foot facility houses 460 single-patient rooms. The hospital's W-shaped design is distinctive and functional. Dispersed workstations will place nurses in close proximity to their patients; research areas on each patient floor will integrate clinicians and scientists into patient care teams; and innovative teaching spaces will provide areas for health care teams to collaborate.

Children's Medical Center of Dallas (CMC) has 500 beds and is consistently ranked in the top ten children's hospitals in the nation. The Pediatric Neurology Division at CMC sees patients with conditions across the neurological and developmental spectrum with particular emphasis on neuromuscular, epilepsy and behavioral disorders. 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 international experts.

Adult Neurology Four-Year Program

1 1st Year - Internship

Residents spend their first year as an integrated member of the Internal Medicine program at UT Southwestern. This year includes ten months on various inpatient services such as general medicine wards, Medical Intensive Care Unit (MICU), Cardiac Care Unit (CCU) and General Cardiology. One month is also spent on Emergency Medicine. 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 include traumatic brain injury, outpatient psychiatry, neuro-oncology, and lumbar puncture.

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 PGY-2 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 period.

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 at both Texas Scottish Rite Hospital (TSRH) and CMC. PGY-3 residents also rotate on the inpatient psychiatry consult service.

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

During this year, PGY-3 residents also present at clinicopathological case (CPC) conference, considered one of the educational milestones of the training program.

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. While on inpatient service at Parkland, PGY-4 residents lead "Morning Report," a daily teaching conference where unique teaching cases are presented and discussed. Basic topics in neuroanatomy such as localization are reinforced and reviewed through these clinical case presentations.

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. Resident research day in the spring caps off the residency experience. PGY-4 residents present their senior project, a topic of particular research or clinical interest. Research Day is attended by the entire department with a keynote address by prominent clinical or basic science researchers.

Electives and Residency Tracks

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 one 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.

Adult Residency Program Director, Dr. Steve Vernino, delivers a lecture.

For residents with basic science research interests, a research track schedule sets aside 6-9 months of 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.

A vascular/hospitalist track for residents interested in acute care neurology, includes additional rotations in inpatient consultation, several neurocritical care settings, training in neurosonology, as well as additional neuroradiology, neurosurgery and neurointerventional experiences. Residents with a goal of community-based private practice can follow a training track that includes an emphasis on a varied outpatient experience (including rotations with volunteer neurology faculty in community practice in Dallas and Austin.)

Core teaching conferences :

- Attending rounds (7 days per week) are conducted on all inpatient neurology services
- Morning 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, move ment disorder video rounds, neuroimaging rounds.)
- Monthly neurotherapeutics journal club focused on evaluating and translating published science into improved therapeutics for our patients.
- Monthly neurology M&M conference – a focus on quality improvement and innovation.

Additional conferences

- Monthly subspecialty journal clubs in neuromuscular, behavioral neurology, neurocritical care, child neu rology.
- Weekly EMG case conference focused on electrophysiological studies.
- Neuro-Oncology case conference.
- Epilepsy patient care conference.
- Neuromodulation case conference.
- Weekly neuropathology conferences (brain cutting, nerve/muscle pathology).
- Clinical neurophysiology didactic series

Resident/Fellow research tracks

Intramural funding for research during fellowship is available through the Department of Neurology & Neurotherapeutics. In any of the fellowship programs, fellows with an interest in an academic career may apply for support for an additional year of research and career development. The Texas Institute for Brain Injury and Repair (TIBIR) supports additional fellowship training and research focused on traumatic brain injury (and sports neurology).

Child Neurology Program

Trainees enter our ACGME-accredited Child Neurology Residency Program through one of two pathways. Training starts with graduating medical students entering the 5-year, categorical program at UTSW which includes 2 years of pediatrics training and 3 years of child neurology training. We also offer a 3-year, reserved position for residents who have completed at least two years of pediatric residency training at an accredited program.

The first year in our Child Neurology Program consists of 6 months of inpatient adult neurology at our affiliated adult neurology institutions (similar to the adult neurology PGY-2 year.) Residents complete two adult outpatient rotations, two months of child neurology service and two months of child neurology outpatient clinic rotations. During this time, residents attend weekly pediatric neurology continuity clinics where they follow patients with a wide variety of child neurology disorders throughout the entire three years. This longitudinal follow-up on disease patterns and management in the growing child is beneficial to both residents and patients.

During the second year, residents complete their adult neurology requirements (1 more outpatient adult neurology block and 3 adult neurology elective rotations.) Five months are spent on the child neurology service and the rest of the blocks are for ambulatory rotations in child neurology, selectives in neuro-radiology, neuropathology, and pediatric epilepsy unit and electives.

In the final year of training, senior-year residents supervise the neurology neuroscience floor and consult services at Children's Medical Center. The senior resident on service has a major role in the organization and oversight of the team and is essential to education of medical students, rotating residents in adult neurology and psychiatry and junior neurology residents. The remainder of the year is for electives and outpatient experiences to allow flexibility for residents to meet their individual needs as they embark on future career paths including clinical or basic neuroscience research.

Neurodevelopmental Disabilities Residency Program

The **Neurodevelopmental Disorders (NDD) Residency,** under the direction of Dr. Patricia Evans, is an independent, 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 Pediatric Neurology (American Board of Psychiatry & Neurology) and Neurodevelopmental Disabilities (ABPN). NDD physicians are in demand 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 twelve months of adult neurology; eighteen months of pediatric neurology; and eighteen months of NDD.

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.

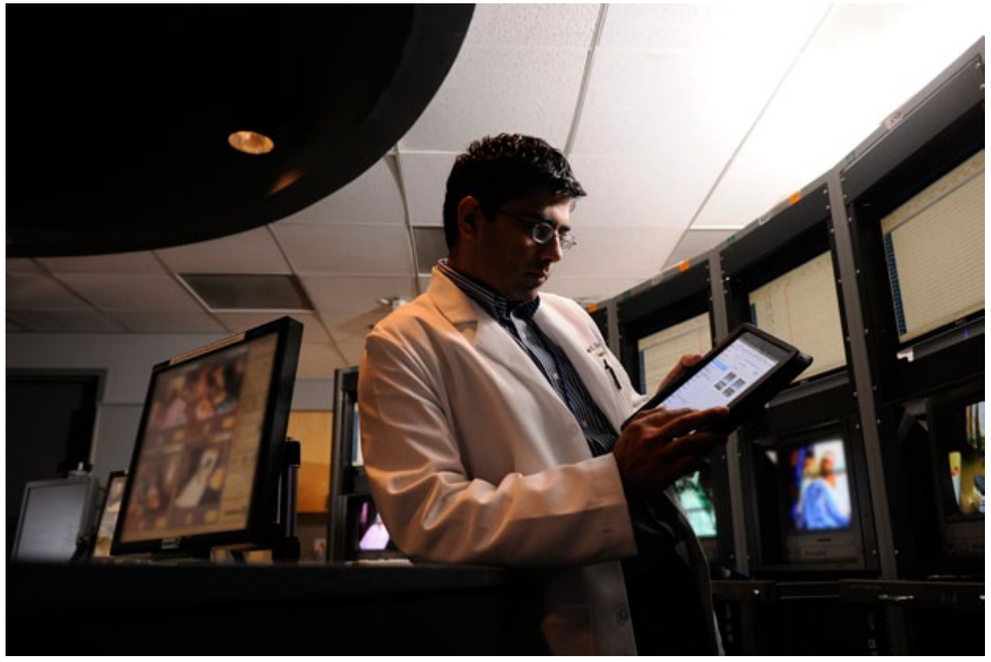
Behavioral Neurology and Dementia Fellowship. The Behavioral Neurology and Dementia Fellowship, under the direction of Dr. Mary Quiceno, prepares the trainee to understand the links between neuroscience and behavior. The fellow will gain experience in diagnosing and caring for individuals with neurologically-based 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.

Clinical Neurophysiology. The Clinical Neurophysiology Fellowship is an ACGME-accredited, one-year program. 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. Fellows interested in academic careers often pursue a second year of fellowship in Epilepsy or Neuromuscular Medicine.

Epilepsy-EEG Fellowship. The Epilepsy Fellowship is a 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.

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 clinics, infusion center, inpatient headache service and infusion center. They will become proficient in procedures used in the treatment of headache and facial pain patients (i.e., chemodenervation, peripheral nerve blocks.)

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 will train with five fellowship-trained movement disorders specialists. The fellow is involved with the diagnosis and management of a wide spectrum of movement disorders including Parkinson's disease, essential tremor, atypical parkinsonian syndromes, dystonia, ataxias, Huntington disease, and secondary movement disorders.

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

Fellowship didactic curriculum includes regularly scheduled video rounds that afford recognition of complex phenomenology of movements and their management, journal clubs, and case presentations. Additionally, the fellow can participate in a variety of ongoing clinical research projects. The fellow will also have an opportunity to attend the Aspen movement disorders course offered through Columbia University with course directors Drs. Stan Fahn and Mark Hallet.

MS/Neuroimmunology 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 and understand different rationales in managing patients with breakthrough disease.

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; and the logistics of working within a multi-disciplinary team.

Participation in and design of clinical trials will be encouraged, as well as matriculation through graduate level courses with formal didactic teaching on evaluation and design of clinical trials (UT Southwestern has the first NIH-sponsored Clinical Investigator Development Program headed by Milton Packer, M.D., formerly of Columbia University). Other opportunities in basic science research can also be arranged.

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.

Fellows participate in 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 has 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.

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 clinics encompassing the entire spectrum of NM diseases. 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 receive instruction on the interpretation of nerve and muscle biopsies at the NM Biopsy Conference on Tuesday evenings. Other conferences include monthly NM Journal Club, 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 interpretation of EMGs, and basic reading of muscle and nerve biopsies.

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, an NCI-Designated Cancer Center.

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. Clinical 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 year of fellowship, which is optional, is devoted to basic and translational neuro-oncology research under the direction of Drs. Robert Bachoo and Elizabeth Maher. Their lab specializes in the investigation of personalized tumor treatments, novel glioma mouse models, and new neuroimaging techniques, such as MR spectroscopy for 2-Hydroxyglutarate. Research fellows are expected to present their work at national meetings and submit their findings for publication in peer-reviewed journals.

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 will see 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 who are board certified in sleep medicine. Our fellowship faculty include four neurologists, three pulmonologists, two clinical psychologists, two pediatric pulmonologists, and a sleep pediatrician at the two AASM-accredited sleep centers.

Weekly fellowship didactics will cover a wide spectrum of sleep disorders and sleep physiology. In addition, weekly case presentations, weekly journal clubs and weekly Neuroscience Research Conferences will provide interaction with faculty and exposure to campus-wide research. The fellow will be strongly encouraged to participate in ongoing clinical research projects. Presentation of abstracts at the Southern Sleep Society in April and/or at the Associated Professional Sleep Societies meetings in June will be encouraged and supported.

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

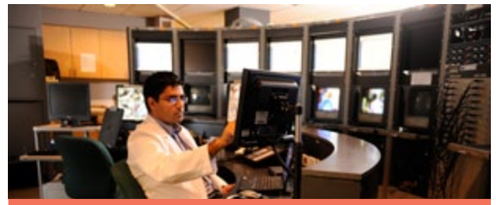
Fellows gain inpatient clinical experience at Parkland Memorial Hospital as well as the University Hospitals. The outpatient clinical experience is provided in the Aston Ambulatory Care Center Cerebrovascular and Stroke clinic. Patients in both institutions are offered participation in acute and chronic 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 provided includes: mechanisms of brain ischemia and hemorrhage, pathophysiology, clinical manifestations of the spectrum of stroke syndromes, diagnostic and therapeutic considerations, and 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).

By the Numbers

UT Southwestern Neurology

73	full-time clinical faculty (58 adult, 15 child neurology)
43	adult neurology residents and fellows
12	child neurology residents and fellows
Top 20	neurology residency program*
100	percentage of trainees who pass boards



Hospital Neurology Services

2	acute stroke and neurocritical care units
2	epilepsy monitoring units (more than 40 epilepsy surgeries per year)
2014	opening of new 460-bed Clements University Hospital
2015	opening of new 900-bed Parkland Hospital
Top 25	hospitals in adult and pediatric neurology*

UTSW Medical Center

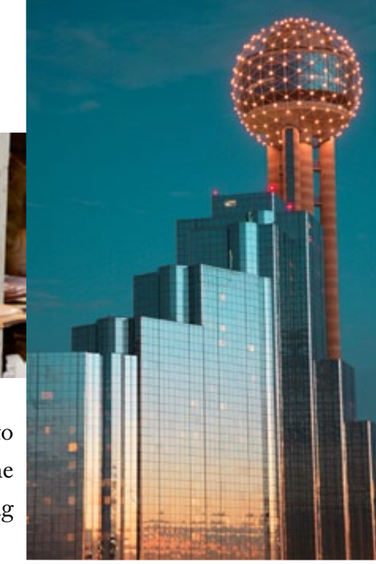
6	Nobel laureates
21	faculty in National Academy of Sciences
19	members of Institute of Medicine
425	million dollars in research funding
Top 20	medical school in research and primary care*

*Data from Doximity and U.S. News

Dallas, Texas

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
#1	most restaurants per capita of any US city
18	Fortune 500 companies
0%	state income tax

Living in the BIG D

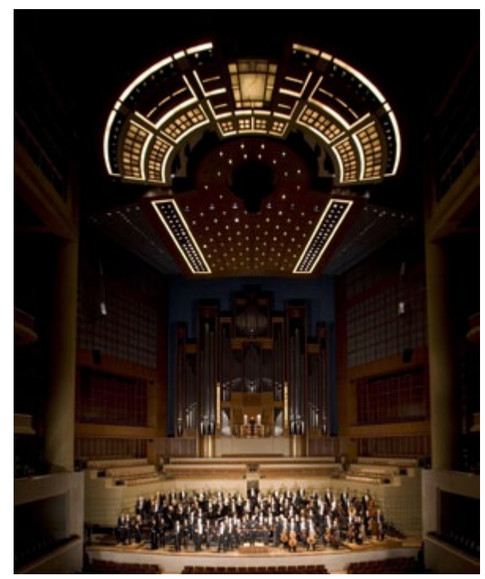


Reunion Tower in Downtown Dallas

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, buses and light rail which makes commuting within the metro area affordable and convenient. Two major aiports 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 Downtown Dallas Arts District

Arts and Culture.

Dallas-Fort Worth is noted for world-class museums and galleries including the Dallas Museum of Art, Nasher Sculpture Center, Kimbell Art Gallery and the Perot Museum of Nature and Science.

The metroplex also offers performing arts, held at venues such as the Meyerson Symphony Center, Bass Performance Hall and the Winspear Opera House. Fans of theatre will appreciate "Broadway in Dallas" which brings top shows from the Great White Way to stages throughout the arts district.

Lifestyle.

Whether you are single or married with children, the DFW area has plenty to do. The Dallas Zoo 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 (most of them fried) and Big Tex.

Big Tex at the State Fair of Texas

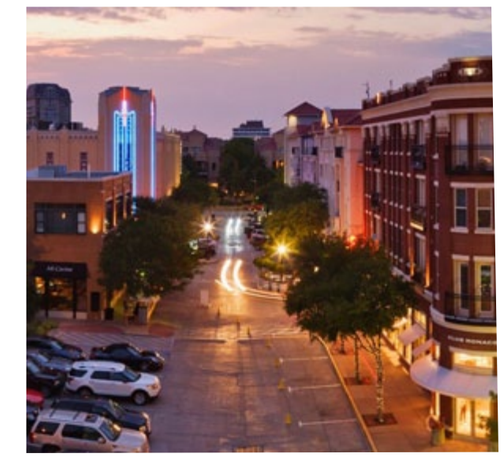
Dr. Roger Rosenberg (top right) takes residents sailing on White Rock Lake in Dallas.

The Dallas area abounds with parks, tennis courts, golf courses, jogging and cycling trails, and lakes for water sports and sailing. Two of the most popular outdoor spaces are Klyde Warren Park, a 5.2-acre green space in the heart of Downtown Dallas built over the Woodall Rodgers Freeway, and the White Rock Lake area known for sailing and fishing.

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

Klyde Warren Park in Dallas

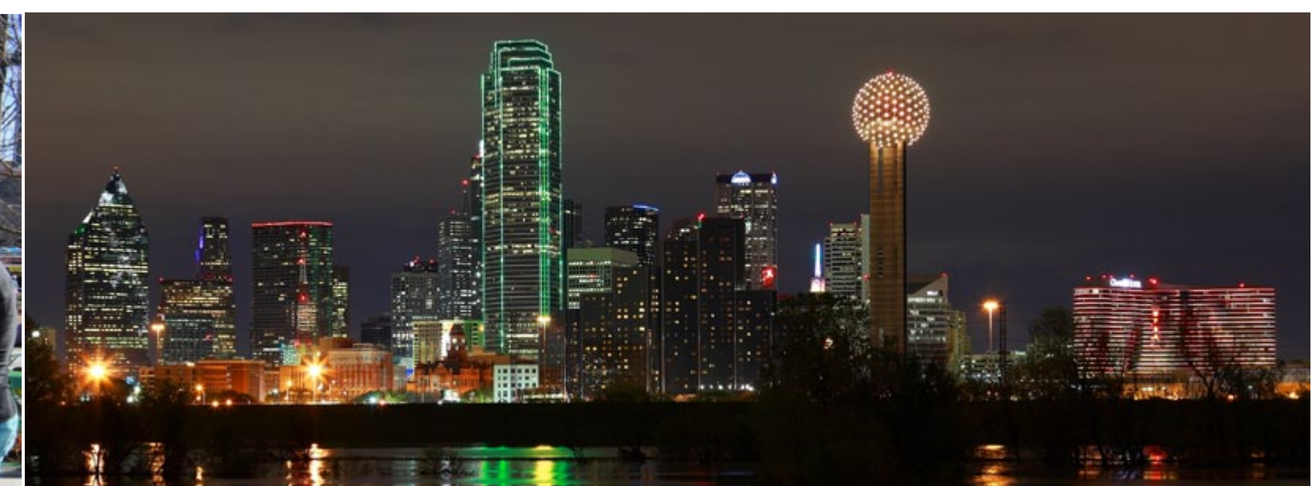
Making Dallas Home. The Dallas-Fort Worth region offers a wide variety of neighborhoods from downtown lofts to the suburbs. Within two miles of the medical center is Uptown Dallas, featuring apartments and condominiums occupied by the city's many young professionals. Uptown boasts outstanding restaurants, shops, parks, and bustling nightlife. Living within walking distance of the medical center is now possible with the recent construction of several apartment and condo developments.



West Village in Uptown Dallas

Some trainees prefer to purchase affordable homes in nearby suburbs including Irving, Las Colinas, Coppell, Plano, and Richardson. Two nearby towns - McKinney and Mansfield - were named in the top 20 places to live for 2014 by Money Magazine. There are many 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.

Downtown Dallas



Neurology Faculty

Chair
Mark Goldberg, MD

Vice-Chairs
Steven Vernino, MD, PhD**
Mark Alberts, MD
Steven Warach, MD, PhD

Cognitive & Memory Disorders
Roger Rosenberg, MD
Ramon Diaz-Arrastia, MD, PhD
Marc Diamond, MD
John Hart, Jr, MD
Mary Quiceno, MD
Benjamin Williams, MD
Kyle Womack, MD

Critical Care Neurology
Venkatesh Aiyagari, MBBS, DM
Stephen Figueroa, MD
Sankalp Gokhale, MD
Christiana Hall, MD*
DaiWai Olson, RN, PhD
Michael Rubin, MD
Julian Yang, MD

Epilepsy
Paul Van Ness, MD
Mark Agostini, MD
Kan Ding, MD

General Neurology
Worthy Warnack, MD
Mehari Gebreyohanns, MD
Alison Leston, MD
Ellen Marder, MD
Shanan Munoz, MD
Jeff Ortstadt, MD
Craig Powell, MD, PhD
Joseph Vaughan, MD
Benjamin Williams, MD

Headache Medicine
Deborah Friedman, MD*
Joseph Vaughan, MD

Movement Disorders
Richard Dewey, MD
Shilpa Chitnis, MD, PhD** *
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
Steven Vernino, MD, PhD**
Stephen Cannon, MD, PhD
Jeffrey Elliott, MD
Ronald Haller, MD
Susan Iannacconne, MD
Sharon Nations, MD
Lauren Phillips, MD
Jaya Trivedi, MD*

Neuro-Oncology
Bruce Mickey, MD
Robert Bachoo, MD, PhD
Amyn Habib, MD
Elizabeth Maher, MD, PhD
Ed Pan, MD*

Pediatric Epilepsy
Susan Arnold, MD*
Muna Khan, MD
Rana Said, MD**
Deepa Sirsi, MD

Neurobehavioral Child Neurology
Patricia Evans, MD*
Sailaja Golla, MD
Peter Tsai, MD, PhD

Pediatric Neurology
Susan Iannaccone, MD
Mazen Almidani, MD
Diana Castro, MD
Mauricio Delgado-Ayala, MD
Lauren Dengle, MD
Alison Dolce, MD
Michael Dowling, MD, PhD
Juan Pascual, MD, PhD
Steve Sparagana, MD

Sleep Medicine
Jeff Ortstadt, MD
Greg Carter, MD, PhD*
Ryan Hays, MD*

Stroke/Vascular Neurology
Mark Johnson, MD*
Mark Alberts, MD
Mehari Gebreyohanns, MD
Mark Goldberg, MD
Alejandro Magadan, MD
Roberta Novakovic, MD
Ty Shang, MD, PhD
Steven Warach, MD, PhD

Neurosurgery
Hunt Batjer, MD-Chair
Samuel Barnett, MD
Christopher Madden, MD
Bruce Mickey, MD
Howard Morgan, MD
Kevin Morrill, MD
Kim Rickert, MD
Duke Samson, MD
Babu Welch, MD
Jonathan White, MD
Louis Whitworth, MD

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

**Residency Director *Fellowship Director

Current Residents and Fellows

Class of 2015

Meredith Bryarly, MD
Ugo Chukwueke, MD
Daniel Gossett, MD*
Zack Mahdavi, MD
Isaac Marin-Valencia, MD*
Jennifer Muncy, MD*
Aashoo Pande Mentreddi, MD
Claudia Perez, MD
Oliver Sum-Ping, MD
William Renthal, MD, PhD
Yuan Xing, MD

Class of 2016

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

Class of 2017

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

Class of 2018

Kyle Blackburn, MD
Michelle Devine, MD
Meredith Greer, MD
Anirudh Gupta, MD, PhD
Brian Hitt, MD, PhD
Khalil Husari, MD
Peter Sguigna, MD
Melanie Truong, DO

Fellows

Abdulradha Alqallaf, MD
Chirantan Banerjee, MD
Marisara Dieppa, MD
Omar Elghawanmeh, MD
Hamid Kadiwala, MD
Junaid Kalia MD
Andrea Lowden, MD
Shradda Mainali, MD
Trung Nguyen, MD
Naregnia Pierre-Louis, MD
Sara Qureshi, MD
Sudama Reddi, MD
Christina Saldivar, MD
Gulshan Uppal, MD

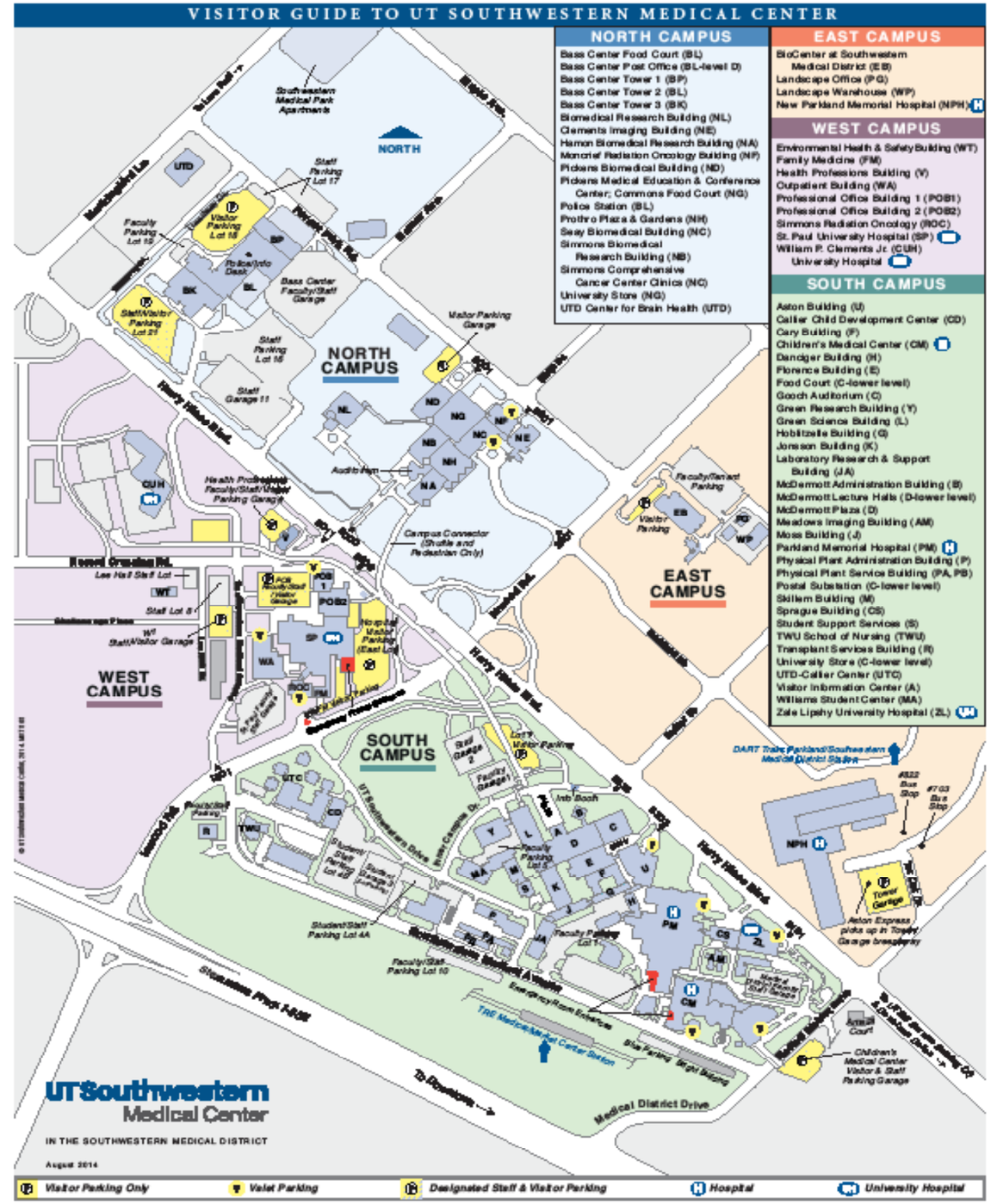
* Child neurology resident ** Neurodevelopmental Disabilities resident

2014 Adult Neurology graduates with program directors Dr. Shilpa Chitnis (far left) and Dr. Steve Vernino (fourth from left)

Notes

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.

Campus Map

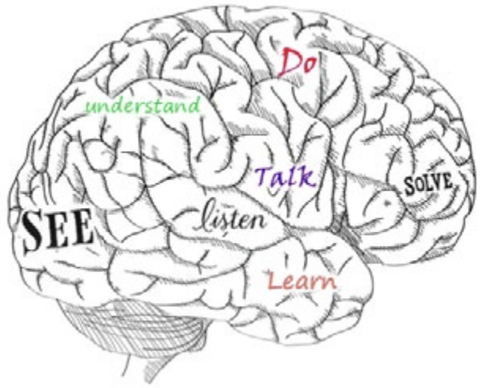


UT Southwestern
Medical Center

Neurology Training Programs

2014 - 2015

5323 Harry Hines Blvd. • Dallas, TX 75390 • 214-648-4775 • neurologyresidency@utsouthwestern.edu



NEUROLOGY

TRAINING PROGRAMS

2014 - 2015

UT Southwestern
Medical Center