Pediatric Neurology
2011 Academic Review

The Division of Pediatric Neurology is the only academic group in North Central Texas providing consultations and multi-disciplinary care for children with all kinds of neurologic disease. Internationally recognized faculty provide care at Children's Medical Center's Dallas, Legacy and Southlake campuses and at Texas Scottish Rite Hospital for Children (TSRHC).

Each member of the faculty provides special expertise in areas of focus including epilepsy and epilepsy surgery, neuromuscular disorders, stroke, demyelinating disease, autism, cerebral palsy and headache. Patients receive a sophisticated and integrated approach to diagnosis including genetic testing, metabolic analysis and interpretation of neuroimaging.

Our multidisciplinary clinics include, but are not limited to:

- Urgent epilepsy
- Ketogenic diet
- Myasthenia
- Childhood stroke
- Autism
- Transverse myelitis
- Neuroncology (directed by Hematology/Oncology)
- Headache (directed by Pain Management Team)

Faculty

Our group includes 13 full-time faculty based at Children's and two based at TSRHC. In addition, we have one part-time faculty serving in Neuro-oncology and one volunteer faculty serving in a teaching capacity. There are a total of 10 advanced practice providers: two physician assistants and eight nurse practitioners who work alongside our faculty to provide timely and comprehensive care.

Susan Arnold, M.D.
Associate Professor
Michael Dowling, M.D., Ph.D.
Assistant Professor
Patricia Evans, M.D.
Associate Professor
Sailaja Golla, M.D.
Assistant Professor

Susan Iannaccone, M.D.
Professor, Division Director
Muna Kahn, M.D.
Assistant Professor
Saadat Kahn, M.D.
Assistant Professor
Fares Kokash, M.D.
Assistant Professor

Rana Said, M.D.
Assistant Professor
Deepa Sirsi, M.D.
Assistant Professor
William Zinser, M.D.
Associate Professor

In addition to our faculty, the division has:

- one psychometrician
- four academic administrative staff
- one program administrator-clinic
- one program administrator-epilepsy
- eleven nursing staff
- one case manager
- one social worker
- one interpreter
- seven research coordinators
- one dietitian
- four clinic techs/MA's
- two front desk/call center support people

Dr. William Zinser retired in December 2011.
Research Activities

Division faculty conduct a variety of neurologic bench/basic research and clinical studies, including clinical trials. Current studies are focused in five areas:

- metabolic disorders of the nervous system
- neuromuscular disease clinical trials
- anti-epileptic drug trials
- clinical trials in pediatric stroke
- clinical studies in the autism spectrum

Faculty present results of their work at many national and international meetings and published over 30 articles in peer-reviewed journals in 2011. Dr. Iannaccone is a co-investigator for the NIH Network for Excellence in Neuroscience Clinical Trials (NeuroNEXT) which started in October 2011. UT Southwestern Neurology is one of 25 sites to participate in this study. NeuroNEXT is designed to increase the efficiency of clinical trials, facilitate patient recruitment and retention, increase the quality of neuroscience clinical trials, and enable public-private partnerships. The network aims to share expertise and infrastructure across diseases, leverage research resources at clinical sites and take advantage of clinical research opportunities as they arise. This clinical research network will provide a robust, standardized, and accessible infrastructure to facilitate rapid development and implementation of protocols in neurological disorders affecting adult and/or pediatric populations. The network is designed to assure the broadest access to new therapies for patients by carrying out trials coming from partnerships between NINDS and industry, foundations or academia.

Clinical Activities

The expertise of the faculty is focused on several sub-specialties: comprehensive epilepsy management including seizure surgery; neuromuscular medicine clinics including myasthenia gravis, muscular dystrophy, Charcot Marie Tooth and transitional care for adolescent muscle; cerebrovascular disease; neonatal intensive care follow-up; Zero-2-3 neurodevelopment clinic; rare disorders clinic; and neurodevelopmental disabilities clinics including autism, neurocognitive delay, attention-deficit hyperactivity disorder/learning disabilities (ADHD/LD) and traumatic brain injury.

Neurodevelopmental Disabilities Program

The Neurodevelopmental Disabilities Program (NDD) concludes its fourth year under the direction of Dr. Patricia Evans at UT Southwestern. The program continues to experience significant growth specifically with regard to clinical opportunities, research, education and community outreach. NDD clinics are multi-disciplinary in structure and are specifically created to serve children with autism, developmental delay, traumatic brain injuries and ADHD/LD issues. The program has expanded to provide full-time NDD services to both the Children’s Dallas and Legacy campuses.

The NDD team serves the North Texas community at large. The team attends special needs children on site at the Dallas-based Autistic Treatment Center on a quarterly basis, and works closely with Dr. Carolyn Garver and her outstanding team of specialists. Drs. Evans and Morris speak throughout the metropolis in various educational settings, including the Dallas ISD, the Dallas Theological Seminary, and other specialty programs regarding children with special needs.

Epilepsy Program

The Epilepsy Program, under the direction of Dr. Susan Arnold, includes a Designated Level 4 Epilepsy Center, the first and only Pediatric Epilepsy program in the Country to be certified by the Joint Commission.

The program includes the Children’s Epilepsy Monitoring Unit (EMU) that contains eight beds and providing 24/7 coverage for patients in the pediatric intensive care unit (PICU), the neonatal intensive care unit (NICU) and the emergency department. The EMU team includes an attending, support staff, and several third-year medical students on their required neurology rotation plus rotating residents from adult neurology, psychiatry or other specialties.
Neuromuscular Clinic

Under the supervision of Dr. Susan Iannaccone the neuromuscular clinic is the only full-time pediatric program in North Texas to be sponsored by the Muscular Dystrophy Association (MDA). The aim of these multidisciplinary clinics are to provide comprehensive health care for the pediatric neuromuscular population. The multidisciplinary approach fosters an environment of all-inclusive health care. Clinic is held four days per week.

Stroke Clinic

The Pediatric Stroke Clinic, established in 2003, is directed by Dr. Michael Dowling and holds two half-day clinics per week. The patient population consists of children and young adults with arterial ischemic stroke, cerebral venous sinus thrombosis, Sturge-Weber Syndrome, moya-moya or other cerebrovascular disorders. Patients are referred from all parts of Texas, Oklahoma, New Mexico, Arkansas, Louisiana and the United Kingdom.

The Multidisciplinary Stroke Clinic sees patients twice monthly for half days. Dr. Dowling established this clinic in October 2007 and meets twice monthly with attendings from Pediatric Hematology, Physical Medicine and Rehabilitation and Neuropsychology, as well as research nurses for coordinated patient visits (approximately four patients per clinic). This serves as a unique clinical and teaching program, with involvement of medical students, Pediatric Psychiatry fellows, Pediatric Neurology fellows, Adult Neurology residents, and Physical Medicine and Rehabilitation fellows.

The Acute Stroke Team is on call 24 / 7 / 365 for any stroke or suspected stroke in a Children's Dallas or Legacy campus patient. Dr. Dowling provides emergent telephone consultation with in-person evaluation and treatment in the emergency setting and follows the patients clinically alongside the neurology inpatient service.

Neurology Patient Visits

<table>
<thead>
<tr>
<th>Service</th>
<th>Visits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Epilepsy</td>
<td>4,574</td>
</tr>
<tr>
<td>General Neurology</td>
<td>683</td>
</tr>
<tr>
<td>Headache</td>
<td>935</td>
</tr>
<tr>
<td>Neuromuscular</td>
<td>1,010</td>
</tr>
<tr>
<td>Neurodevelopment</td>
<td>832</td>
</tr>
<tr>
<td>Rare Disorders</td>
<td>106</td>
</tr>
<tr>
<td>Research hads</td>
<td>162</td>
</tr>
<tr>
<td>Residents</td>
<td>519</td>
</tr>
<tr>
<td>Stroke/Sickle Cell</td>
<td>260</td>
</tr>
<tr>
<td>Demyelinating</td>
<td>268</td>
</tr>
</tbody>
</table>

Epilepsy 49%, General Neurology 11%, Headache 10%, Neuromuscular 9%, Neurodevelopment 5%, Rare Disorders 3%, Research 3%, Residents 2%, Stroke/Sickle Cell 1%, Demyelinating 0%

Faculty 6,871, APPs 2,532, Total 9,403

By Neurology Providers

- Faculty 73%
- APPs 27%

CMC Neurophysiology Lab: EEG Studies

- Amb EEG
- Legacy EEG
- Dallas Inpt EEG
- Dallas Outpt EEG
- All CMC EEG

CMC Neurophysiology Lab: Other Studies

- Evoked Potential
- Video/EEG
- CMC Studies
Education and Training

Our three-year training program for pediatric neurology is the only one in north Texas and is highly competitive. Our residency for neurodevelopmental disabilities is one of only seven in the country. We graduate three pediatric neurologists each year and offer subspecialty fellowships in epilepsy, neurophysiology, demyelinating disease, and neuromuscular medicine for our graduates as well as candidates from other programs.

Dr. Rana Said, Program Director for the pediatric neurology residency and clerkship, leads the teaching program that educates residents and medical students for inpatient and outpatient rotations, with the assistance of Program Coordinator, Kellie Shaw. The program includes:

- two adult neurology residents for three four-week blocks each,
- seven UT Southwestern Internal Medicine residents for two months each,
- one to three adult and pediatric neurophysiology/epilepsy fellows, and
- one to three neuromuscular medicine fellows for one year each.

More than 200 medical student neurology clerkship participants rotate for two-week intervals on either inpatient or outpatient rotations each year.

The faculty participates in up to eight neurology teaching conferences per week as well as a series of pediatric teaching conferences on neurologic topics.

The Carrell-Krusen Neuromuscular Symposium is held annually in February. Dr. Susan Iannaccone is the course director for this symposium designed for muscular dystrophy clinic directors, case managers, nurses and members of interdisciplinary teams. The focus is on protocols for treatment and management of both common and unusual neuromuscular disorders, identifying characteristic findings on muscle biopsies and EMG studies, and describing recent advances in basic and clinical research in neuromuscular disorders.

Presentations

Michael M. Dowling, M.D., Ph.D., M.S.C.S.
- “PFO and Stroke in SCD,” Hematology Clinical Research Seminar, Cincinnati Children’s Hospital Medical Center, University of Cincinnati College of Medicine, OH, June 2011
- “Stroke in Children,” Texas Pediatric Society Annual Meeting Plenary Session, Sugarland, TX, September 2011

• Quinn CT, Hoof PD, Dowling MM. “Cerebral Tissue Desaturation in Children with Sickle Cell Disease,” American Hematology Society Annual Meeting, San Diego, CA, December 2011

Patricia Evans, M.D.
• “Reel Docs,” Film Series, Dr. Temple Grandin, Documentary on Autism, June 2011
• “Autistic Spectrum Disorder,” University of Texas Permian Basin, July 2011

Susan T. Iannaccone, M.D.
• “An Overview - Recent Advances in SMA and Other Pediatric Neuromuscular Diseases,” Texas Scottish Rite Hospital for Children, Dallas, February 2011
• “Standard of Care for Duchenne Muscular Dystrophy - Recent Advances in SMA and Other Pediatric Neuromuscular Diseases,” Northwestern University Medical Center, Chicago, IL, May 2011

Juan M. Pascual, M.D., Ph.D.
• 3rd Symposium on Glucose Transporter Deficiency, New Orleans, LA, July 2011

Rana R. Said, M.D.
• “Neurological Disorders: Seizures, Headaches, Brain Tumors, Neurodegenerative and Neuromuscular Disorders,” American Academy of Child & Adolescent Psychiatry (AACAP), Honolulu, Hawaii, March 2011
• “Epilepsy Management: In the Office and ER,” Children’s Medical Center at Legacy, November 2011
• “Early Surgical Treatment of Infants with Catastrophic Epilepsy Symptomatic to Cortical Dysplasias,” American Academy of Neurology Annual Meeting, Honolulu, Hawaii, April 2011

Awards and Honors

Susan Arnold, M.D.
• Best Pediatric Specialists in Dallas, D Magazine
• Top US Doctors, U.S. News & World Report

Michael Dowling, M.D., Ph.D., M.S.C.S.
• Best Pediatric Specialists in Dallas, D Magazine

Susan Iannaccone, M.D.
• Best Pediatric Specialists in Dallas, D Magazine
• Texas Super Doctors, Texas Monthly
• Top US Doctors, U.S. News & World Report

Rana Said, M.D.
• Best Pediatric Specialists in Dallas, D Magazine
• Child Neurology Residents’ Program Director Appreciation Award

Publications

Articles


Book Sections


Grants

Sponsored Clinical Trials

Susan Arnold, M.D.
Safety and Effectiveness of Open-Label Clobazam in Subjects with Lennox-Gastaut Syndrome
Ovation Pharmaceuticals, OV-1004

Random, Double-Blind, Placebo-Controlled, Parallel-Group Study with Open-Label Ext. Phase to Evaluate Effect of Perampanel (E2007) on Cognition, Growth, Safety, Tolerability and Pharmocokinetics when Administered as Adjunctive Therapy in Adolescents (12 to <18 yrs) with Inadequately Controled Partial-Onset Seizures
Eisai Medical Research, Inc., E2007-G000-235

Eisai Medical Research, Inc., E2007-G000-307
Double Blind Placebo Controlled Dose-Escalation Study of E2007 (perampanel) Given as Adjunctive Therapy in Subjects with Refractory Partial Seizures
Eisai Medical Research, Inc., E2007-G000-305

Susan Iannaccone, M.D.
Open-Label Safety Study for Previously Treated Ataluren (PTC124) Patients with Nonsense Mutation Dystrophinopathy
PTC Therapeutics, Inc., PTC124-GD-016-DMD

Phase 2b Study of PTC124 in Subjects with Nonsense-Mutation-Mediated Duchenne and Becker Muscular Dystrophy
PTC Therapeutics, Inc., PTC124-GD-007(e)-DMD