

Department of Pediatrics

2008-2009 Academic Annual Review



The University of Texas Southwestern Medical Center
Children's Medical Center



UT Southwestern Clinical Fellowship in South Africa



It's Tuesday, and Dr. Lana Lee is hopping into her car for her daily route from the cottage on the Farrant farm into Vaalwater for her work at Boikhutsong Hospice. Today is the busy day when most of the blood gets drawn for the week. She will see 20-30 patients today, whose drawn blood will be sent by courier to the lab at Ndlovu Medical Center. Later in the week, she will review last week's labs with CD4 counts and viral loads, tests previously unavailable in this part of rural South Africa, until the Waterberg Welfare Society opened its doors. The patients Lana sees are poor, black South Africans living in the government-built township or on the farms. Most of them are severely under-educated and living with a suspicion of HIV but have a fear of getting tested due to the grave stigma it brings in their country.

At some point they choose to walk through the gates of the clinic at the edge of the township, where they are met by July Letsebe, the lead counselor, recently recovered from multi-drug resistant tuberculosis. They receive education and counseling about HIV, have a swab taken of their gums, and then see the doctor. Patients arrive in various stages of disease, but almost all of them quite ill. Often the first visit prompts a referral to the hospital, perhaps for pneumonia, heart failure or meningitis. After they have come consistently for appointments, bring in a family member or other supporter and vow to discontinue treatments being given by the local traditional healers, patients can then be given HIV medications.

Lana started the UT Southwestern Clinical Fellowship in South Africa in November 2008, initially for a six-month program. She found the work so rewarding and the need so great that she extended her time in South Africa another year. Lana brought continuity to the program with her steadfast and gentle approach to patient care, and has solidified the connection to UT Southwestern through crafting an educational plan for visiting medical students.

The Waterburg Welfare Society (WWS) currently serves a township of approximately 35,000 people. The HIV prevalence rate in South Africa is estimated between 25-30 percent. The HIV transmission rate from mother-to-child with the medications provided by the government is estimated at 20 percent, far higher than that of the United States and other industrialized countries. The WWS is able to provide treatment for pregnant women similar to that received in the United States.

In 2009, the WWS started antiretroviral treatment for 112 men/boys and 204 women/girls, bringing the cumulative number of patients on treatment to 409. Twenty-seven women were placed on therapy in 2009, making the total number of pregnant women treated in the program to date to 55. Only one infant of a mother treated in the program has become infected, making the transmission rate at the WWS approximately 7 percent for the year, significantly lower than what can be achieved using the South African government regimen.



WWS has also been able to provide not only the first-line therapies based on World Health Organization recommendations, but also to provide second- and third-line therapies for those who do not respond well to the first-line agents. This is a major accomplishment and key to the sustainability of any HIV program if it is to meet the standards set by American health care. UT Southwestern fellows are able to seek advice for managing these more complex cases through communications with Dr. Theresa Barton and other UT Southwestern HIV experts.



The UT Southwestern Fellowship program provided funding for Dr. Lee to attend the International AIDS Society Conference on HIV Pathogenesis, Treatment and Prevention in Capetown, South Africa. In addition to learning some of the most up-to-date advances in HIV care, Dr. Lee wrote, “The conference was very good. It raised a lot of questions on my end regarding some of the quandaries of practicing in a resource-limited setting, but also made me think about some of the things we do at the clinic and wonder where we could make things more effective and efficient.” Faculty from UT Southwestern were also in attendance at the conference, which provided an opportunity for important networking and collaboration between the two organizations.

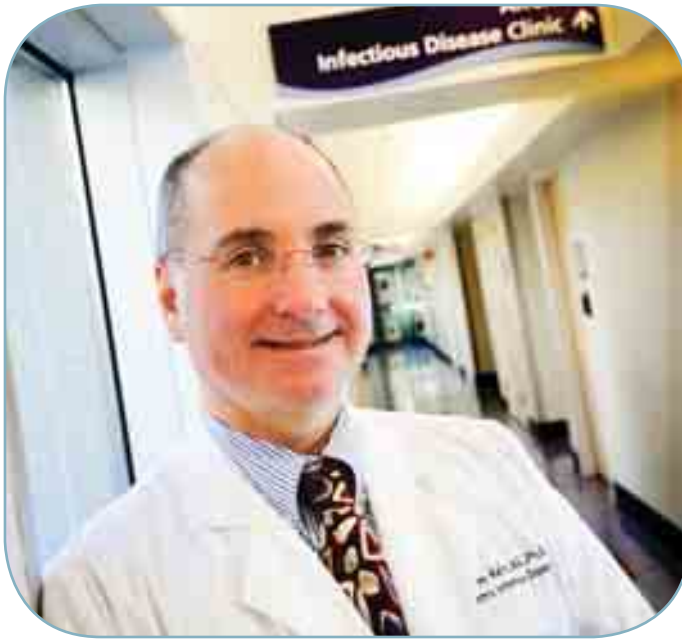
In order to provide additional HIV expertise support, as well as continuing education for the Fellows, a series of web-based conferences were started in 2009. The conferences are scheduled every other week, depending on availability away from clinical duties, and have consisted of didactic lectures and case-based discussions of HIV management. When possible, the Pediatric Infectious Diseases Fellows also attend to learn from the challenging scenarios presented by the South Africa Fellows. In order to be as cost-saving as possible, conferences have been conducted using a paid conference service (The Conference Group) with a free web chat service (Skype).



The establishment of a four-week elective rotation for senior UT Southwestern medical students, enabled the accommodation of four medical students in 2009. Funds were used to assist students with transportation costs, as well as to provide safe lodging and cellular telephone access for the students. A curriculum and schedule were established allowing them to experience not only medical care in the clinic, but the social impact of HIV in this rural African community through participation in counseling, home visits and prevention outreach efforts.

The UT Southwestern Clinical Fellowship in South Africa continues to provide a meaningful training experience for physicians interested in HIV primary and specialty care. It is an example of bringing American technology and

standards of care into an impoverished area, without imposing American values over the spirit of South Africa. The program goals are to create a sustainable presence and open the door for future medical students and residents, allowing them to learn the practice of medicine in a resource-poor area and reap the rewards of caring for patients where the needs are greatest.



Jeffrey Kahn, M.D., Ph.D.
Director, Pediatric Infectious Disease

The Division of Pediatric Infectious Disease at UT Southwestern has provided an active infectious disease consultation service for Children's for more than 40 years, with consultation and care to more than 700 infants and children each year. Division faculty direct the infection control program at Children's and manage an active ambulatory service for children with infectious diseases, including a large clinic for HIV-infected and HIV-exposed children and adolescents. In these clinics, fellows, residents and medical students are trained in the management of complicated infectious diseases in pediatrics. This clinical training is in the form of consultations, rounds, conferences and outpatient infectious disease and HIV clinics. Since 1965, 96 physicians from 23 different countries have completed training in the division's fellowship training program and approximately 75 percent of these individuals have academic appointments at universities and children's hospitals worldwide. Many graduates of the program are Chairs or Directors of academic programs.

Faculty in Pediatric Infectious Disease also have been actively engaged in clinically applied research for more than 40 years. Results of their clinical- and laboratory-based research are presented at many forums nationally and internationally. The faculty is recognized worldwide as leaders in many areas of infectious diseases and as principal investigators of domestic and international collaborative research projects. The research efforts of the division are supported by a wide variety of sources including the National Institute of Allergy and Infectious Disease (NIAID), the National Institute of Child Health and Human Development (NICHD), the Health Resources and Services Administration (HRSA) and several foundations as well as through grants and contracts from the pharmaceutical industry.

As a consultative service, faculty and fellows in Pediatric Infectious Disease interact with all divisions in the department and assist in the management of children with a variety of underlying medical problems.

Faculty

Jeffrey Kahn, M.D., Ph.D., Professor and Director of the Pediatric Infectious Disease program, holds the Sarah M. and Charles E. Seay Chair in Pediatric Infectious Diseases. He was recruited from Yale University in May 2009 where he studied newly discovered human viruses. Dr. Kahn's laboratory was the first group in the United States to report the clinical features, epidemiology and genetic features of human metapneumovirus, human coronavirus HKU1 and NL63, and human bocavirus. These new viruses are associated with upper and lower respiratory tract disease in infants and young children. Dr. Kahn earned his B.S. at McGill University, Montreal, PQ, Canada in 1982 and his M.D. and Ph.D. degrees from State University of New York, Health Science Center at Brooklyn in 1991. His Ph.D. in Microbiology focused on the molecular biology of vaccinia virus, the virus used in the smallpox vaccine. He performed his internship and residency in Pediatrics at Yale-New Haven Hospital in Connecticut from 1991 to 1994 and served as Chief Resident of Pediatrics at the newly-opened Children's Hospital at Yale-New Haven. Dr. Kahn completed his Pediatric Infectious Disease Fellowship at Yale University from 1995-1998, after which he joined the faculty at Yale. Among his accomplishments, Dr. Kahn received distinguished research, clinical and teaching awards at Yale and has received research funding from the National Institutes of Health, the American Lung Association, and the American Heart Association, among others.



Monica Ardura, D.O.

Assistant Professor

Clinical expertise: Pediatric infectious diseases

Research expertise: Infections in immunocompromised hosts and related clinical trials

Education: Ursinus College, Collegeville, PA, B.S., 1994; Philadelphia College of Osteopathic Medicine, PA, D.O., 1997, UT Southwestern, Clinical Research Scholar, Clinical Sciences, 2007-2010

Post-doctoral training: Penn State Geisinger Health System, Danville, PA, Resident, Pediatrics, 1997-2000; Chief Resident, Pediatrics and Medicine, 2000-2001; UT Southwestern, Fellow, Pediatric Infectious Disease, 2004-2008



Theresa Barton, M.D.

Assistant Professor

Director, ARMS (AIDS Related Medical Services) Clinic

Interim Director, UT Southwestern Clinical Fellowship in South Africa

Clinical expertise: Pediatric infectious diseases, HIV infection

Research expertise: Pneumococcal conjugate vaccine

Education: Smith College, Northampton, MA, A.B, 1993; UT Southwestern, M.D., 1997

Post-doctoral training: UT Southwestern/Children's, Resident, Pediatrics, 1997-2000; UT Southwestern, Fellow, Pediatric Infectious Disease, 2000-2003



Michelle A. Gill, M.D., Ph.D.

Assistant Professor, Pediatrics and Internal Medicine

Clinical expertise: Pediatric infectious diseases, immunology

Research expertise: Immunobiology of human dendritic cells and their role in the pathogenesis of clinical disease processes

Education: Louisiana State University, Shreveport, B.S., *summa cum laude*, 1988; Louisiana State University Medical Center, Shreveport, Ph.D., 1993; M.D., 1995

Post-doctoral training: University of Arkansas for Medical Sciences, Little Rock, Intern and Resident, Pediatrics, 1995-1998; Chief Resident, Pediatrics, 1998-1999; UT Southwestern, Fellow, Pediatric Infectious Disease, 1999-2003



George H. McCracken, Jr., M.D.

Professor

GlaxoSmithKline Distinguished Professorship of Pediatric Infectious Diseases

Clinical expertise: Pediatric infectious diseases, meningitis, respiratory infectious diseases

Research expertise: The epidemiology of invasive pneumococcal disease in Dallas and the effectiveness of daptomycin in children with serious MRSA infections

Education: Williams College, Williamstown, MA, B.A., 1958; Cornell University Medical College, New York, NY, 1962

Post-doctoral training: Cornell University Medical College, New York, NY, Resident, Pediatrics, 1962-1965; UT Southwestern/Children's, Chief Resident, Pediatrics, 1965-1966; Investigator, National Institutes of Health, 1966-1968

Jeffrey McKinney, M.D.

Assistant Professor
Resident Education Director

Clinical expertise: Pediatric infectious diseases, zoonoses

Research expertise: Infections in immunocompromised hosts

Education: University of Iowa, Iowa City, B.S., 1986; (Oxon) Rhodes Scholar, Oxford University, United Kingdom, B.A., 1988; University of Iowa College of Medicine, Iowa City, M.D. and Ph.D., 1995

Post-doctoral training: Yale University/Yale-New Haven Children's Hospital, New Haven, CT, Intern and Resident, Pediatrics, 1995-1998; Yale University, New Haven, CT, Fellow, Pediatrics and Molecular, Cellular and Developmental Biology, 1998-2001



Maria Asuncion Mejias, M.D.

Assistant Professor

Clinical expertise: Pediatric infectious diseases

Research expertise: Immunoprofiles of pediatric infectious diseases, pathogenesis of RSV infection, host systemic immune response to viral respiratory pathogens, and transcriptional profiles for pediatric respiratory infections

Education: Universidad de Medicina Malaga, Spain, M.D., 1995, UT Southwestern, Clinical Research Scholar, Clinical Sciences, 2007-2010

Post-doctoral training: Universidad Complutense de Madrid, Spain, Resident, Pediatrics, 1997-2001; UT Southwestern, Postdoctoral Research Fellow, Pediatric Infectious Diseases, 2001-2003; Fellow, Pediatric Infectious Disease, 2003-2006



John D. Nelson, M.D.

Professor Emeritus

Clinical expertise: Pediatric infectious diseases

Research expertise: Management of osteomyelitis, mechanisms of antibacterial resistance, suppurative and reactive arthritis in children, community-acquired pneumonia in children

Education: University of Minnesota Medical School, Minneapolis, B.S., 1952; M.D., 1954

Post-doctoral training: University of Minnesota Medical School, Minneapolis, Resident, Internal Medicine, 1954-1955; UT Southwestern/Children's, Resident, Pediatrics, 1957-1959; UT Southwestern, Fellow, Pediatric Infectious Disease, 1959-1960



Octavio Ramilo, M.D.

Professor

Clinical expertise: Pediatric infectious diseases, HIV infection, respiratory infectious diseases

Research expertise: Host-pathogen interactions, immunopathogenesis and new therapies for viral infections, clinical application of genomics to infectious diseases

Education: Universidad Complutense de Madrid, Spain, M.D., 1981

Post-doctoral training: Universidad Complutense de Madrid, Spain, Resident, Pediatrics, 1983-1987; UT Southwestern/Children's, Resident, Pediatrics, 1992-1993; UT Southwestern, Fellow, Pediatric Infectious Disease, 1987-1990; Post-doctoral Research Fellow, Immunology, 1990-1992





Pablo J. Sanchez, M.D.

Professor

Clinical expertise: Neonatal and congenital infections

Research expertise: Congenital, perinatal and neonatal infections with focus on congenital syphilis and congenital CMV infections, gentamicin nomogram and validation

Education: Seton Hall University, South Orange, NJ, B.S., 1977; University of Pittsburgh School of Medicine, PA, M.D., 1981

Post-doctoral training: Children’s Hospital of Pittsburgh, PA, Resident, Pediatrics, 1981-1984; Columbia-Presbyterian Medical Center, New York, NY, Fellow, Neonatology, 1984-1986; UT Southwestern, Fellow, Pediatric Infectious Disease, 1986-1988



Jane Siegel, M.D.

Professor

Clinical expertise: Pediatric infectious diseases, infection control

Research expertise: Community-acquired MRSA infections, healthcare associated infections

Education: University of Pennsylvania, Philadelphia, B.A., 1970; Boston University School of Medicine, MA, M.D., 1974

Post-doctoral training: Children’s Hospital of Pittsburgh, PA, Resident, Pediatrics, 1974-1977; UT Southwestern, Fellow, Pediatric Infectious Disease, 1977-1979

Post-doctoral Fellows & Clinical/Research Staff

Fellows (Research Interests)

Clinical Fellowship in South Africa

Lana Lee, M.D.

- HIV/AIDS in the developing world, viral hepatitis

Completed June 2009

Steve Grube, M.D.

- Immunobiology of dendritic cells in respiratory infections
- Pneumococcal diseases in children

Chonnamet Techasaensiri, M.D.

- Mycoplasma infection in a murine model

3rd Year

Michael Chang, M.D.

- Role of gamma interferon in murine RSV infection

Carla Garcia, M.D.

- Rhinovirus infections associated with bronchiolitis

2nd Year

Amanda Evans, M.D.

- Effects of Respiratory syncytial virus infection of respiratory epithelial cells on Moraxella catarrhalis
- Pathogenesis of acute otitis media in children

Alejandro Jordan-Villegas

- Epidemiology of Pneumococcal diseases in children
- Bacterial-Viral-Host immune interactions

1st Year

Thomas Fox, M.D.

- Molecular mechanisms of pathogenesis in enteric bacteria

Eduardo Lopez Medina, M.D.

- Candida albicans and pseudomonas aeruginosa interactions in the gastrointestinal tract

Clinical/Research Staff

Romain Banchereau

Research Assistant

Gagan Bajwa

Research Associate

Kathy Gaynor

Senior Research Associate

Shama Khokhar

Research Assistant II

Alejandra Soriano-Fallas

Post-doctoral Trainee Clinician

Adriana Sanchez

Clinical Data Specialist

Benyachalee Techasaensiri

Clinical Data Specialist



Research Activities

Research in the division involves such areas as diarrhea, bacterial meningitis, clinical pharmacology, efficacy and safety of antimicrobial agents, pathogenesis of meningeal and respiratory infections (RSV and Mycoplasma), the link between pulmonary infection and asthma, HIV/AIDS, nosocomial infections, genomic signatures in children with different infections, immunobiology of the dendritic cell responses to RSV and influenza infections, newly emerging human viruses and the epidemiology of MRSA infections in different populations and neonatal infections.

Dr. Gill received K08 training award, Dr. Ramilo has been the principal investigator of large program projects (U grants) and Dr. McCracken is the principal investigator of the NICHD Pediatric Pharmacology Research Network located at both Children's and UT Southwestern. All fellows participate in research projects with the faculty.

Clinical Activities

Consultations in the pediatric and neonatal intensive care units at Parkland and Children's involve patients with inherited or acquired immunodeficiency, including patients receiving immunosuppressive therapy for cancer, organ transplantation, bone marrow and stem cell transplantation; inflammatory bowel disease and rheumatologic disorders; and infants and children with a wide variety of classic as well as unusual infectious disease problems.

The division is responsible for an active infectious disease ambulatory clinic at Children's, where follow-up care is provided to children with complicated infections who were initially managed as in-patients and to those who have been referred to the clinic by practicing physicians in the community. The division also manages approximately 100 HIV-infected children and adolescents as well as an additional group of infants and young children with perinatal HIV exposure.

Presentations/Teaching Activities

While in the Pediatric Infectious Disease fellowship program, trainees are provided a background in laboratory techniques of classical microbiology, immunology and molecular biology; experience in application of the scientific method to clinical and laboratory research; and an opportunity to develop competence in diagnosis and management of infectious diseases.

The division has one of the oldest and largest fellowship training programs in Pediatric Infectious Disease in the world.

Third- and fourth-year medical students and pediatric residents can elect to work in the general Infectious Disease and HIV/AIDS clinics where these patients are managed. During this rotation, trainees gain experience with diagnosis and management of infections in neonates, infants and children, familiarity with the rationale for selection of antimicrobial agents, and insight into issues related to infection-control practices in hospitalized patients.

At a weekly Wednesday morning Infectious Disease Conference, lectures and open discussions are held in which infectious disease topics are presented and discussed. Fellows present their work-in-progress reports at least twice each year at Journal Club, where cases on the clinical service are thoroughly discussed. In addition, the faculty members participate actively in the teaching of students, residents and fellows through lectures in the annual Department of Microbiology course; formal and informal discussions with students, residents, fellows and visitors during daily rounds; lectures to students and residents at many noon conferences at Children's each year, including the monthly "Bugs Among Us" lecture; inpatient consultation and ambulatory clinic service in ARCH; and talks at the annual Children's-sponsored Haltalin Seminar.

The UT Southwestern Clinical Fellowship in South Africa provides an educational and enlightening medical experience for participants. In addition to providing medical services for HIV/AIDS children and adults, program fellows are directly involved in providing education and support services for people in the Waterberg region of the Limpopo province of South Africa.

Jeffrey S. Kahn, M.D., Ph.D.

- "Newly Emerging Human Viruses: Clinical Implications and Significance," Infectious Diseases Grand Rounds, Memorial Sloan-Kettering Cancer Center, New York, NY, October 2008
- "Viral Pneumonia," The 21st Annual Infectious Diseases in Children Symposium, New York, NY, November 2008
- "Detection of WU Polyomavirus in HIV- and HCV-infected Individuals," Pediatric Academic Societies/ Society of Pediatric Research Annual Meeting, Baltimore, MD, May 2009
- "Assorted Viruses I & II," PREP-ID, American Board of Pediatrics Infectious Disease Review Course, Chicago, IL, July 2009

Theresa Barton, M.D.

- "Pediatric HIV: Local Trends, National Strategies," Pediatric Grand Rounds, Medical City Hospital, Dallas, TX, April 2009
- "Tuberculosis in HIV Infection," Heartland TB Training Center, July 2009
- "Pediatric Tuberculosis," Heartland TB Training Center, July and November 2009
- "Pediatric HIV Infection," UT Arlington School of Nursing, September 2009

Michelle Gill, M.D., Ph.D.

- "Rhinoviruses: Clinical Impact on Pediatrics and Implications for Research," Pediatrics Grand Rounds, Children's, January 2009
- "Pandemic Influenza: Novel H1N1 2009," Children First! Collin County Coalition, Plano, TX, October 2009
- "Mechanistic Study Pilot; Allergen Interference with Rhinoviral-induced Plasmacytoid Dendritic Cell Function," NIH/NIAID Inner City Asthma Consortium Steering Committee Meeting, Chicago, IL, December 2009

George H. McCracken Jr., M.D.

- “Management of Bacterial Meningitis, 2010,” The William Leslie Bradford Lecture, Mercy Children’s Hospital, Kansas City, MO, November 2009

Jane Siegel, M.D.

- “Unique Aspects of Pediatric Infection Control,” “Family-Centered Care: The Infection Control Perspective” and “Pediatric Problem Session,” SHEA/CDC Training Course in Healthcare Epidemiology, Seattle, WA, October 2008
- “Real World Pediatric Infection Control,” Meet the Expert Session with Lisa Saiman, SHEA Annual Meeting, San Diego, CA, March 2009
- “Update on Immunizations 2009,” The 41st Kenneth C. Haltalin Pediatrics for the Practitioner Annual Seminar, UT Southwestern, April 2009
- “Reducing Central Line Associated Bloodstream Infections: What is the Evidence?” Pediatric Critical Care Conference, Dallas TX, April 2009
- “Swine Flu and You: A Review of the Last Week,” Pediatric Grand Rounds, UT Southwestern, April 2009
- “Sentinel Site Surveillance of Respiratory Virus (RSV) Infections in Texas (TX): Implications for Prophylaxis,” Sanchez PJ, Murphey D, Hauger S, Brown O, Gaglani M, Leach C, Siegel J, Pennfield S, Texas Pediatric Society Committee of Infectious Disease and Immunizations (Poster presentation)
- “Swine Origin Influenza Virus (SOIV): A Pandemic Influenza Drill for Pediatricians,” The 24th Annual Ben Kagan, M.D. Lectureship, Cedars-Sinai Medical Center, Los Angeles, CA, May 2009
- “2009 Pandemic Influenza (H1N1): Where We Have Been, Where We Are, and Where We Are Going,” Continuing Medical Education, Children’s Legacy, October 2009
- “Respiratory Viruses Identified During the 2009 Novel H1N1 Swine-Origin Influenza Outbreak at Children’s Medical Center Dallas,” Chang ML, Evans A, Jordan-Villegas A, Brock E, Bhore R, Mejias A, Siegel J, IDSA Annual Meeting, Philadelphia, PA, October 2009 (Poster presentation)
- “Recovery of Staphylococcus aureus from Fomites in the Dallas County Jail: A Longitudinal Study, 2008,” David MZ, Daum RS, Henderson J, Loes G, Lo K, Boyle-Vavra S, Asthi K, Siegel J, IDSA Annual Meeting, Philadelphia, PA, October 2009 (Poster presentation)

Major Administrative or Leadership Responsibilities

Jeffrey S. Kahn, M.D., Ph.D.

- Director, Division of Pediatric Infectious Disease
- Co-director, Fellowship Training Program, Pediatric Infectious Disease

Theresa Barton, M.D.

- Member, Board of Directors, HIV Medical Association
- Clinical Director, Ryan White Title IV Programs (DFAN and Youth Angle)
- Interim Director, UT Southwestern Clinical Fellowship in South Africa
- Co-chair, ARV Therapy Working Group, CDC LEGACY Project

Michelle Gill, M.D, Ph.D.

- Course Director, Pediatric Infectious Diseases Core Curriculum Series
- Member, PROSE (Preventative Omalizumab Therapy for Severe Fall Exacerbations) Clinical Trial Protocol Team, NIH/NIAID Inner City Asthma Consortium

George H. McCracken, Jr., M.D.

- Director, Fellowship Training Program, Pediatric Infectious Disease
- Chief Editor, The Pediatric Infectious Disease Journal
- President and Treasurer, National Pediatric Infectious Disease Foundation

John D. Nelson, M.D.

- Chief Editor, The Pediatric Infectious Disease Journal



Drs. George McCracken and John Nelson have been Chief Editors of *The Pediatric Infectious Disease Journal* for nearly 30 years.

Pablo Sanchez, M.D.

- Chair, Committee of Infectious Diseases and Immunizations, Texas Pediatric Society
- Member, Editorial Advisory Board, Infectious Diseases in Children
- Member, Vaccines and Related Biological Products Advisory Committee (VRBPAC), Food and Drug Administration (FDA)
- Member, NICHD Pediatrics (CHHD-A) Subcommittee Review Panel
- Member, Nominating Committee, Society for Pediatric Research
- Collaborator, (Syphilis), 2009 Red Book: Report of the Committee on Infectious Diseases, American Academy of Pediatrics

Jane D Siegel, M.D.

- Medical Director, Infection Control, Children's
- Chair, Infection Control Committee, Children's
- Member, Texas State Advisory Panel for Health Care-Associated Infection Public Reporting 2007 to present
- Member, Patient Safety Committee, Dallas Fort Worth Hospital Council 2008 to present
- Member, Committee of Infectious Diseases and Immunizations, Texas Pediatric Society
- Initiation and oversight of program to provide influenza vaccine to contacts of CMC patients 2002 to present
- Member of Steering Committee, NACHRI Collaboratives to Reduce CLABSIs CMC; PICU, 2008 to present; Heme-Onc, 2009 to present
- Co-coordinator, Pediatric Intern Retreat, Children's

Awards and Honors

Monica Ardura, D.O.

- Clinical Research Scholar, Department of Clinical Sciences, UT Southwestern, 2007-2010

Theresa Barton, M.D.

- 2009 Pediatrics Core Clerkship Teaching Award, UT Southwestern Medical School Class of 2010
- Aetna Healthcare Award, DIFFA/Dallas
- Community Outreach Award, Dallas Business Journal Health Care Heroes

Asuncion Maria Mejias, M.D.

- Clinical Research Scholar, Department of Clinical Sciences, UT Southwestern, 2007-2010

Rich History in Neonatal Care

In 1973 the Division of Neonatal Medicine consisted of one full-time faculty member, Dr. Jacob Kay, who trained at Boston Children's Hospital in the 1950s. The division also included two part-time faculty, both of whom trained at UT Southwestern Medical School and volunteered at Parkland Hospital as needed. At that time, there was a 60-bed "Premie Nursery" on the 8th floor of Parkland. Although there were over 7,000 deliveries annually, there was no Neonatal Intensive Care Unit (NICU) at Parkland, nor at the adjacent Children's Medical Center. Neonates requiring ventilation were transferred to Children's Pediatric Intensive Care Unit (ICU), which admitted a mix of neonates, older infants and children. Additionally, up to this point, there had been no neonatal survivors less than 1000 grams birthweight.

In 1973, Dr. Charles Rosenfeld was recruited to join the Neonatal Medicine Division from the Perinatal Training Program at the University of Colorado. Central to the recruitment effort was the potential to design and build a large NICU adjacent to Labor and Delivery at Parkland in an existing empty space with over 12,000 square feet that connected with Children's. Dr. Rosenfeld came on board with the mission to build a NICU and expand the Division. In January 1974 a six-bed NICU, with a potential capacity for 12 neonates, was opened on the 8th floor of Parkland. This was the first NICU in Dallas and was to compliment the Pediatric ICU at Children's. Soon thereafter, Dr. Kay left Dallas and Dr. Rosenfeld assumed responsibility for providing care in both ICUs. The following year, Dr. Jon Tyson was recruited from the training program run by Dr. Jack Sinclair in Hamilton, Ontario, Canada, and Dr. Dan Levin was recruited from the University of California San Francisco to



serve as the director of the Pediatric ICU. At that time, the High-Risk Pregnancy Unit, under the direction of Dr. Peggy Whalley, was moved from the "old" Parkland to the 8th floor adjacent to the NICU, permitting the development of neonatal medicine with a close association with high-risk obstetrics.

In July 1975, the bed occupancy in the Parkland NICU doubled to 12 following the birth of the Davis quintuplets. Born at 32 weeks gestation, they were the first quintuplets in North America to all survive. The Davis quintuplets have done well and are now the parents of 15 children of their own. This pregnancy highlighted the rich relationship that had developed between Obstetrics, under the direction of Dr. Jack Pritchard, and Neonatal Medicine.

The 7,500 annual births at Parkland kept the NICU full and neonates weighing 1000 grams or less were now thriving. Obstetrical residents were learning to resuscitate and neonatal mortality began to fall, decreasing from 15/1000 live births to less than 10/1000 live births within two years. The Neonatology fellowship, which soon became a three-year program, began to develop with the training of Drs. Barbara Manroe, Jaime Furzan and others. In 1976, Drs. Tyson and Rosenfeld, in collaboration with Dr. Paul MacDonald, Chairman of Obstetrics and Gynecology, were awarded five years of funding by the Robert Wood Johnson Foundation to assess the effects of obstetrical and neonatal care on patient outcomes throughout Dallas County. In conjunction with Dr. Juan Jimenez in Obstetrics, the Neonatal Database was established to evaluate all pregnancies in Dallas County. That database continues to exist and now includes data from more than 30,000 NICU admissions and greater than 5,000 very-low-birth-weight (VLBW) neonates weighing 1500 grams or less.

Additional faculty were soon recruited from prestigious institutions, including Dr. Bill Engle from Children's Hospital of Philadelphia in 1980, Dr. Abbot Lupton from Brown University in 1981 and Dr. Heber Nielsen from Harvard, also in 1981. The Division's research base expanded to include studies of cerebral blood flow and metabolism, renal physiology, and surfactant synthesis. The Division was also asked to collaborate in the

first large-scale assessment of bronchopulmonary dysplasia (BPD) by the National Institutes of Health (NIH). With the NICU now at full capacity and no NICU at Children's, there was an increasing lack of bed space. The Pediatric Burn Unit was moved from the 8th floor at Parkland creating room for the expanded intensive care area of the NICU with 15 beds. The older NICU area became the step-down or intermediate care area. This resulted in 27 ICU beds to cover the more than 8,000 births and 1,000 NICU admissions occurring annually. The Hospital District and County Commissioners soon realized that Parkland needed to be updated and the NICU needed to expand and move to the space adjacent to Labor and Delivery. In 1980, with the efforts of Ralph Rogers, Chairman of the Hospital Board and many others, an \$80 million bond issue was passed by the people of Dallas to modernize Parkland and build a new NICU. When the new NICU opened in 1984, neonates were successfully transported down five floors to a large, modern NICU located less than 50 feet from Labor and Delivery. The new NICU was equipped with 15-20 ICU beds and 40 ACN/CCN beds to accommodate the increase in deliveries to 11,000 annually.

From 1985 to 1988 the Division welcomed eight new faculty members from academic institutions across the nation. Included in the new faculty was a developmental psychologist, Dr. Bob Laskey, who was recruited to run the Low Birth Weight Follow-up Clinic, to initiate research in auditory evoke potentials, and to permit the division to collaborate successfully with Dr. Marie McCormick at Harvard on a nationwide study of early intervention in VLBW neonates.

The fellowship program grew from two to three trainees each year, and the teaching and research efforts of the division were thriving in the 1980s. Through the efforts of Dr. Jon Tyson, the division was selected as a founding institution in the development of the NIH sponsored Neonatal Network for Clinical Trials in 1986. It has since remained an important player in the network, reflecting successful efforts to recruit patients and by maintaining an outstanding follow-up program run by Dr. Sue Broyles in 1991-2002 and Dr. Roy Heyne since 2003. The follow-up program was nationally recognized as the first randomized controlled trial to report that primary care offered a significant advantage to the outcome of VLBW neonates. In the 1990s, the NICU at Parkland was chosen by the Hospital Administration as one of seven Centers of Excellence.

The clinical, research and teaching programs were further strengthened with the recruitment of Dr. Jeff Perlman from Washington University, Dr. Fernando Moya from Yale, Dr. Philip Shaul from Brown, and Drs. Pablo Sánchez, Blair Cox, Myra Wyckoff and Walid Salhab from UT Southwestern between 1990 and 2000. Dr. Greg Jackson was recruited in 1993 to direct the division's teaching and clinical program in the term nursery and to develop the Pediatric Nurse Practitioner Program and was joined soon by Dr. Dorothy Sendelbach. At present, there are seven general pediatricians in the division who teach, do clinical research and both supervise and provide care to nearly 15,000 near-term and term neonates annually. This group has added to the scholarly activities of the Division and has excelled in teaching.

In 1981, the Obstetrics and Pediatric staff at St. Paul Hospital approached the division to consider starting a NICU and assuming care of their high-risk patients. This provided an opportunity to develop a referral program for women with high-risk pregnancies and neonates on the campus and to incorporate the clinical expertise available at St. Paul Hospital to deliver care to these patients. An educational outreach program was developed expanding the referral base for neonates and at-risk pregnant women to include areas of north and east Texas. Dr. Jon Tyson was the first Medical Director of the outreach program and was succeeded by Dr. Kathleen Kennedy. St. Paul Hospital served as an excellent training experience for the pediatric residents until Texas Health Resources purchased it in 2000.

Although the new Parkland NICU was designed to accommodate neonates from approximately 12,000 deliveries annually, it has since required renovation and expansion to address the continuing increase in deliveries. There are presently more than 15,000 births per year and approximately 1,300 admissions to the Level III NICU, making it one of the busiest in the nation.

Efforts began in 2000 to establish a referral NICU at Children's, and in April 2007, a temporary 16-bed NICU was opened. In 2009, a permanent expansion to a 36-bed referral NICU occurred, allowing the Children's

NICU to become a major site for neonatal referrals in the area. Recruitment efforts continue in order to provide excellence in research, teaching, clinical care and long-term follow-up for high-risk pregnant women and neonates in North Texas.

Dr. Rashmin Savani joined the Division in March 2006 and became Division Director when Dr. Rosenfeld stepped down in January 2007. During Dr. Rosenfeld's 34 years as Director there were more than 250,000 births and nearly 30,000 NICU admissions at Parkland. The fellowship program, now under the direction of Dr. Luc Brion, has trained at least 60 fellows in Neonatal-Perinatal Medicine, many of whom have pursued academic careers.

In 2009, the division had 26 faculty and 12 fellows. Several faculty members have become Directors of other divisions or successful investigators at their respective institutions. All of this exemplifies the extraordinary group of faculty assembled by the division over time, their collaborative nature and their continuing commitment to excellence.



Rashmin Savani, M.B., Ch.B.
Director, Neonatal-Perinatal Medicine

The Division of Neonatal-Perinatal Medicine maintains a high profile within the Department of Pediatrics, as well as at Parkland and Children's, providing the highest level of clinical care at each site. The division is also responsible for high-quality academic programs that enjoy substantial extramural funding and publication record, as well as excellence in teaching at the divisional, departmental and university levels. Neonatal-Perinatal faculty continue to be invited nationally and internationally to present and serve on committees to advance neonatal care.

The division coordinates integrated neonatal care across the UT Southwestern, Parkland and Children's campuses, including more than 15,000 deliveries annually at Parkland Health & Hospital System, of which 1,300 are admitted to the 90-bed NICU at Parkland. The 36-bed referral NICU at Children's is geared to take care of infants with complex medical and surgical problems, and those with special metabolic, cardiac, or surgical conditions who are transferred from other hospitals for a higher level of care.

Working closely with Maternal-Fetal Medicine and other pediatric subspecialties, the division provides multidisciplinary antenatal consultation, advanced imaging, fetal intervention and delivery planning for referrals from North Texas and beyond. The Resuscitation Team in Labor and Delivery is an internationally acclaimed program providing state-of-the-art assistance to newborn infants as they transition to extra-uterine life. In addition, the Low Birth Weight Clinic follows infants born severely prematurely and those that have had chronic neonatal disorders to ensure appropriate growth and development up to age three.

The wealth of patients under the care of the division affords a high level of academic and scholarly activity. Medical student, resident and fellow education programs provide teaching of clinical skills, as well as experience in basic and/or clinical research.

Neonatal-Perinatal Medicine includes basic science projects and neonatal translational and clinical projects, as well as large collaborative clinical projects conducted by the Neonatal Research Network, the Maternal-Fetal Medicine Network and the Pediatric Pharmacology Research Units Network, and the role of cytomegalovirus (CMV) infection in hearing loss and developmental disability, all sponsored by the NIH.

The division has grown with the addition of Drs. Mahmood Alasmi, Timothy Brannon, Laura McClendon, Donald McCurnin and Julide Sisman to the faculty.

Faculty

Rashmin Savani, M.B.,Ch.B., Professor, is Director of Neonatal-Perinatal Medicine at UT Southwestern and holds the William Buchanan Chair in Pediatrics. He is also the Associate Director of Pulmonary and Vascular Biology in the Department of Pediatrics. Dr. Savani obtained his medical degree from the University of Sheffield, England, in 1982 and undertook internships in internal medicine, general surgery, and obstetrics and gynecology from 1982 to 1984. He was a pediatric resident at Duke University Medical Center, Durham, N.C., from 1984 to 1987 and held fellowships at Cincinnati Children's Medical Center in Neonatology from 1987 to 1989 and in Pulmonary Biology from 1989 to 1991. Dr. Savani was an Assistant Professor of Pediatrics in the Section of Neonatology at the University of Manitoba and Children's Hospital, Winnipeg, Canada, from 1991 to 1996. During this time, he undertook further postgraduate training in Cell and Molecular Biology at the Manitoba Institute of Cell Biology from 1991 to 1994; then had an independent lab at the Institute until he was recruited to the University of Pennsylvania and Children's Hospital of Philadelphia in 1996. There he rose to the rank of Associate Professor with Tenure in 2002, a position he held until 2006 when he was recruited to UT Southwestern. Dr. Savani's clinical expertise is in the areas of bronchopulmonary dysplasia, surfactant and pulmonary hypertension of the newborn, and his research focus has been on lung injury and development, including inflammation and angiogenesis. His laboratory is studying the role of hyaluronic acid (HA) and its receptors in a variety of models of tissue injury, in particular the response to lung injury. Projects in the laboratory include transgenic and knockout mice, intracellular signaling pathways, as well as in vitro and in vivo approaches to examine macrophage and endothelial cell biology as they relate to inflammation and angiogenesis, alveolarization and the response to lung injury.



Mahmood Alasmi, M.D., M.S.

Associate Professor

Clinical Expertise: Neonatal and newborn care, nutrition

Research Expertise: Nutrition of very premature infants and newborns, international neonatal care and education, neonatal cholesterol metabolism, neonatal lipid metabolism, epidemiology and biostatistics

Education: Ain Shams University, School of Medicine, Cairo, Egypt, M.B., B.Ch., 1984

Post-doctoral Training: Hahnemann University Hospital, Philadelphia, PA, Resident, Pediatrics, 1990-1993; University of Cincinnati Medical Center/Children's Hospital Medical Center, OH, Fellow, Neonatal-Perinatal Medicine, 1993-1996; University of Cincinnati Medical Center, OH, Pediatric Clinical Research Fellow and Biostatistics and Epidemiology Master Candidate, 1995-1997



Sue Bacsik, D.O.

Assistant Professor

Clinical expertise: Newborn medicine

Research expertise: Breastfeeding, newborn medicine

Education: Texas Tech University, Lubbock, B.S., 1998; University of North Texas Health Science Center, Fort Worth, D.O., 2004

Post-doctoral training: UT Southwestern/Children's, Resident, Pediatrics, 2004-2007



Timothy Brannon, M.D.

Assistant Professor

Clinical Expertise: Neonatal and newborn care, electronic medical records

Research expertise: Bioinformatics

Education: Baylor University, Waco, TX, B.S., 1984; UT Southwestern, M.D., 1988

Post-doctoral training: UT Southwestern/Children's, Resident, Pediatrics, 1988-1991; UT Southwestern, Fellow, Neonatal-Perinatal Medicine, 1991-1994

Luc P. Brion, M.D.

Professor

Clinical expertise: Fellowship training, evidence-based medicine, renal disorders, fluid and electrolytes

Research expertise: Neonatal Research Network and other multicenter clinical trials, renal, delivery room practices, and NIRS tissue oxygenation

Education: Université Libre de Bruxelles, Bruxelles, Belgium, Bachelor of Medical Sciences, 1972; M.D., 1976; Université Libre de Bruxelles, Bruxelles, Belgium, Special Bachelors Degree in Pediatrics, 1981

Post-doctoral training: Hospital Universitaire Saint Pierre, Bruxelles, Belgium, Resident, Pediatrics, 1976-1979; Institut Edith Cavell, Bruxelles, Belgium, Resident, Pediatrics, 1979-1981; University of Toronto, Canada, Fellow, Neonatology, 1981-1982; Institut Edith Cavell, Fellow, Neonatology, 1982; Cliniques Universitaires, Hôpital Erasme, Bruxelles, Belgium, Fellow, Neonatology, 1982-1983; Albert Einstein College of Medicine, New York, NY, Fellow, Neonatology, 1983-1985



Lina Chalak, M.D.

Assistant Professor

Clinical expertise: Hypoxic-ischemic encephalopathy, brain development, early recognition and treatment of brain injury in the newborn, mechanisms linking chorioamnionitis and cerebral palsy

Research expertise: Hypoxic-ischemic encephalopathy, bedside neurologic monitoring including amplitude integrated electroencephalography (aEEG) and near infrared spectroscopy (NIRS)

Education: American University of Beirut, Lebanon, B.S., 1991; American University of Beirut Medical School, M.D., 1995; UT Southwestern, Clinical Research Scholar, Clinical Sciences, 2008-2011

Post-doctoral training: American University of Beirut, Resident, Pediatrics, 1995-1998; UT Southwestern, Fellow, Neonatal-Perinatal Medicine, 1998-2001; UT Southwestern/Children's, Resident, Pediatrics, 2001-2003



Hernan Cruz, M.D.

Assistant Professor

Clinical expertise: Assisted ventilation, necrotizing enterocolitis, virtual medical education, nasal intermittent positive pressure ventilation

Research expertise: Non-invasive neonatal monitoring of ventilation and oxygenation,

Education: University del Valle, Colombia, M.D., 1973

Post-doctoral training: Universidad del Valle School of Medicine, Colombia, Resident, Pediatrics, 1976-1979; University of Southern California, Los Angeles, Fellow, Neonatology, 1979-1980; University of Southern California, LAC and USC Medical Centers, Fellow, Neonatology, 1990-1993; University of Southern California, LAC Medical Center, Resident, Pediatrics, 2002-2004



Faculty in the Division of Neonatal-Perinatal Medicine coordinate integrated neonatal care across the UT Southwestern, Parkland and Children's campuses.



William D. Engle, M.D.

Associate Professor

Clinical expertise: Bilirubin metabolism and neonatal hyperbilirubinemia, gastroesophageal reflux, neonatal pneumonia

Research expertise: Transcutaneous monitoring of neonatal hyperbilirubinemia, pharmacokinetics and pharmacogenetics in neonates, effect of phototherapy on auditory brainstem responses, myeloproliferative disorders in Downs' syndrome, use of simulation in neonatal resuscitation program training

Education: Dartmouth College, Hanover, NH, B.A., 1970; Tufts University School of Medicine, Boston, MA, M.D., 1974

Post-doctoral training: University of Michigan Medical Center, Mott Children's Hospital, Ann Arbor, Resident, Pediatrics, 1974-1978; University of Pennsylvania School of Medicine, Philadelphia, Fellow, Neonatology, 1978-1980



Becky Ennis, M.D.

Assistant Professor

Clinical expertise: Ethics and palliative care, neonatal outreach, resident education

Research expertise: Hormonal regulation of blood pressure

Education: Emory University, Atlanta, GA, B.S.N., 1992; UT Southwestern, M.D., 2000

Post-doctoral training: UT Southwestern/Children's, Resident, Pediatrics, 2000-2003; UT Southwestern, Fellow, Neonatal-Perinatal Medicine, 2003-2006



Roy J. Heyne, M.D.

Professor

Clinical/research expertise: Developmental follow-up of complex high-risk infants and very low birth weight, community advocacy

Research expertise: Neurodevelopmental outcomes in extremely premature infants, neurodevelopmental outcomes in neonatal hypoxic-ischemic encephalopathy

Education: Pomona College, Claremont, CA, B.A., 1970; University of Colorado School of Medicine, Denver, M.D., 1974

Post-doctoral training: St. Joseph Hospital, Denver, CO, Rotating Intern, 1974-1975; UT Southwestern/Children's, Resident, Pediatrics, 1975-1978



Gregory Jackson, M.D., M.B.A.

Professor

Clinical expertise: Newborn medicine

Research expertise: Bilirubin, infection, neonatal jaundice in hispanic infants, neonatal pneumonia, medications, chorioamnionitis-exposed infants, treatment of neonatal abstinence syndrome, hypoglycemia in the late preterm infant, impact of maternal depression and serotonin uptake inhibitors (SRI) use during pregnancy on the newborn, neonatal CMV

Education: University of Southern California, Los Angeles, B.A., 1968; Baylor College of Medicine, Houston, TX, M.D., 1972, University of North Texas, Denton, M.B.A., 1992

Post-doctoral training: Emory Affiliated Hospitals, Atlanta, GA, Resident, Pediatrics, 1972-1973; Baylor Affiliated Hospitals, Houston, TX, Resident, Pediatrics, 1973-1975

Mambarath Jaleel, M.D.

Assistant Professor

Clinical expertise: Mechanical ventilation, neonatal nutrition, neonatal resuscitation

Research expertise: Neonatal nutrition, neonatal resuscitation, implementation and impact of the institution of an electronic medical record

Education: Bangalore Medical College, Bangalore University, India, M.B.B.S., 1994

Post-doctoral training: Seth G.S. Medical College and King Edward Memorial Hospital, Mumbai, India, Resident, Pediatrics, 1995-1998; Canberra Clinical School, University of Sydney, Australia, Fellow, Neonatology, 1998-2000; Women and Infants Hospital, Brown Medical School, Providence, RI, Fellow, Neonatal-Perinatal Medicine, 2001-2004; Children's Hospital at Monmouth Medical Center, Monmouth, NJ, Resident, Pediatrics, 2005-2006



Sunjun Kang, M.D.

Clinical Assistant Professor

Clinical expertise: Mechanical ventilation, neonatal nutrition, community advocacy, fellow education

Education: UT Austin, B.B.A., 1985; Ohio State University College of Medicine, Columbus, M.D., 1989

Post-doctoral training: UT Health Science Center at San Antonio, Resident, Pediatrics, 1989-1992; Brown University, Providence, RI, Fellow, Neonatal-Perinatal Medicine, 1992-1995



Rodica Catrinel Marinescu, M.D.

Assistant Professor

Clinical expertise: Pulmonary hypertension, neonatal cardiac disease, ECMO

Research expertise: Mechanisms of angiogenesis and alveolar development

Education: Universitatea De Medicina-Farmacia, Bucharest, Romania, M.D., 1994.

Post-doctoral training: Thomas Jefferson University, Philadelphia, PA, Research Fellow, Human Genetics, 2001-2002; Albert Einstein Medical Center, Philadelphia, PA, Resident, Pediatrics, 2002-2003; Drexel College of Medicine/St. Christopher's Hospital for Children, Philadelphia, PA, Resident, Pediatrics, 2003-2005; Children's Hospital, Philadelphia, PA, Fellow, Neonatology, 2005-2006; UT Southwestern, Fellow, Neonatology, 2006-2008



Laura McClendon, M.D.

Assistant Professor

Clinical/research expertise: Newborn medicine, resident and medical student education

Research expertise: Newborn medicine

Education: Texas A&M University, College Station, B.A., *cum laude*, 1999; UT Medical Branch at Galveston, M.D., 2006

Post-doctoral training: UT Southwestern/Children's, Resident, Pediatrics, 2006-2009



UT Southwestern faculty are consistently highly rated for teaching excellence by medical students, residents and fellows.



Donald McCurnin, M.D.

Professor, Pediatrics and Cardiology
Medical Director, NICU

Clinical/research expertise: ECMO, congenital heart diseases, transport, pulmonary hypertension, severe BPD

Research expertise: Pathogenesis of BPD, ECMO, cardiopulmonary function

Education: UT Austin, B.A., 1972; UT Health Science Center, San Antonio, M.D., 1980

Post-doctoral training: Wilford Hall, USAF Medical Center, San Antonio, TX, Resident, Pediatrics, 1980-1983, Baylor College of Medicine/Texas Children’s Hospital, Houston, TX, Fellow, Pediatric Cardiology, 1983-1985; Wilford Hall, USAF Medical Center, San Antonio, TX, Fellow, Neonatology, 1990-1993



Monica Patel M.D.

Assistant Professor

Clinical expertise: Newborn medicine, breastfeeding

Research expertise: Healthcare systems quality and process improvement, providing and increasing access to healthcare for the underserved

Education: UT Austin, B.A., 1999; Baylor College of Medicine, Houston, TX, M.D., 2004

Post-doctoral training: UT Southwestern/Children’s, Resident, Pediatrics, 2003-2006



Eneysis Pena, M.D.

Assistant Professor

Clinical expertise: Neonatal critical care

Research expertise: Swallowing and gastrointestinal motility

Education: Universidad Nacional Pedro Henriquez Urena, School of Medicine, Santo Domingo, Dominican Republic, Pre-med, 1990-1996; Universidad Iberoamericana, School of Medicine, Santo Domingo, Dominican Republic, M.D. Internship, 1996-1998

Post-doctoral training: West Virginia University School of Medicine, Charleston Area Medical Center, Intern, Pediatrics, 2002-2003; Resident, Pediatrics, 2002-2003; Ohio State University College of Medicine and Public Health, Columbus Children’s Hospital, Fellow, Neonatal-Perinatal Medicine, 2005-2008



Susan Raff, M.D.

Assistant Professor

Clinical expertise: Newborn medicine, implementation of electronic medical record

Research expertise: Neonatal pharmacokinetic studies, neonatal hypoglycemia

Education: UT Austin, B.A., 2000; UT Medical Branch at Galveston, M.D., 2004

Post-doctoral training: UT Southwestern/Children’s, Resident, Pediatrics, 2004-2007

Research funding for Neonatal-Perinatal Medicine exceeded \$1.75 million for 2008-2009. One of the more than eight NIH-supported grants within the division has been continuously funded for more than 30 years.

Charles R. Rosenfeld, M.D.

Professor, Pediatrics, Anesthesiology and Pain Management, and Obstetrics and Gynecology

George L. MacGregor Professorship in Pediatrics

Clinical expertise: Fetal growth restriction, PDA, neonatal nutrition, blood pressure regulation

Research expertise: Mechanisms modulating uteroplacental blood flow, development of the renin-angiotensin system, cardiovascular role of estrogen in pregnancy, blood pressure regulation before and after birth, natural history and treatment of patent ductus arteriosus, fetal and neonatal origins of metabolic syndrome

Education: Emory University, Atlanta, GA, M.D., 1966

Post-doctoral training: Yale-New Haven Medical Center, CT, Resident, Pediatrics, 1966-1967; Bronx Municipal Hospital Center and Albert Einstein College of Medicine, New York, NY, Resident, Pediatrics, 1967-1970; Fellow, Pediatric Pulmonary Medicine, 1970-1971; University of Colorado Medical Center, Denver, Fellow, Neonatal-Perinatal Medicine, 1971-1973



Pablo J. Sánchez, M.D.

Professor

Clinical/research expertise: Neonatal and congenital infections

Research expertise: Neonatal Research Network and other multicenter trials, pharmacology & pharmacokinetic studies in neonates, congenital syphilis and CMV infection, RSV prophylaxis

Education: Seton Hall University, South Orange, NJ, B.S., 1997; University of Pittsburgh School of Medicine, PA, M.D., 1981

Post-doctoral training: Children's Hospital of Pittsburgh, PA, Resident, Pediatrics, 1981-1984; Columbia-Presbyterian Medical Center, New York, NY, Fellow, Neonatology, 1984-1986; UT Southwestern, Fellow, Pediatric Infectious Disease, 1986-1988



Joseph Schneider, M.D., M.B.A.

Clinical Assistant Professor

Clinical expertise: Newborn medicine, clinical informatics, post-NICU transitional care

Research expertise: Electronic medical records, bioinformatics

Education: St. Joseph's College, Philadelphia, PA, B.S., 1974; Columbia University, New York, NY, M.B.A., 1977; Emory University School of Medicine, Atlanta, GA, M.D., 1995

Post-doctoral training: Baylor College of Medicine, Houston, TX, Resident, Pediatrics, 1995-1998; National Library of Medicine, Marine Biological Laboratory, Woods Hole, MA, Fellow, Medical Informatics, 2005



Dorothy Sendelbach, M.D.

Associate Professor

Clinical expertise: Newborn medicine, breast feeding, neonatal jaundice in hispanic infants, newborn nutrition

Research expertise: Newborn effects of chorioamnionitis, antibiotic treatment of term newborns, noninvasive bilirubin measurements, treatment of neonatal abstinence syndrome, hypoglycemia in the late preterm infant, impact of maternal depression and SRI use during pregnancy on the newborn, neonatal CMV

Education: Rutgers College of Engineering, Piscataway, NJ, B.S., 1978; New Jersey Medical School, Newark, M.D., 1982

Post-doctoral training: UT Southwestern/Children's, Resident, Pediatrics, 1982-1985





Philip W. Shaul, M.D.

Professor

Director, Division of Pulmonary and Vascular Biology

Low Foundation Professorship in Pediatric Critical Care Research

Clinical expertise: Neonatal-perinatal medicine

Research expertise: Caveolae-lipid rafts, membrane-associated estrogen receptors, nitric oxide synthase, scavenger receptor class B-Type I (HDL receptor) and signaling by C-reactive protein

Education: Dartmouth College, Hanover, NH, B.A., 1977; University of Cincinnati, OH, M.D., 1981

Post-doctoral training: Children's Medical Center of Cincinnati, University of Cincinnati, OH, Resident, Pediatrics, 1981-1984, Women and Infants Hospital of Rhode Island, Brown University, Providence, Fellow, Neonatal-Perinatal Medicine, 1984-1986



Julide Sisman, M.D.

Assistant Professor

Clinical expertise: Neonatal neurology, hypoxic-ischemic encephalopathy

Research expertise: Neurodevelopment of preterm infants, a-EEG

Education: Istanbul University, Istanbul Faculty of Medicine, Turkey, M.D., 1993

Post-doctoral training: University of Alabama at Birmingham, Fellow, Neonatology, 2000-2001; Albert Einstein College of Medicine/Montefiore Medical Center, NY, Fellow, Neonatology, 2001-2003; Albany Medical Center, NY, Resident, Pediatrics, 2003-2005; Chief Resident, Pediatrics, 2005-2006



Elizabeth Stehel, M.D.

Assistant Professor

Clinical expertise: Newborn medicine, breastfeeding, resident and medical student education

Research expertise: Neonatal CMV, HIV infection, neonatal hypocalcemia, pulse oximetry screening, neonatal jaundice in Hispanic infants, treatment of neonatal abstinence syndrome, hypoglycemia in the late preterm infant, impact of maternal depression and serotonin reuptake inhibitor use during pregnancy on the newborn

Education: University of California-San Diego, B.S., 1993; UT Southwestern, M.D., 1997

Post-doctoral training: UT Southwestern/Children's, Resident, Pediatrics, 1997-2000



Myra H. Wyckoff, M.D.

Assistant Professor

Clinical expertise: Asphyxia, newborn cardiopulmonary resuscitation, resident education

Research expertise: Neonatal resuscitation, non-invasive monitoring, temperature stabilization in the delivery room, hemodynamics and optimization of cardiopulmonary resuscitation (CPR) using a neonatal piglet model and clinical trials, optimization of training of competent medical providers in neonatal resuscitation

Education: Trinity University, San Antonio, TX, B.S., 1990; UT Southwestern, M.D., 1994

Post-doctoral training: UT Southwestern/Children's, Resident, Pediatrics, 1994-1997; UT Southwestern, Fellow, Neonatal-Perinatal Medicine, 1997-2000

Post-doctoral Fellows and Clinical/Research Staff

Fellows (Research Interests)

Completed June 2009

LaKeitha R. Foster, M.D.

- Progesterone receptors during parturition; Dr. Carole Mendelson, Mentor

Liaqat H. Khan, M.D.

- Changes in potassium channel expression and their distribution in the uteroplacental vasculature during ovine pregnancy; Dr. Charles Rosenfeld, Mentor

David Lam, M.D.

- Toll-like receptor 2, TGF β and the regulation of inflammation; Dr. Rashmn Savani, Mentor

3rd Year

Katherine Bennett, M.D.

- Ephrin B2 and Eph B4 receptors in lung development; Dr. Margaret Schwarz, Mentor

Lilian Teng St. John, M.D.

- Effectiveness of plastic head covering for hypothermia prevention in premature newborns; Dr. Myra Wyckoff, Mentor

Nathan C. Sundgren, M.D., Ph.D.

- Fc gamma receptor I signaling in CRP induced hypertension; Dr. Philip Shaul, Mentor

2nd Year

Maria Afanador, M.D.

- Ephrin B2 in lung development; Dr. Margaret Schwarz, Mentor

Tara DuPont, M.D.

- Total body cooling and Hypoxic Ischemic Encephalopathy; Dr. Myra Wyckoff, Mentor

Natalie Frost, M.D.

- Estrogen Receptor β and neonatal alveolarization; Dr. Philip Shaul, Mentor

Vishal Kapadia, M.D.

- Oxidative stress in preterm infants resuscitated with either 21% or 100% oxygen; Dr. Myra Wyckoff, Mentor

John Sparks, M.D.

- Optimum chest compression to breaths in neonatal resuscitation using a piglet model; Dr. Myra Wyckoff, Mentor



1st Year

Joshua Frankfurt, M.D.

- Biomarkers of aberrant blood pressure regulation in VLBWs; Dr. Charles Rosenfeld, Mentor

Jenita Jeyaraj, M.D.

- Hyperoxia, RHAMM and neonatal alveolarization; Dr. Rashmn Savani, Mentor

Jacklyn LeVan, D.O.

- Influence of clinical trials on clinical practice in non-enrolled patients; Dr. Luc Brion, Mentor

Michel Mikhael, M.D.

- Studies of HPI axis in infants undergoing cardiac surgery; Drs. Donald McCurnin and Charles Rosenfeld, Mentors

The success of the research endeavors of the Neonatal-Perinatal Medicine fellowship are highlighted by the fact that four current fellows have been successful in obtaining intra- and extra-mural funding during 2008-2009.

Nathan C. Sundgren, M.D., Ph.D.

- Physician Scientist Training Program, UT Southwestern, 2008-2011

Katherine Bennett, M.D.

- Klaus Perinatal Research Award from the American Academy of Pediatrics, Section on Perinatal Pediatrics, 2008-2009, "The Role of Ephrin B2 Reverse Signaling in Lung Morphogenesis," \$5,000 (2009-2010)

Natalie Frost, M.D.

- Ikaria: Advancing Newborn Medicine Grant Program, "Estrogen and Estrogen Receptor Modulation of BPD," \$10,000 (2009-2010)

Lilian Teng St. John, M.D.

- NRP Research Grant and Young Investigator Award, "Effectiveness of Plastic-Lined Hats for the Prevention of Hypothermia in Premature Newborns," \$10,000 (2008-2010)

Clinical/Research Staff

Research Nurses

Cathy Boatman, RN
Jeannette Burchfield, RN
Lucie Christie, RN

Alicia Guzman, RN
Melissa Leps, RN
Nancy Miller, RN

Janet Morgan, RN
Lizette Torres, RN

Research Staff

Anupama Aditham, M.S.
Research Associate
Rajihha Alsaadi, M.S.
Sr. Research Associate
Naeun Cheong, Ph.D.
Sr. Research Scientist
Kevin DeSpain
Research Assistant I

Damien Garcia
Research Technician II
Jie Liao, Ph.D.
Sr. Research Associate
Xiao-Tie Liu, Ph.D.
Sr. Research Associate
Jason Mitchell
Research Technician I

Timothy Roy
Research Assistant II
Jessica Sontoyo
Lab Technical Assistant
Sergio David Sosa
Research Assistant I

Research Activities

The division is engaged in a broad spectrum of research activity, including basic, translational and clinical projects. Basic science projects are focused on cellular and molecular regulation of nitric oxide and other vasodilators, endothelial cell biology with respect to cardiovascular and pulmonary development and disease, mechanisms regulating uteroplacental blood flow in pregnancy, mechanisms regulating blood pressure before and after birth, pathogenesis of inflammation and lung injury in animal models, and extracellular matrix regulation of cell migration and proliferation.

Translational projects include animal models of bronchopulmonary dysplasia, genetic surfactant deficiency, and neonatal resuscitation. Clinical research projects include studies conducted through the collaborative projects conducted by the Neonatal Research Network consisting of 18 institutions in North America, sponsored by National Institute of Child Health and Human Development (NICHD). The division has been a participating member of this network since its inception in 1986. Other national collaborative studies include the role of CMV infection in hearing loss and strategies to prevent this long-term disability, as well as pharmacokinetic studies in neonates.

General neonatal projects include the natural history and diagnosis of patent ductus arteriosus, optimization of resuscitation and stabilization of the newborn in the delivery room including temperature stabilization, oxygen use and cardiac compressions, the effect of gentamicin on hypocalcaemia in the newborn, role of glucocorticoids and vasopressors in the regulation of blood pressure in very low birth weight neonates, approaches to treatment and prevention of infection in the newborn, the effects of very low birth weight on blood pressure regulation at 1 to 3 years, and studies of the recognition and prevention of hyperbilirubinemia in neonates.

Clinical projects in the division are facilitated by the comprehensive databases that are maintained in each area of the division's activities including resuscitation, NBN, both NICUs as well as the Follow Up Clinic.



Research funding exceeded \$1.75 million for the fiscal year. There are more than eight NIH-supported grants within the division, one which has been continuously funded for more than 30 years. Other sources of funding include an endowed chair and two professorships awarded by UT Southwestern, as well as smaller foundation and pharmaceutical company research grants.

Clinical Activities

Parkland Memorial Hospital

Neonatal-Perinatal Medicine faculty participated in the care of more than 1,300 neonates admitted to the NICU, as well as an additional 14,500 neonates admitted to the NBN at Parkland. Continued close collaboration with the faculty and fellows in the Maternal-Fetal Medicine Division in the Department of Obstetrics and Gynecology ensures optimal delivery plans for at-risk pregnancies. Despite this high-risk delivery service, adjusted neonatal mortality remains less than four per 1,000 live births and outcomes compare extremely favorably to benchmark institutions nationwide. Faculty, fellows, advanced practice nurses (APN) and residents provide integrated neonatal care at three levels of acuity in a 100-bed NICU. The Resuscitation Program, directed by Dr. Myra Wyckoff, provides a coordinated multidisciplinary team attendance at high-risk deliveries. Comprehensive electronic databases have been actively in use for more than 25 years for the NICU and for over fifteen years in the Resuscitation Program.

Children's Medical Center

This academic year saw the completion of the state-of-the-art new 36-bed NICU in Tower D at Children's, which opened in July 2009. The unit was opened with 19 beds and runs an average daily census of 15. This unit has bolstered the strengths of the campus program in Neonatal-Perinatal Medicine, and has seen referrals from within the Dallas/Fort Worth Metroplex and throughout North Texas and beyond. The unit cares for infants with complex medical and surgical problems, and those with special metabolic, cardiac or surgical conditions transferred from other hospitals for a higher level of care. The mortality for these extremely sick infants is less than 6 percent. Continued growth is anticipated, and neonatologists, neonatal nursing and APN recruitment is ongoing. An electronic database has already been established for the NICU at Children's. The division also joined the Children's Hospitals Neonatal Database, and plans to optimize database collection are ongoing.

Low Birth Weight Clinic and Follow-up Program

The division also participates in the Low Birth Weight Clinic located at Children's, a part of the ARCH (At Risk Children) Center, generously funded through the Crystal Charity Ball. Babies who were severely premature (<1500 gm birth weight), or who had specific chronic neonatal disorders of the brain, lungs, or intestines, can be followed through this clinic.

The Low Birth Weight Clinic celebrated 30 years of service in 2009. In 1979 Elizabeth Heyne, PA-C, started the clinic and Dr. Roy Heyne agreed to provide physician backup on a volunteer basis. He now serves as the Medical Director of the Low Birth Weight Clinic, which sees an average of 550 to 600 patients each year, 170 of those being new patients. Each one is followed by the clinic for the first three years of life, through the early stages of chronic diseases and neurodevelopment.

Dr. Roy Heyne, advanced practitioners, and other healthcare professionals provide comprehensive medical and psychosocial treatment through intensive intervention, education, social services, and developmental testing for these potentially vulnerable babies. An electronic database of these patients has been in existence for more than 10 years and this program is integral to the NICHD Neonatal Network.



Presentations/Teaching Activities

Division faculty play prominent roles in the educational activities within the School of Medicine, the Department of Pediatrics, the Division of Neonatal-Perinatal Medicine, and Maternal-Fetal Medicine in the Department of Obstetrics and Gynecology. The goals of these programs are to facilitate the understanding of the problems associated with normal and high-risk pregnancies and to prepare trainees for careers in General Pediatrics, Obstetrics and Gynecology, Maternal-Fetal Medicine and Neonatal-Perinatal Medicine.

Teaching within multiple programs at UT Southwestern Medical School includes "Introduction to Clinical Medicine," a sophomore medical student course, the introductory course on "Human Biology and Disease" in the Integrative Biology Graduate Program, and the "Clinical Pathology Lecture Series" for residents in the Department of Pathology.

Under the supervision of faculty with expertise in resuscitation, third-year pediatric residents are assigned to the Resuscitation Team in Labor and Delivery, where they are recertified in the Neonatal Resuscitation Program, participate in the care of term newborns, and assist in the triage and initial care of sick term and premature neonates. The first- and second-year residents are directly involved in the daily care of preterm and term infants in the Parkland NICU. The goals of these experiences are to provide residents the opportunity to acquire skills in resuscitation and stabilization of the newborn, recognition of the sick neonate, a common requirement of the general pediatrician outside major urban areas, and how to provide the initial care of the sick and preterm neonate prior to transfer to a tertiary care facility.

The fellowship training program in Neonatal-Perinatal Medicine was developed by Dr. Charles Rosenfeld using guidelines of the American Academy of Pediatrics, the American Board of Pediatrics (ABP), and the Organization of Neonatal-Perinatal Training Program Directors. Fully accredited through 2013 by the

Accreditation Council for Graduate Medical Education (ACGME), the three-year training program in Neonatal-Perinatal Medicine, now under the direction of Dr. Luc Brion, Program Director, has continued to flourish. A new experience for fellowship trainees in “Life After Fellowship” has been developed, which provides exposure to various career paths in neonatology, financial and organizational models, and opportunities for unique experiences to be discussed.

Trainees in this program not only improve their skills as clinicians and teachers, but also develop their experience in basic and clinical research. Half of the 49 program graduates since 1980 chose a career in academic neonatology and half are in clinical practice, both in the United States and abroad. To date, 95 percent of graduates have published at least one manuscript from their research work during this fellowship, and fellows have enjoyed a 95 percent success rate on the American Board of Pediatrics’ Neonatal-Perinatal sub-board examination.

Rashmin C. Savani, M.B.,Ch.B.

- “Does Inflammation Play a Role in the Development of Chronic Lung Disease?” American Academy of Pediatrics NCE Meeting, Washington, DC, October 2008
- “Role of Hyaluronan and Its Receptors in Angiogenesis and Alveolarization,” Glyco XX, San Juan, Puerto Rico, November 2009

Susan Bacsik, D.O.

- “What’s in a Doctor’s Bag?” The Kessler School, Dallas, TX, September 2008
- “H1N1 Influenza,” Rosemont Early Childhood Parent Teacher Association Monthly Meeting, Dallas, TX, September 2009

Lina Chalak, M.D.

- DuPont TL, Chalak LF, Morriss M, Heyne R, Wyckoff M, Wang JZ, Burchfield J, Miller N, Morgan J, Boatman C, Salhab WA, Sanchez PJ, “Implementation of Systemic Hypothermia for Hypoxic-Ischemic Encephalopathy (HIE): What’s the Outcome?” Pediatric Academic Societies Meeting, Baltimore, MD, May 2009 (poster presentation)

Luc P. Brion, M.D.

- Brion LP, Wyckoff MH, “Association of Congenital Heart Disease (CHD) With Mortality and Morbidity in Preterm Infants,” Pediatric Academic Societies Meeting, Baltimore, MD, May 2009 (poster presentation)
- Sparks JE, Jaleel MA, Christie L, Brion LP, Wyckoff MH, “The Art and Science of Resuscitation,” Perinatal and Developmental Medicine Symposium, Marco Island, FL, November 2009

William D. Engle, M.D.

- Hoyer A, Longenecker L, Jackson GL, Engle WD, “Measurement of the Anterior Fontanel in Term and Late Preterm Hispanic Neonates: Description of Normal Measurements and an Alternative Measurement Method,” Pediatric Academic Societies Meeting, Baltimore, MD, May 2009 (poster presentation)
- Raff SA, Jackson GL, Nguyen R, Engle WD, “Hypoglycemia (H) in Late Preterm Neonates (LPN),” Pediatric Academic Societies Meeting, Baltimore, MD, May 2009 (poster presentation)

Mambarath Jaleel, M.D.

- Jaleel MA, Muhammad R, Wheeler C, “Neonatal Nomads: Collaborative Neonatal Epic Implementation Across Multiple Institutions,” Epic Users’ Group Meeting, Madison, WI, September 2009

Charles R. Rosenfeld, M.D.

- Khan LH, Liu X, Magness RR, Rosenfeld CR, “The cGMP-PKG-dependent Pathway and Large Conductance Ca²⁺-activated K⁺ Channels (BKCa) Are Up-regulated in Uterine Artery Smooth Muscle (UASM) During the Ovine Ovarian Cycle (OC),” Society for Gynecologic Investigation 2009 Annual Meeting, Glasgow, Scotland, March 2009
- Rosenfeld CR, DeSpain K, Liu X, “Uterine Artery (UA) Large Conductance Ca²⁺-Activated K⁺ Channels (BKCa) Contribute to Attenuated Adrenergic Responses and Nitric Oxide (NO)-Mediated Relaxation in the Last Two-thirds of Ovine Pregnancy,” Society for Gynecologic Investigation 2009 Annual Meeting, Glasgow, Scotland, March 2009 (poster presentation)

Pablo J. Sánchez, M.D.

- “Congenital CMV Infection: Time to Act (Grand Rounds),” “Neonatal Sepsis: The Use and Abuse of Empirical Antibiotic Therapy” and “Ureaplasma and Mycoplasma Colonization/Infection: What’s the Evidence Towards Investigation and Treatment?” McMaster University, Hamilton, Canada, September 2008
- Benjamin Jr DK, Smith PB, Arrieta A, Castro L, Sanchez P, Kaufman D, Arnold L, Kovanda L, Sawamoto T, Buell DN, Hope WW, Walsh TJ, “(PPRU) Safety and Pharmacokinetics (PK) of Repeat-Dose Micafungin (MICA) in Neonates,” 48th Annual Interscience Conference on Antimicrobial Agents and Chemotherapy (ICAAC) / 44th Annual Meeting of the Infectious Diseases Society of America (IDSA), Washington, DC, October 2008 (poster presentation)
- Chung WM, Gonzales M, Sheffield J, Wendel GD, Mayfield J, Carlo J, Sanchez PJ, “Recent Trends in Reported Infectious Syphilis in Women and Infants in Dallas County,” 48th Annual Interscience Conference on Antimicrobial Agents and Chemotherapy (ICAAC) / 44th Annual Meeting of the Infectious Diseases Society of America (IDSA), Washington, DC, October 2008 (poster presentation)
- “Nursery-Associated Infections: We Can Do Better!” Thomas Pauly Excellence in Neonatology Lectureship, Pediatric Grand Rounds, and “Fungal Prophylaxis in the NICU: What is the Evidence?” Research Dinner, University of Kentucky, Lexington, October 2008
- “Congenital Infections: What the Pediatrician Should Know!” 2nd Annual Neonatology Conference at Scott and White, “Current Concepts and Footsteps for the Future,” Temple, TX, November 2008
- Evans A, Mejias A, Cooper T, Gomez A, Sanchez PJ, “Acyclovir-Induced Nephrotoxicity: A Case Report,” St. Jude/PIDS Pediatric Microbial Research Conference, Memphis, TN, February 2009 (poster presentation)
- “Manejo del recién nacido con diagnóstico presuntivo de sífilis,” “Infección por citomegalovirus: diagnóstico y tratamiento,” Congress on Pediatric Infectious Diseases and Vaccines, Buenos Aires, Argentina, April 2009
- Thompson TD, Goodman B, Sumner J, Patredis G, Heyne RJ, Sanchez PJ, “Rotavirus Vaccination of Very-Low-Birth-Weight (VLBW) Infants at Nursery Discharge: Is Another Strategy Needed?” Pediatric Academic Societies Meeting, Baltimore, MD, May 2009 (poster presentation)
- Wharton M, Talley D, Gard J, Chang Y, Jaiswal A, Sanchez PJ, and NICU Infection Control Committee, “Influenza Immunization of Infant Contacts in the Neonatal Intensive Care Unit (NICU): It Can Be Done!” Pediatric Academic Societies Meeting, Baltimore, MD, May 2009 (poster presentation)
- Benjamin Jr DK, Smith PB, Arrieta A, Castro L, Sanchez PJ, Kaufman D, Arnold L, Kovanda L, Sawamoto T, Buell DN, Hope WW, Walsh TJ, “Safety and Pharmacokinetics of Repeat-Dose Micafungin in Neonates and Young Infants,” Pediatric Academic Societies Meeting, Baltimore, MD, May 2009 (poster presentation)
- Boppana S, Ross S, Novak Z, Shimura M, Britt W, Tolan R, Palmer A, Ahmed A, Michaels M, Sanchez P, Bernstein D, Fowler K, “Utility of Dried Blood Spot PCR to Screen Newborns for Congenital CMV Infection,” Pediatric Academic Societies Meeting, Baltimore, MD, May 2009 (platform presentation)
- DuPont TL, Chalak LF, Morriss M, Heyne R, Wyckoff M, Wang JZ, Burchfield J, Miller N, Morgan J, Boatman C, Salhab WA, Sanchez PJ, “Implementation of Systemic Hypothermia for Hypoxic-Ischemic Encephalopathy (HIE): What’s the Outcome?” Pediatric Academic Societies Meeting, Baltimore, MD, May 2009 (poster presentation)
- “Congenital Syphilis: Current Guidelines for Treatment in the Developed vs. Developing World, Congenital Syphilis-A public Health Issue of Concern: Focus on Latin America,” Center for Global Health, Albany, NY, May 2009
- “Congenital CMV Infection and Hearing Loss: What Can We Do?” 2nd Annual Current Topics in Congenital Hearing Impairment, and “Impact of Cytomegalovirus Infection on Neonatal Health,” NeoForum 2009, MidAtlantic Neonatology Associates, Morristown, NJ, June 2009
- “Neonatal Infections,” Advanced Neonatal Nursing Course, UT Arlington, School of Nursing, September 2009
- Boppana SB, Ross SA, Novak Z, Chowdhury N, Palmer A, Ahmed A, Michaels M, Sanchez P, Bernstein D, Tolan R, Fowler KB, “Saliva PCR for Newborn Screening,” 47th Annual Meeting of the Infectious Diseases Society of America (IDSA), Philadelphia, PA, October 2009

- Ross S, Fowler K, Novak Z, Chowdhury N, Ahmed A, Michaels M, Sanchez P, Bernstein D, Tolan R, Palmer A, Boppana S, “Utility of Direct Real-Time PCR on Newborn Urine to Detect and Quantify Cytomegalovirus,” 47th Annual Meeting of the Infectious Diseases Society of America (IDSA), Philadelphia, PA, October 2009 (poster presentation)
- Evans AS, Mejias A, Cooper T, Sanchez PJ, “Acyclovir-Associated Renal Dysfunction on Children,” 47th Annual Meeting of the Infectious Diseases Society of America (IDSA), Philadelphia, PA, October 2009 (poster presentation)
- Kimberlin D, Acosta E, Sanchez P, Ampofo K, Vanchiere J, Englund J, Sood S, Lang D, Caserta M, Abzug M, Abughali N, Michaels M, Spigarelli M, Wan W, Jester P, Griffin J, Whitley R, for NIAID Collaborative Antiviral Study Group (CASG), “Oseltamivir Pharmacokinetics (PK) in Infants: Interim Results From Multicenter Trial,” 47th Annual Meeting of The Infectious Diseases Society of America (IDSA), Philadelphia, PA, October 2009
- “Congenital Syphilis,” “Fungal Infections and Prophylaxis” and “Neonatal Infections and Ureaplasma,” XIII Seminario Internacional: Avances en Pediatría Neonatal, Universidad Católica de Chile, Santiago, Chile, October 2009
- “Sífilis congénita, siempre vigente,” “Infecciones por hongos y profilaxis,” “Infección neonatal por Ureaplasma,” XIII Seminario Internacional “Avances en Pediatría Neonatal,” Pontificia Universidad Católica de Chile, Santiago, Chile, October 2009
- “CMV Infection in Neonates: Is There A Treatment?” International Conference on Clinical Neonatology, Turin, Italy, November 2009

Myra Wyckoff, M.D.

- “Chest Compressions and Medications During Delivery Room Resuscitation: Current Controversies,” Pediatric Grand Rounds, University of Oklahoma, Norman, February 2009
- “Epinephrine During Neonatal Cardiopulmonary Resuscitation: Evidence and Practice,” Experts in Resuscitation Symposium, Parkland Health & Hospital System, Dallas, TX, March 2009
- “Two Thumb Versus Two Finger Method for Neonatal Cardiac Compressions,” Pediatric Grand Rounds, UT Southwestern, June 2009
- Brion LP, Wyckoff MH, “Association of Congenital Heart Disease (CHD) With Mortality and Morbidity in Preterm Infants,” Pediatric Academic Societies Meeting, Baltimore, MD, May 2009 (poster presentation)
- Dannevig I, Solevag AL, Wyckoff MH, Saugstad OD, Nakstad B, “Extended Series of Cardiac Compressions During CPR in a Piglet Model of Perinatal Asphyxia” and “Delayed Onset of Cardiac Compressions During CPR in a Piglet Model of Perinatal Asphyxia,” Pediatric Academic Societies Meeting, Baltimore, MD, May 2009 (poster presentations)
- Christman C, Hemway RJ, Wyckoff MH, Perlman JM, “The Two Thumb is Superior to the Two Finger Method of Administering Chest Compressions,” Pediatric Academic Societies Meeting, Baltimore, MD, May 2009
- “What’s New with Oxygen, Pulse Oximetry, Etc.” and “Basic Simulation Set-Up, Facilitation and Debriefing Workshop,” NRP Current Issues Seminar: The Recipe for Success-Co-Chair, 2009 NCE AAP, Washington DC, Oct 2009
- “Critical Hemodynamics of Neonatal CPR” and “Impact of Delivery Room CPR on the Outcome of Preterm Infants,” 75th Perinatal and Developmental Medicine Symposium, Marco Island, FL, November 2009



Major Administrative or Leadership Responsibilities

Rashmin C. Savani, M.B.,Ch.B.

- Director, Division of Neonatal-Perinatal Medicine, UT Southwestern
- Associate Director, Division of Pulmonary and Vascular Biology, UT Southwestern
- Chief of Service, Pediatrics and Neonatal-Perinatal Medicine, Parkland
- Chief of Service, Neonatal-Perinatal Medicine, Children's
- Member, Editorial Board, *Journal of Biological Chemistry* and *American Journal of Physiology-Lung Cell and Molecular Physiology*
- Member, Consulting Editorial Board, *Journal of Clinical Investigation*

Luc P. Brion, M.D.

- Director, Fellowship Training Program in Neonatal-Perinatal Medicine
- Council Member, Organization of Neonatal-Perinatal Medicine Program Directors
- Member, Editorial Board, *Journal of Perinatology*
- Co-director, Life After Fellowship Series, UT Southwestern
- Co-director, Neonatal-Perinatal Evidence-Based Medicine Course, UT Southwestern
- Member, Cochran Collaboration

Lina Chalak, M.D.

- Director, Fellows Mortality and Morbidity Conference, UT Southwestern
- Co-director, Neonatal-Perinatal Evidence-Based Medicine Course, UT Southwestern
- Co-director, Neonatal-Perinatal Resuscitation Conference, UT Southwestern

William D. Engle, M.D.

- Representative, Faculty Senate, UT Southwestern
- Co-leader, EPIC Development and Implementation
- Divisional Billing Compliance Officer

Roy J. Heyne, M.D.

- Medical Director, Low Birth Weight Clinic
- Medical Director, Quality Resource Management, Children's
- Vice President, Board of Directors, Low Birth Weight Development Center
- Chair, Finance Committee, Low Birth Weight Development Center
- Chair, Quality Patient Safety, Children's
- Chair, Quality Review, Children's
- Chair, Clinical Resource Management, Children's

Gregory L. Jackson, M.D., M.B.A

- Co-director, Newborn Nursery, Parkland

Mambarath Jaleel, M.D.

- Medical Director, Parkland NNICU
- Chairman, Parkland Neonatal ICU Joint Practice Committee
- Member, National Perinatal Information Center (NPIC) Quality Improvement Committee
- Medical Director, Neonatal Nurse Practitioner Program
- Medical Director, Campus-wide Epic Systems Applications (Electronic Medical Records) Implementation for Division of Neonatal-Perinatal Medicine

Charles R. Rosenfeld, M.D.

- Director, Neonatal Fellows' Physiology Course
- Director, Pediatric Departments Core Curriculum for Subspecialty Fellows
- Associate Editor, *Reproductive Sciences*
- Associate Editor, *Early Human Development*

Pablo J. Sánchez, M.D.

- Chair, Committee of Infectious Diseases and Immunizations, Texas Pediatric Society
- Member, Editorial Advisory Board, *Infectious Diseases in Children*
- Member, Vaccines and Related Biological Products Advisory Committee (VRBPAC), Food and Drug Administration (FDA)
- Member, NICHD Pediatrics (CHHD-A) Subcommittee Review Panel
- Member, Nominating Committee, Society for Pediatric Research
- Collaborator, (Syphilis), 2009 Red Book: Report of the Committee on Infectious Diseases, American Academy of Pediatrics

Dorothy Sendelbach, M.D.

- Co-Director, Newborn Nursery, Parkland
- Associate Program Director, Pediatric Residency Program, UT Southwestern/Children's
- Academic College Mentor, UT Southwestern

Philip W. Shaul, M.D.

- Director, Division of Pulmonary and Vascular Biology, UT Southwestern
- Member, Steering Committee, Medical Scientist Training Program, Southwestern Medical School, Southwestern Graduate School of Biomedical Sciences
- Member, Steering Committee, University Lecture Series, UT Southwestern
- Member, IB Qualifying Exam Committees
- Member, Ph.D. Thesis Committees

Elizabeth Stehel, M.D.

- Academic College Mentor, UT Southwestern

Myra Wyckoff, M.D.

- Director, Newborn Resuscitation Services, Parkland
- Director, Neonatal-Perinatal Resuscitation Conference
- Member, Neonatal Resuscitation Program Steering Committee, American Academy of Pediatrics
- Member, International Liaison Committee on Resuscitation, Neonatal Working Group, American Heart Association
- Academic Mentor, Pediatric Residency Program
- Co-director, Neonatal-Perinatal Evidence-Based Medicine Course, UT Southwestern

Awards and Honors

Luc P. Brion, M.D.

- Best Doctors in America

Lina Chalak, M.D.

- Clinical Research Scholar, Department of Clinical Sciences, UT Southwestern, 2008-2011

Charles R. Rosenfeld, M.D.

- UT Southwestern Core Clerkship Teaching Award, Acute Care Rotation, Class of 2008 for MS4

Pablo J. Sánchez, M.D.

- Best Doctors in America
- Best Pediatricians in Dallas, *D Magazine*

Dorothy Sendelbach, M.D.

- 2009 Physician of the Year, Parkland

Myra H. Wyckoff, M.D.

- UT Southwestern Core Clerkship Teaching Award, Acute Care Rotation, Class of 2009 for MS4



Michel G. Baum, M.D.
Director, Pediatric Nephrology

The Division of Pediatric Nephrology is the main provider of clinical services for children with renal disease and hypertension at Children's. The Nephrology inpatient and outpatient services, comprised of physicians, nurses and staff, are dedicated to the treatment of children with these diseases.

Specializing in all areas of renal-related diseases, including inherited renal disorders, chronic kidney disease, urinary tract infections, hypertension, tubular abnormalities, renal tubular acidosis and metabolic bone disease, Nephrology offers outstanding services and equipment that enables the division to provide state-of-the-art care. The physicians provide care to patients with end stage renal disease, and it is one of the largest pediatric hemodialysis, peritoneal dialysis and transplant programs in the United States.

There are usually six Nephrology fellows in training at a time, each being mentored in both clinical nephrology and either basic or clinical research. Several of the fellows have

been presented the Research Award given by the American Society of Pediatric Nephrology, and some are trainees of an NIH-funded training grant, one of the very few in the country. All fellows have a first-author manuscript in a leading journal by the completion of their fellowship, and most graduating trainees continue productive careers in academic medicine.

The research productivity of the Nephrology division is outstanding. Members of the division publish both clinical and basic research manuscripts in the most prestigious Nephrology journals. Division faculty have been continuously funded by the NIH for more than 20 years.

Dr. Michel Baum is the editor of Pediatric Nephrology, the journal of the International Society of Pediatric Nephrology. Members of the division are on editorial boards of Pediatric Nephrology, the American Journal of Physiology, and the Journal of the American Society of Nephrology.

Faculty

Michel G. Baum, M.D., is Professor and Director of the Pediatric Nephrology Division. He holds the Sarah M. and Charles E. Seay Chair in Pediatric Research. Dr. Baum's clinical expertise is in chronic kidney disease, dialysis, nephrotic syndrome, renal transplantation, tubular disorders and renal tubular acidosis. His research interests are centered on epithelial transport, renal development, and tubular disorders. Recent areas of study involve maturation of the Na⁺/H⁺ exchanger in the proximal tubule, fibroblast growth factor-23 and its role in phosphate wasting diseases, X-linked hypophosphatemia and the prenatal programming of adult hypertension. Dr. Baum graduated summa cum laude from the University of California at Los Angeles with a bachelor of science degree in biochemistry in 1974. He received his medical degree from UCLA in 1978 and performed his pediatric residency at Yale-New Haven Hospital from 1978 to 1981. He performed fellowships at the Children's Renal Center, University of California at San Francisco, in Pediatric Nephrology from 1981 to 1982, and at the Cardiovascular Institute, University of California at San Francisco, in Nephrology and Renal Physiology from 1982 to 1984. He has been listed as one of the Best Doctors in America from 2002 to the present and serves as a permanent member of an NIH Study Section. He is editor of Pediatric Nephrology, the journal of the International Society of Pediatric Nephrology. He has been elected to Phi Beta Kappa, Alpha Omega Alpha, the American Society for Clinical Investigation, the Association of American Physicians, the Society for Pediatric Research, and the American Pediatric Society.



Amy Becker, M.D., M.S.C.S.

Assistant Professor

Clinical expertise: Chronic kidney disease, nephrotic syndrome, end stage renal disease, kidney disease in children with inborn errors of metabolism

Research expertise: Sickle cell nephropathy

Education: Southern Methodist University, Dallas, TX, B.S., *summa cum laude*, 1995; UT Southwestern, M.D., 2000; M.S.C.S., 2009

Post-doctoral training: Cincinnati Children's Hospital Medical Center, Resident, Pediatrics, 2000-2003; UT Southwestern, Fellow, Nephrology, 2003-2006



Jyothsna Gattineni, M.D.

Assistant Professor

Clinical expertise: Chronic kidney disease, dialysis, hypertension, renal transplantation

Research expertise: Tubular transport, FGF23 and its receptors

Education: Stanley Medical College, MGR University, Chennai, Tamilnadu, India, M.B.B.S., 1994

Post-doctoral training: Driscoll's Children's Hospital, Corpus Christi, TX, Intern and Resident, Pediatrics, 2003-2005; UT Southwestern, Fellow, Pediatric Nephrology, 2005-2009



Fangming Lin, M.D., Ph.D.

Assistant Professor

Clinical expertise: Hematuria, proteinuria, renal genetics, polycystic kidney disease

Research expertise: Stem cell therapy for acute kidney injury

Education: Fujian Medical College, Fuzhou, China, M.D., 1984; New York Medical College, Valhalla, Ph.D., 1995

Post-doctoral training: Fujian Medical College Union Hospital, Fuzhou, China, Resident, Pediatrics, 1984-1988; New York University Medical Center, Resident, Pediatrics, 1995-1998; University of Washington, Seattle Children's Hospital, Fellow, Pediatric Nephrology, 1998-2001



Raymond P. Quigley, M.D.

Professor

Clinical expertise: Chronic kidney disease, end stage renal disease, dialysis, renal transplantation, tubular disorders, renal tubular acidosis

Research expertise: Development of renal water transport, effects of arachadonic acid metabolites in renal function

Education: Auburn University, Auburn, AL, B.S., 1979; University of Alabama School of Medicine, Birmingham, M.D., 1985

Post-doctoral training: UT Southwestern/Children's, Resident, Pediatrics, 1985-1988; UT Southwestern, Fellow, Pediatric Nephrology, 1988-1991

Mouin G. Seikaly, M.D.

Professor

Clinical expertise: Chronic kidney disease, dialysis, renal transplantation, metabolic bone disease in children, pediatric hypertension, pediatric renal transplant**Research expertise:** Metabolic bone disease and growth in children with chronic kidney disease, X-linked hypophosphatemia and focal segmental glomerulosclerosis (FSGS)**Education:** American University of Beirut, Lebanon, B.S.c., 1976; M.S.c, 1981**Post-doctoral training:** American University of Beirut, Resident, Pediatrics, 1980-1983; Chief Resident, Pediatrics, 1983-1984; Georgetown University Medical Center, Washington, DC, Resident, Pediatrics, 1986-1987; Fellow, Pediatric Nephrology, 1984-1986**Scott Williams, M.D.**

Assistant Professor

Clinical expertise: Chronic kidney disease, dialysis, nephritic syndrome**Research expertise:** Pathogenesis of cyst development, autosomal recessive polycystic kidney disease, understanding of the molecular regulation of kidney development**Education:** Morehouse College, Atlanta, GA, B.S., 1995; Washington University Medical School, St. Louis, MO, M.D., 1999**Post-doctoral training:** Northwestern University, Chicago, IL, Resident, Pediatrics, 1999-2002; UT Southwestern, Fellow, Pediatric Nephrology, 2002-2005**Post-doctoral Fellows and Clinical/Research Staff****Fellows (Research Interests)****Completed June 2009**

Jyothsna Gattineni, M.D.

- Regulation of phosphate transport by FGF23

3rd year

Sabeen Habib, M.D.

- Prenatal programming of hypertension

Katherine Twombly, M.D.

- Maturation of proximal tubule acidification

2nd year

Modini Vinai, M.D.

- Outcomes of renal replacement therapy

Diana Zepeda-Orozco, M.D.

- Pathogenesis of obstructive uropathy

1st year

Pamela Winterberg, M.D.

- Transplant Immunology

Matthias Wolf, M.D.

- Pathogenesis of inherited forms of hypertension
- COMMD proteins in IBD

Research Staff

Rachel Black, B.S.

Research Tech II

Sam Bradshaw, B.S.

Research Tech II

Vangipuram N. Dwarakanath, M.S.

Research Associate

Linda [Ling] Li, M.D., Ph.D.

Postdoctoral Research Fellow

Pamela G. Waber, M.S.

Research Study Coordinator

Qiuyu Zhang

Research Associate

Research Activities

Research activities of the Division of Pediatric Nephrology are aimed at understanding the pathogenesis and treatment of kidney disease in children. The kidney starts developing at 10 weeks gestation, and the full complement of nephrons is achieved at 35 weeks gestation. A healthy child is born with one million kidney units called nephrons in each kidney. However, there are diseases of the kidney that occur because of insults that happen in utero or because of inherited diseases of the kidney that result in mild to severe renal disease.

The faculty works to determine how prenatal insults result in kidney disease and hypertension in later life. They also examine inherited diseases that affect kidney development such as autosomal recessive polycystic kidney disease. Even if the kidney develops normally, it can be injured by nephrotoxic drugs or an interruption in the blood supply to the kidney that leads to acute kidney injury. The prognosis for acute kidney injury has not improved significantly over the past two decades and acute kidney injury is a major cause of chronic kidney disease.



Investigators are examining novel treatments to improve the outcome of acute kidney injury using bone marrow stem cells. Sometimes renal disease causes permanent loss of kidney function and requires extensive therapy such as dialysis. The division conducts clinical studies examining how to improve the lives of children on dialysis and improve the likelihood that a kidney transplant will be successful. Finally, there is a connection between kidney disease and debilitating bone disease. Investigators have taken basic discoveries made at the bench to clinical studies in patients with bone disease. Funding for research is provided by the NIH, the American Heart Association and Children's.

Clinical Activities

The Nephrology division at UT Southwestern is one the largest programs in the United States for the treatment of children with end stage renal disease, and the primary healthcare provider for children with end stage renal disease in North Texas. The hemodialysis unit, at which outpatient hemodialysis is performed six days a week, is a child-friendly environment that provides laptop computers to children while they are being dialyzed. The peritoneal dialysis program is staffed by devoted physicians and nurses dedicated to the families treating children with outpatient peritoneal dialysis. There is an average of 24 hemodialysis patients and 34 patients treated with home peritoneal dialysis annually. There were 27 renal transplants performed per year making ours one of the largest programs in the country.

The inpatient Pediatric Nephrology Service has a mean census of 11 patients, with all patients treated on the same floor by nurses and physicians who are dedicated to the treatment of renal disease and hypertension.

As the sole renal consultants for the intensive care services at Children's, the division performed an average of 16 acute hemodialysis treatments, 52 acute peritoneal dialysis treatments and 41 continuous venovenous hemofiltration procedures per month last year.

Dr. Baum, along with Drs. Scott Williams, Raymond Quigley, Mouin Seikaly, Amy Becker, Jyothsna Gattineni and Fangming Lin, provided the inpatient attending responsibility for the Pediatric Nephrology service over the previous 12 months. In addition to responsibility for providing consults at Children's and Parkland Memorial Hospital, with an average of 21 consults per month, the inpatient attending provides the majority of teaching for students, residents, and fellows during the month they are on service.

The Pediatric Nephrology Clinic at Children's Dallas is now in operation Monday through Friday, and clinics have been initiated at Children's Legacy. In addition to the clinical responsibilities at Children's, doctors see patients at Texas Scottish Rite Hospital for Children, where Dr. Seikaly is the Director of the Metabolic Bone Clinic.

During 2008 - 2009 there was a monthly average of 399 outpatients and 53 new consults. Over the next year, plans include expanding outpatient services to accommodate patients and the private physicians in Dallas.

Presentations/Teaching Activities

Michel Baum, M.D.

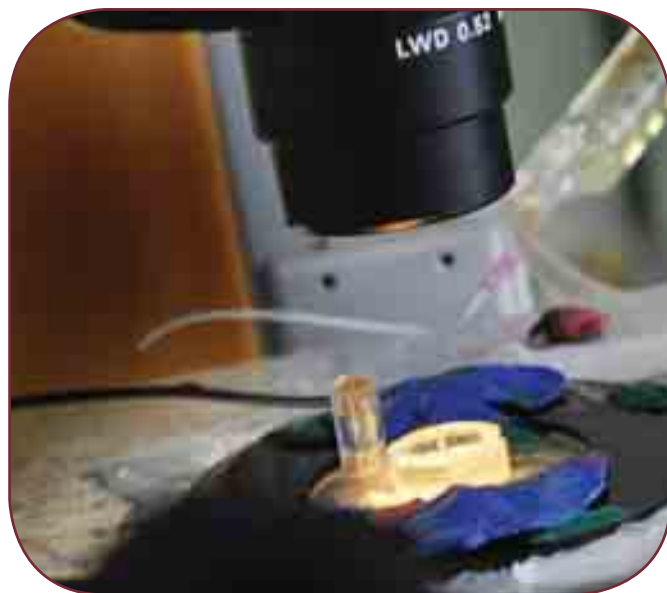
- "Prenatal Programming of Hypertension," Alan B. Gruskin Lecture, Children's Hospital of Michigan, Wayne State University, Detroit, May 2009

Fangming Lin, M.D.

- "Reprogramming of Hematopoietic Stem Cells to Treat Kidney Disease," World Congress in Regenerative Medicine and Stem Cells, Guangzhou, China, December 2008
- "Translating Stem Cell Biology to Clinical Treatment for Kidney Disease," The Chinese University of Hong Kong, China, August 2009

Mouin Seikaly, M.D.

- "Rickets in Children a Disease of the New Millennium" and "Metabolic Bone Disease in Children," 16th Annual Pediatric Conference, Corpus Christi, TX, March 2009
- "FSGS: Recurrence Post-renal Transplant," International Pediatric Transplant Association (IPTA) 5th Congress on Pediatric Transplant, Istanbul, Turkey, April 2009
- "Vitamin D Deficiency: New Concept for an Old Disease," Grand Rounds, American University of Beirut, Lebanon, April 2009
- "Growth in Children with CKD: How Well Are We Doing?," Mid-West Pediatric Nephrology Club, Detroit, MI, May 2009
- "Vitamin D Deficiency: New Concept for an Old Disease," Grand Rounds, Driscoll Children's Hospital, Corpus Christi, TX, April 2009
- "Growth in Children with CKD: How Well Are We Doing?," Driscoll Children's Hospital, Corpus Christi, TX, September 2009
- "Growth in Children with CKD: How Well Are We Doing?," Renal Division, University of Oklahoma, Oklahoma City, November 2009



Major Administrative or Leadership Responsibilities

Michel Baum, M.D.

- Director, Pediatric Nephrology
- Editor, *Pediatric Nephrology*
- Renal Editor, *Current Opinions in Pediatrics*
- Member, NIH Study NIDDK, Kidney, Urologic and Hematologic Diseases D Study Section 2009
- Abstract Reviewer, American Society of Nephrology-Acid Base Physiology
- Member, Program Directors Committee, American Society of Pediatric Nephrology
- Councillor Ex Officio, International Society of Nephrology
- Member, Renal Physiology Editorial Board, American Journal of Physiology
- Member, Promotion and Tenure Committee, UT Southwestern

Amy Becker, M.D., M.S.C.S.

- Section Editor, Urinary Tract Disorders, *Pediatric Nephrology*
- Director, Pediatric Nephrology Fellowship Program

Fangming Lin, M.D.

- Director, Animal Models Core, UT Southwestern O'Brien Kidney Research Center
- Reviewer, hESC Challenge Grants ZRG1 BDA-A, Biology of Development and Aging, NIH
- Reviewer, Challenge Grants ZRG1 DKUS-A, NIDDK, NIH
- Ad hoc Grant Application Reviewer, National Kidney Foundation-Illinois
- Member, Research Committee, American Society of Pediatric Nephrology
- Member, Basic Science Committee, National Kidney Foundation
- Co-moderator, Free Communication "Understanding the Mechanism of CKD Progression," American Society of Nephrology Annual Meeting
- Chair, World Congress in Regenerative Medicine and Stem Cells, China

Raymond Quigley, M.D.

- Member, Nephrology Sub-board, American Board of Pediatrics; Chair for 2008-2009
- Mentor, Eight Interns at Children's
- Director of Dialysis, Children's
- Associate Editor, *Pediatric Nephrology*

Mouin Seikaly, M.D.

- Director, Metabolic Bone Disease Clinic, TSRHC
- Medical Director, Renal Transplant, Children's
- Member, Participating Centers Committee (Scientific Advisory Committee), North American Pediatric Renal Transplant Cooperative Study
- Member, Pediatric Accreditation Committee, American Society of Transplant
- Abstract Reviewer, American Transplant Congress
- Member, Editorial Board, *Pediatric Nephrology*
- Member, Editorial Board, *Dialysis and Transplantation*

The Division of Nephrology at UT Southwestern is one of the largest programs for the treatment of children with end stage renal disease in the United States.

Awards and Honors

Michel Baum, M.D.

- Best Doctors in America

Amy Becker, M.D., M.S.C.S.

- Clinical Research Scholar, Department of Clinical Sciences, UT Southwestern, 2006-2009

Raymond Quigley, M.D.

- Best Doctors in America

Mouin Seikaly, M.D.

- Best Doctors in America
- Best Doctors in America: The Central Region
- Guide to America's Top Pediatricians
- International Who is Who in the Professional International Biographical Center of Cambridge



Susan T. Iannaccone, M.D.
Director, Pediatric Neurology

The Division of Pediatric Neurology represents an academic practice with commitment to patient care, teaching and research. Formed in the 1980s as part of the Department of Neurology, the division maintained a successful academic and training program through the 1990s.

Dr. Susan Iannaccone became Division Chief in 2004, and the division joined the Department of Pediatrics in 2006. The faculty represents a mix of young and mature individuals, each of whom brings special talents and experience that promise to contribute to further growth and development of the division. Additional faculty are being recruited to join the team.

The national shortage of pediatric neurologists has been deemed a crisis by both the American Academy of Neurology and the Child Neurology Society. For this reason, a high priority for the division is to maintain a competitive Pediatric Neurology (PN) Training Program

that will help supply high-quality faculty for many years to come. PN residents complete two years of pediatric residency before entering the program. The PN training is three years in duration and includes one full year of Adult Neurology. Beginning in 2009, the Department of Pediatrics offered medical students an opportunity for five years of training so that they can complete both their Pediatric and PN training at UT Southwestern. There are nine PN residents, three per year. Each sees his/her own patients in their weekly PN Continuity Clinic (CC); there are two CCs per week, each staffed by two faculty. In 2009 the PN Training Program, under the direction of Dr. Rana Said, achieved full accreditation from the ABPN for five years, a rare and excellent tribute to the hard work of all involved in the program.

Faculty also provide five to eight didactic sessions for the PN residents every week. Fellowship training for PN sub-specialties is available in the division for epilepsy, neuromuscular medicine and neurodevelopment. This training is available for one year after completion of the PN residency but in some cases may be extended for two years in order to include a year of research.

Each year, the division, in collaboration with the Department of Neurology, Children's and the Muscular Dystrophy Association, presents the Carrell-Krusen Neuromuscular Symposium. Dr. Iannaccone is the Program Director for this meeting and most residents and fellows from the division and from the Department of Neurology participate by presenting scientific talks at the symposium.

The division is committed to providing high-quality care in an appropriate timeframe and to utilizing resources efficiently. Thus, referrals to the PN Clinic are reviewed weekly to determine the appropriateness of the referral and to ensure that the neurologist receives supporting records and documentation. Attending neurologists are available 24/7 to answer any questions regarding referrals and to provide guidance to general practitioners and pediatricians.



Faculty

Susan T. Iannaccone, M.D., Professor, is the Jimmy Elizabeth Westcott Distinguished Chair in Pediatric Neurology and Director of the Pediatric Neurology program at UT Southwestern. Dr. Iannaccone's clinical interests are focused on neuromuscular medicine and neurorehabilitation. Her research includes clinical trials in Duchenne muscular dystrophy (DMD) and spinal muscular atrophy. She was Principal Investigator for American Spinal Muscular Atrophy Randomized Trials (AmSMART), 2000 to 2008, with funding from the National Institutes of Health (NIH). Current projects include a Phase II clinical trial of PTC124 (ataluren) in DMD and establishment of a registry for heredity neuropathy. Dr. Iannaccone received her medical degree from State University of New York Health Science Center, Syracuse, in 1969. She performed her residency training in pediatrics at the State University of New York Upstate Medical University Hospital, Syracuse, from 1969 to 1971 and at St. Louis Children's Hospital, Washington University, from 1971 to 1972. She was a resident in the neurology department of Strong Memorial Hospital, University of Rochester, New York, from 1972 to 1975.



Jose Luis Aceves, M.D.

Assistant Professor, Pediatrics and Neurology

Clinical expertise: General neurology

Education: University Nacional Autonoma de Mexico, Mexico, M.D., 1985

Post-doctoral training: Hospital General de Mexico, Mexico City, Intern, 1985; Hospital de la Nutrición, Mexico City, Fellow, 1986-1988; Texas Tech University, El Paso, Resident, 1991-1993; Cleveland Clinic Foundation, OH, Resident, Pediatrics, 1993-1994; Fellow, Child Neurology, 1994-1995 and 1998-2000



Susan T. Arnold, M.D.

Associate Professor, Pediatrics and Neurology

Clinical expertise: EEG/neurophysiology, epilepsy, surgical management of epilepsy

Research expertise: Antiepileptic drug treatment in children, Landau-Kleffner syndrome

Education: Wesleyan University, Middletown, CT, B.A., 1984; Cornell University Medical College, New York, NY, M.D., 1988

Post-doctoral training: Yale-New Haven Hospital, New Haven, CT, Resident, Pediatrics, 1988-1991; Resident, Neurology, 1991-1992; St. Louis Children's Hospital, MO, Resident, Pediatric Neurology, 1992-1994; Washington University School of Medicine, St. Louis, MO, Fellow, Pediatric Epilepsy/Neurophysiology, 1994-1996



Michael M. Dowling, M.D., Ph.D., M.S.C.S.

Assistant Professor, Pediatrics and Neurology

Clinical expertise: Stroke in children, cerebrovascular disease in children, neurologic complications of sickle cell disease

Research expertise: Neurologic injury in children with acute anemia, alternative etiologies for stroke in sickle cell disease, pediatric stroke, Sturge-Weber syndrome

Education: Harvard University, Cambridge, MA, A.B., 1985; Columbia University, New York, NY, Ph.D., 1994; Columbia University College of Physicians and Surgeons, New York, NY, M.D., 1995; UT Southwestern, M.S.C.S., 2009

Post-doctoral training: UT Southwestern/Children's, Resident, Pediatrics, 1995-1997; UT Southwestern/Children's, Resident, Pediatric Neurology, 1997-2000

Patricia Evans, M.D.

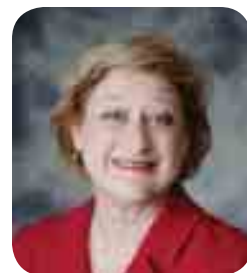
Associate Professor, Pediatrics and Neurology

Clinical expertise: Medical ethics, neurobehavior, neurodevelopmental disorders

Research expertise: Neurodevelopmental disorders

Education: Texas Tech University, Lubbock, B.A., 1978; Texas Tech University Health Sciences Center, Lubbock, M.D., 1983

Post-doctoral training: Lubbock General Hospital, Texas Tech University School of Medicine, Residency, Pediatrics, 1983-1986; UT Southwestern, Resident, Adult and Pediatric Neurology, 1992-1995; Johns Hopkins School of Medicine, Kennedy Krieger Institute, Baltimore, MD, Cognitive Development, 1995-1996

**Muna Q. Khan, M.D.**

Assistant Professor, Pediatrics and Neurology

Clinical expertise: EEG/neurophysiology, epilepsy-intractable, genetic epilepsy syndromes

Research expertise: Epilepsy-intractable

Education: Aga Khan University Medical College, Karachi, Pakistan, M.D., 1997

Post-doctoral training: State University of New York Upstate Medical Center, Syracuse, Intern, Pediatrics, 2002-2003; UT Southwestern, Resident, Child Neurology, 2003-2005; UT Southwestern/Children's, Resident, Pediatrics, 2005-2007; UT Southwestern, Resident, Child Neurology, 2007-2008; Fellow, Clinical Neurophysiology, 2008-2009

**Saadat A. Khan, M.D.**

Assistant Professor, Pediatrics and Neurology

Clinical expertise: EEG/neurophysiology, epilepsy-intractable, genetic epilepsy syndromes

Research expertise: Antiepileptic drug treatment in children

Education: Sind Medical College, University of Karachi, Karachi, Pakistan, M.D., 1994

Post-doctoral training: UT Southwestern/Children's, Resident, Child Neurology, 2000-2002; University of Tennessee School of Medicine, Knoxville, Resident, Pediatrics, 2002-2004; UT Southwestern/Children's, Resident, Child Neurology, 2004-2005; UT Southwestern, Fellow, Clinical Neurophysiology, 2005-2006

**Juan M. Pascual, M.D., Ph.D.**

Assistant Professor, Neurology, Physiology and Pediatrics

Clinical expertise: Rare and complex diseases, mitochondrial diseases, neurogenetic disorders, neurometabolic diseases

Research expertise: Brain metabolism, functional-brain imaging, neural excitability: synaptic transmission

Education: University de Granada, Granada, Spain, M.D., 1990; Baylor College of Medicine, Houston, TX, Ph.D., 1995

Post-doctoral training: Washington University School of Medicine, St. Louis Children's Hospital, Resident, Pediatrics, 1998-1999; Columbia University Medical Center, The Neurological Institute of New York, NY, Resident, Neurology, 1999-2000; Resident, Pediatric Neurology, 2000-2002; Columbia University College of Physicians and Surgeons, Center for Molecular Recognition, New York, NY, Fellow, Postdoctoral Research, 1995-1998





Rana R. Said, M.D.

Assistant Professor, Pediatrics and Neurology

Clinical expertise: Epilepsy-intractable, ketogenic diet

Research expertise: Treatment of refractory epilepsy, ketogenic diet and medical education

Education: University of Jordan, Amman, M.D., 1995

Post-doctoral training: The Specialty Hospital, Amman, Jordan, Rotating Intern, 1995-1996; New England Medical Center, Boston, MA, Resident, Pediatrics, 1996-1999; Resident, Child Neurology, 1999-2002; Children’s Hospital Boston, MA, Fellow, Epilepsy, 2002-2004



Deepa Sirsi, M.D.

Assistant Professor, Pediatrics and Neurology

Clinical expertise: EEG, epilepsy

Research expertise: Antiepileptic drug treatment in children

Education: Bangalore Medical College, India, M.D., 1998

Post-doctoral training: Victoria & Bowring Lady Curzon Hospitals, Bangalore, India, Rotating Intern, 1997-1998; Christian Medical College, Vellore, India, Pediatric Registrar, 1999-2000; Children’s Hospital of New Jersey at Newark Beth Israel Medical Center, Resident, Pediatrics, 2002-2004; Cornell University/New York Presbyterian Hospital, NY, Fellow, Child Neurology, 2004-2007; Albert Einstein College of Medicine/ Montefiore Medical Center, Bronx, NY, Fellow, Clinical Neurophysiology, 2007-2008



William E. Zinser, M.D.

Associate Professor, Pediatrics and Neurology

Clinical expertise: Medical ethics, neonatal neurology, spasticity, neurodevelopment, and cerebral palsy

Research: Regional and general anesthesia study

Education: Instituto de Ciencias, A.D., Guadalajara, Mexico, B.S., 1975; University Auto de Guadalajara, Mexico, M.D., 1979

Post-doctoral training: Hospital Sta. Maria Chapalita, Universidad Autonoma de Guadalajara, Guadalajara, Mexico, Junior Rotating Internship, 1979-1980; Hospital Angel Leano (Servicio Social), Universidad Autonoma de Guadalajara, Guadalajara, Mexico, Senior Rotating Internship, 1980-1981; Oklahoma University Tulsa Medical College, Residency, Pediatrics, 1982-1985; Baylor College of Medicine, Houston, TX, Fellow, Neurology, 1985-1988

Residents, Fellows, Volunteer Faculty and Clinical/Research Staff

Residents

3rd Year

- Sailaja Golla, M.D.
Co-Chief Resident
NDD Fellow July 1, 2009
- Rita Newman, M.D.
Co-Chief Resident
- Satish Agadi, M.D.

2nd Year

- Andrea Andrade, M.D.
- Lindsay Elton, M.D.
- Adrian Lacy, M.D.

1st Year

- Mazen Almidani, M.D.
- Diana Castro, M.D.
- Cherie Herren, M.D.

Fellows

Clinical Neurophysiology Fellow

Muna Khan, M.D.

Neuromuscular Medicine Fellows

Chaiyos Khongkhatithum, M.D.

Cristian Ionita, M.D.

Volunteer Faculty

Ricardo Calvo, M.D.

Nathaniel Kho, M.D.

Steve Linder, M.D.

David Owen, M.D.

Clinical and Research Staff

Clinical Nurses

Barbara Chancey, RN

Nicole Frith, RN

Karen Goodson, RN

Christine Griffith, RN

Jennifer Hogg, RN

Roylyn Howard, LVN

Lori Irvin, RN

Kristyn Johnson, RN

Chloe Miller, RN

Lauri Moreno, RN

Jessica Rivera, RN

Terry Spencer, RN

Atta Thomas, RN

Pediatric Nurse Practitioners/Physician Assistants

Juanita Dale, Ph.D., RN, CPNP-PC

Maureen Edwards, M.S.N, RN, CPNP-PC

Evelyn Hildebrandt, RN, M.S., APN, PNP-BC

Heather Gilbreath, M.P.A.S., PA-C

Sue Polachek, RN, PNP

Carol Gaggini, RN, CPNP

Research Coordinators

Mariam Andersen, M.A., CCRP

Medrith Greene, RN, B.S.N.

Academic Support

Sandy Pacholick

Kellie Shaw

Terry Hurst

Audrey McGraw

Jenny Jones

Clinical and Support Staff

Elizabeth Chapman, RRT, MPH

Program Manager - Epilepsy

Mary Ann Morris, Ph.D.

Educational Diagnostician

Elia Esquivel, RN, B.S.N.

Neuromuscular Case Manager:

Mary Susan Spears, RD, CSP, LD

Dietitian (Neuromuscular & Ketogenic Diets)

Temika Hopkins

Medical Assistant

Sandra Lovo

Medical Assistant

Sofia Rodriguez

Medical Assistant

Kari Wood

Medical Assistant

Jerry Stern

Administrative Assistant

Liza Lopez

Administrative Assistant - Epilepsy

Amelia Robledo

Scheduler

Francisco Salinas

Scheduler

Karen Horn

Scheduler

Christina Arriaga

Patient Access Representative

Crystal DeLuna

Patient Access Representative

Michell Pernell

Sr. Patient Access Representative

Patty Gonzales

Sr. Patient Access Representative

Carmen Lewis

Sr. Patient Access Representative

Research Activities

Faculty

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 and clinical studies in the autism spectrum. Research funding from a variety of sources, including the NIH, exceeded \$400,000 in 2009.

Faculty present results of their work at many national and international meetings and published 10 articles in peer-reviewed journals last year. Dr. Iannaccone is the Site Principal Investigator for a Phase II Efficacy and Safety Study of PTC124 in subjects with nonsense-mutation-mediated Duchenne and Becker muscular dystrophy. DMD is a disabling and life-threatening X-linked genetic disorder affecting young boys. Becker

muscular dystrophy (BMD) is a phenotypically milder form of the dystrophic muscle disease. Boys with DMD/BMD develop progressive proximal muscle weakness that leads to deterioration of ambulation, wheelchair dependency, and eventual respiratory and cardiac failure. There is no cure for DMD/BMD. Dr. Iannaccone is the site director for the Charcot-Marie Tooth (CMT) Center of Excellence grant for the Charcot-Marie Tooth and Muscular Dystrophy Associations.



In approximately 10 to 15 percent of boys with DMD and BMD, the causative defect in the dystrophin gene is a nonsense mutation that truncates dystrophin protein production by introducing a premature stop codon into the dystrophin messenger ribonucleic acid (mRNA). PTC Therapeutics Inc. has discovered and developed ataluren, an orally bioavailable, small-molecule drug that promotes ribosomal read-through of mRNA

containing a premature stop codon. This study is a Phase 1b, international, multicenter, randomized, double-blind, placebo-controlled, dose-ranging, efficacy and safety study. The primary objective is to evaluate the effect of ataluren on ambulation, as assessed by the distance walked during a six-minute walk test (6MWT). The study assesses at-home activity as measured by pedometry; evaluates timed tests of standing, stair-climbing and running; measures strength; determines the frequency of accidental falls; assesses patient/parent-reported health-related quality of life (HRQL) and treatment satisfaction; evaluates verbal memory and attention; and follows serum creatine kinase (CK) values as a measure of whole-body-muscle fragility. Safety is assessed through collection of adverse event information, measurement of laboratory parameters, and performance of electrocardiograms (ECGs). Ataluren plasma concentrations are collected for Pharmacokinetics. At the completion of blinded treatment, all compliant participants will be eligible to receive open-label ataluren in a separate extension study. Enrollment will close in 2009; results of final data are expected in 2010.

Dr. Michael Dowling serves as Site Co-investigator for a study called "Validation of the NIH Stroke Scale in Children." Stroke affects approximately 3.3 per 100,000 children under age 18 every year in Europe and North America, and ranks among the top 10 causes of death in childhood. Long-term motor and cognitive deficits that interfere with activities of daily life and academic attainment affect 40 to 60 percent of survivors of childhood stroke. The public health significance of these problems is magnified when considering that children live with the sequelae of stroke for the duration of their childhood and throughout their adult lives. Despite the magnitude of the public health impact of childhood stroke, there are no proven or widely accepted strategies

for acute management or prevention of childhood stroke, other than blood transfusion for children with sickle cell anemia. Uncertainty regarding treatment of children with stroke derives from the lack of clinical trials of stroke interventions in children, as well as the limited data available from existing cohort studies regarding the factors that determine outcome.

Progress in defining factors that determine outcome has been hindered by the lack of a validated clinical stroke scale for children. The NIH Stroke Scale (NIHSS) is a quantitative measure of stroke-related neurologic deficit that has proven intra- and interrater reliability, and has predictive validity for stroke outcome. Consequently, the NIHSS is employed in nearly every current acute stroke study in the United States as a measure of the initial and final neurological deficit. However, children were expressly excluded from prior validation studies of the NIHSS. This study will address these gaps by evaluating a pediatric modification of the NIHSS that will describe and quantify the severity of acute neurologic deficit as well as test its validity and reliability. This study began enrolling patients in early 2006, and UT Southwestern leads in enrollment in this international multicenter study.

Dr. Susan Arnold serves as Principal Investigator of a study to evaluate the efficacy and safety of Perampnel given as adjunctive therapy in patients with refractory partial seizures as well as serving as PI for the study of Clobazam in patients with Lennox-Gastaut Syndrome. Drs. Saadat Khan and Rana Said serve as Co-Investigators on the two studies along with Dr. Arnold.

Dr. Juan M. Pascual participated in ten funded research studies:

- A major investigator-initiated grant from the National Institutes of Health titled “Modulation of brain activity by control of the inspired air” (as Co-Investigator) studying human cerebral oxygen consumption and electrical (EEG) activity changes under CO₂, a component of breathing air that has vasodilatory properties and mediates the action of some drugs used to treat epilepsy.
- A contract from the National Institutes of Health, Office of Rare Disorders titled “Glucose transporter type 1 deficiency syndrome (GD) collaboration, education and test translation (CETT) program at UT Southwestern Medical Center and Childrens Medical Center” (as Principal Investigator). This program has positioned our group as the sole provider of comprehensive clinical and genetic diagnosis and care for this genetic disorder that causes epilepsy and developmental delay.
- A grant from the National Institutes of Health sponsored by the American Reinvestment and Recovery Act titled “Genotype and metabolic phenotype in glioblastoma” (as Co-Investigator). This challenge grant represents the expansion of novel MRI methodology and the additional development of MRI methods for the study of the human brain to search for metabolic alterations in cancer that can become predictors of disease severity and help identify therapeutic targets.
- A second American Reinvestment and Recovery Act grant from the National Institutes of Health titled “Developing a North American mitochondrial diseases consortium (NAMDC)” (as Co-Investigator and Site Principal Investigator). This 11-institution infrastructural grant constitutes the first initiative worldwide to recruit and characterize a broad range of mitochondrial disease patients to facilitate clinical trials across the U.S. and Canada aimed to treat these frequent but still incurable disorders.
- A National Institutes of Health / UT Southwestern Medical Center pilot grant titled “Diagnostic signatures of metabolic diseases by high-field NMR spectroscopy” (as Pilot Award Recipient PI and Co-Investigator of the institutional award). This project helped develop skeletal (leg) muscle MRI spectroscopy, a non-invasive methodology that is available at most institutions that perform MRIs. These studies will help us understand mechanisms of energy failure in muscle and brain disorders, improve the diagnosis of several metabolic disorders and identify potential biomarkers (disease indicators) for clinical trials.

- A National Institutes of Health training grant titled “Epilepsy in primary cerebral energy failure” (as Sponsor to a Ph.D. postdoctoral fellow trainee). The goal of the proposed research plan is to understand, as quantitatively as possible, the dependence of brain excitability on brain energy metabolism by studying both the normal and a prototypic disease state.
- A Billingsley Fund/ Dallas Womens Foundation grant devoted to study “Childhood brain metabolism: function relationships” (as Principal Investigator). This gift was established to support research on childhood epilepsies that arise from cerebral glucose (fuel) use deficits.
- An International European Union Postdoctoral Fellowship titled “Studies of Brain Metabolism in Epilepsy” (as Mentor to Postdoctoral Fellowship Recipient). This competitive fellowship was awarded based on the merits of the applicant, mentor and research project proposal to support salary, fringe and small expenses of a current postdoctoral fellow who will spend two years with us in the U.S.
- A Hegi Family Foundation grant to study “Treatable neurodevelopmental disorders” (as Mentor to clinical research trainee). This gift was directed to Dr. Pascual to support his mentoring and the salary expenses of a young pediatric neurologist who first embarked in a research career as an Assistant Instructor of Neurology and now plans to join the Pediatric Neurology faculty.
- A National Institutes of Health grant titled “Volumetric study of the human spinal cord” (as Co-Investigator) to use MRI to measure the dimensions of the living human spinal cord and surrounding fluid.

Residents

Satish Agadi, M.D.

- Efficacy of Levetiracetam in Children Age 4; Dr. Rana Said, Mentor
- Studying the Markers of Inherited Metabolic Diseases; Dr. Juan Pascual, Mentor
- Retrospective Review of Case Series of Symptomatic DMD and BMD Carriers; Dr. Susan Iannaccone, Mentor

Andrea Andrade, M.D.

- Efficacy of Levetiracetam in Children Age 4; Dr. Rana Said, Mentor
 - Seizures and EEG Patterns in Children with Influenza Encephalopathy; Dr. Susan Arnold, Mentor
- Diana Castro, M.D.

- Acute Cerebellitis with H11; Dr. Benjamin Greenberg, Mentor

Lindsay Elton, M.D.

- Identification of Acute Wallerian Degeneration in Pediatric Stroke; Dr. Michael Dowling, Mentor

Sailaja Golla, M.D.

- Retrospective Review of Case Series Symptomatic DMD and BMD Carriers; Dr. Susan Iannaccone, Mentor

- Updating Pediatric Stroke Scale Study; Dr. Michael Dowling, Mentor

- Pilot Study of Mitochondrial Encephalopathy (MELAS); Involves the Use of 7 T MRS to Look for Biomarkers in Muscle in Patients with MELAS; Dr. Juan Pascual, Mentor

- Buspirone Trial in Autism; Dr. Patricia Evans

Dr. Benjamin Greenberg, Assistant Professor of Neurology, holds a multi disciplinary clinic twice each month for pediatric patients. His expertise is Demyelinating disease including Multiple Sclerosis, Transverse Myelitis and Neuromyelitis Optica. His clinic at Children’s is one of less than 10 across the country that provides diagnosis and management for children with demyelinating disorders.

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; cardiovascular 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

As the Neurodevelopmental Disabilities Program (NDD) concludes its third year at UT Southwestern, the program continues to experience significant growth across the board, specifically with regard to clinical opportunities, research, education, and community outreach. NDD clinics are all multi-disciplinary in structure and are specifically created to serve children with autism, developmental delay, traumatic brain injuries and ADHD/LD issues. The program will expand to provide full-time NDD services to both the Dallas and Legacy campuses beginning in July 2010. Plans are now underway to build an NDD-dedicated space at the Legacy campus to open in 2011.

From an education standpoint, in the year since it was created and ACGME accredited, the NDD program has trained its first fellow, Dr. Sailaja Golla. Dr. Golla finished her child neurology training at UT Southwestern, where she also served as chief resident, and recently published in *Journal of Clinical Neuromuscular Disease*. She brings a wealth of experience as well as solid research and clinical skills, and, we are delighted to announce, will start as assistant professor of neurology and pediatrics in July 2010.

NDD research continues as UT Southwestern is one of four NIH-funded sites nationally looking at the synaptic changes seen in autistic children and the use of buspirone. Additional research projects are underway in conjunction with Dr. Juan Pascual and metabolic disorders; specifically research is ongoing with Drs. Pascual and Patricia Evans, looking at autistic children with unusual genetic markers. Drs. Pascual and Golla, are working to assess the biochemical, clinical, radiologic and genotypic analysis of a mitochondrial condition, MELAS (Mitochondrial Encephalomyopathy, Lactic Acidosis, and Stroke-like Episodes). Dr. Mary Ann Morris was first author of a longitudinal study of individuals with learning disabilities and affective illness published in the *Journal of Child Neurology* in February of 2009. Drs. Evans and Morris are in the processing of writing a book for primary care providers about the diagnosis and management of autism spectrum disorders.

Finally, the NDD team continues to work diligently to serve 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 both continue to speak throughout the metroplex in various educational settings, including the Dallas ISD, the Dallas Theological Seminary, and other specialty programs regarding children with special needs.



Dallas Campus:

Adolescent Clinic

Attention and Learning Disorders

Autistic Spectrum Disorders

Brachial Plexus Clinic

Charcot-Marie Tooth Clinic (Center of Excellence)

Cognitive Development Clinic

Comprehensive Epilepsy Clinics

Comprehensive Pediatric Stroke Clinic

Epilepsy Surgery Clinic

Headache Clinic

Ketogenic Diet Clinic

Muscle Clinic

Myasthenia Gravis Clinic

Pediatric Neurology Continuity Clinic

Rare Disorders Clinic

Rett Syndrome/Angelman Syndrome Clinic

Sickle Cell Neurology Clinic

Traumatic Brain Injury

Zero-2-3 Neurodevelopment Clinic

Susan Iannaccone, M.D.

Patricia Evans, M.D.

Patricia Evans, M.D.

William Zinser, M.D.

Jonathan Cheng, M.D.

Susan Iannaccone, M.D.

Patricia Evans, M.D.

Susan Arnold, M.D.

Michael Dowling, M.D., Ph.D., M.S.C.S.

Susan Arnold, M.D.

Rana Said, M.D.

Jose Aceves, M.D.

Rana Said, M.D.

Susan Iannaccone, M.D.

Susan Iannaccone, M.D.

Rana Said, M.D.

Juan Pascual, M.D., Ph.D.

Susan Arnold, M.D.

Michael Dowling, M.D., Ph.D., M.S.C.S.

Patricia Evans, M.D.

William Zinser, M.D.

Legacy Campus:

Attention and Learning Disorder

Autistic Spectrum Disorders

Epilepsy

Patricia Evans, M.D.

Patricia Evans, M.D.

Susan Arnold, M.D.

Saadat Khan, M.D.

Deepa Sirsi, M.D.

The inpatient Neurology service includes two teams: the Epilepsy Monitoring Unit and the C7/Consult Team. Both provide 24/7 coverage in patient units and in the pediatric intensive care unit (PICU), the neonatal intensive care unit (NICU) and the emergency department. The Epilepsy Monitoring unit provides six beds and performed more than 500 procedures; the C7/Consult Team provides eight beds. Both teams include an attending and support staff; the C7/Consult Team includes at least one PN resident and several third-year medical students on their required Neurology rotation plus rotating residents from Adult Neurology, Psychiatry or other specialties.

Patient Visits

Attending Providers	6186
PAs/PNPs	1742
Residents	865
Educational Diagnostician	19
Other	<u>1232</u>
Total Visits	10,044

Patient Visits

44%	Epilepsy
25%	General Neurology
11%	Neuromuscular
1%	Neurometabolic
7%	Neurodevelopment
9%	Residents
3%	Stroke/Sickle Cell

Presentations/Teaching Activities

Dr. Rana Said, Program Director for the PN residency and clerkship, with the assistance of Program Coordinator Kellie Shaw, leads the teaching program that educates fellows and residents for inpatient and outpatient rotations. There are six adult neurology residents for three four-week blocks, five Children's psychiatry fellows for 10 weeks each in the outpatient clinic, three psychiatry residents for one month each, six UT Southwestern and five Baylor physical 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 neurology clerkship students rotate for two-week intervals on either inpatient or outpatient rotations each year.

Faculty participate in up to eight neurology teaching conferences per week as well as a series of pediatric teaching conferences on neurologic topics. Dr. Colin Nguyen, the first Chief Resident, completed his residency in June 2008. He was instrumental in curriculum development and many technological upgrades to the residency program. During his training, he received a travel scholarship to the American Academy of Neurology to present his work, "Rapsyn Mutation-Associated Congenital Myasthenic Syndrome (CMS) in an Infant Presenting with Hypotonia and Arthrogyriosis Multiple Congenita" in April 2008. He also received a scholarship from the Neurology Residents Scholar Program (NRSP) for further resident education in pediatric epilepsies in September 2007 and a scholarship to attend the J. Kiffin Penry Pediatric Epilepsy Program for Child Neurology residents in March 2008. Among all adult and child neurology residents, he received a teaching award from all UT Southwestern medical students completing their combined adult and pediatric neurology clerkships. Because of his work in sickle cell disease and stroke with Dr. Dowling, Dr. Nguyen received UCB Inc.'s 2007 Young Investigator Research Project Award, which is awarded annually to either an adult or child Neurology trainee based on the excellence of their research.

Susan T. Iannaccone, M.D.

- "Duchenne muscular dystrophy," Clinical presentation, 1st Meeting of the NicOX Muscular Dystrophy Advisory Board, Dallas, TX, October 2008
- "Update on muscular dystrophy," Annual lecture for Neuromuscular and Neurophysiology fellows, Department of Neurology, UT Southwestern, January 2009
- "Spinal Muscular Atrophy (A Changing Paradigm)," MDA Clinic Directors' Meeting, Las Vegas, NV, January 2009
- "Spinal Muscular Atrophy (A Changing Paradigm)," Kickoff Program, AAN Annual Meeting, Seattle, WA, April 2009
- "MTM-CNM : Clinical course and management," 1st Annual meeting of the MTM-CNM (Myotubular Myopathy & Centronuclear Myopathy) Family Conference, Houston, TX, July 2009
- "Medical Management for People with Nemaline Myopathy," 1st Meeting of A Foundation Building Strength, White Plains, NY, August 2009
- "Muscle biopsy in children," Neuromuscular Division, Department of Neurology, UT Southwestern, August 2009
- "CMT in Kids," CMT (Charcot Marie Tooth) Dallas Chapter, Dallas, TX, September 2009
- "SMA," MDA Regional Clinic Directors' Meeting, Houston, TX, October 2009

Susan T. Arnold, M.D.

- "Pediatric EEG and Epilepsy Syndromes," Webinar sponsored by American Society of Electroneurodiagnostic Technicians, November 2008

Michael M. Dowling, M.D., Ph.D., M.S.C.S.

- “Ischemia During Anemia,” International Pediatric Stroke Study Research Forum, Santa Clara, CA, November 2008
- “Finding and Being a Mentor,” Junior Members Seminar, Child Neurology Society, Santa Clara, CA, November 2008
- “The Neurologic Complications of Sickle Cell Disease,” The 1st International Saudi Pediatric Neurology Conference, King Fahd Medical City, Riyadh, Saudi Arabia, November 2008
- “Joe Egg, the Play,” Children’s Medical Center Ethics Committee for Continuing Education in Ethics, January 2009
- “Little Folk Stroke,” Neurology Grand Rounds, UT Southwestern, February, 2009
- “Headache in Sickle Cell Disease,” Silent Transfusion Trial Investigators Meeting, St. Louis, MO, April 2009
- “Stroke Research in Sickle Cell Disease,” DFW Community Leadership in “The State of Sickle Cell Disease,” December 2009

Juan Pascual, M.D., Ph.D.

- “Energy Metabolism and Epilepsy,” 27th Annual Symposium of the Long Beach Institute (LBI) on Metabolic Disease, Oak Island, NC, May 2009
- “Neurotransmitter Synthesis in the Mouse Brain”, XVII Annual Symposium and Training: Hyperpolarization in biology, Advanced Imaging Research Center, UT Southwestern, May 2009
- “Glucose Transporter Type 1 Deficiency: 2009-2019,” 1st Symposium on Glucose Transporter Deficiency, Families of Glut1 Deficiency, Chicago, IL, July 2009

Deepa Sirsi, M.D.

- “SCN1A Mutations and Sudep in Family Members,” American Epilepsy Society Annual Meeting, Boston, MA, December 2009

Residents

Satish Agadi, M.D.

- Resident Case Studies Presentation, Neurology Grand Rounds, UT Southwestern, December 2008

Lindsay Elton, M.D.

- “Adolescent Boy with High CK,” 2009 Carrell-Krusen Symposium, Texas Scottish Rite Hospital, Dallas, February 2009

Adrian Lacy, M.D.

- “Isaac’s Syndrome: Clinical Presentation, Electromyographic Characteristics, and Pathophysiology”, 2009 Carrel-Krusen Symposium, Texas Scottish Rite Hospital, Dallas, February, 2009

Rita Newman, M.D.

- “A 5-month-old Boy with Hypotonia,” 2009 Carrell-Krusen Symposium, Texas Scottish Rite Hospital, Dallas, February 2009

Major Administrative or Leadership Responsibilities

Susan T. Iannaccone, M.D.

- Safety Officer, NIH NINDS Ad hoc review, Data and Safety Monitoring Board for 5-U54-AR-050733, Phase I gene transfer clinical trial for alpha-SG-deficient limb girdle muscular dystrophy (Type 2D) using AAV1
- Member, Expert Panel to develop comprehensive care for DMD, National Center on Birth Defects and Developmental Disabilities, Centers for Disease Control
- Ad hoc reviewer, Medical Advisory Committee, Muscular Dystrophy Association of America
- Member, Executive Council, American Neurologic Association
- Physician-in-charge, Annual MDA Summer Camp, Camp John Marc, Cleburne, TX
- Member, Editorial Board, Journal of Pediatric Rehabilitation Medicine, Journal of Clinical Neuromuscular Disease, Neuromuscular Disorders

Susan T. Arnold, M.D.

- Director, Epilepsy Program and Neurophysiology Lab, Children's
- Chair, Professional Advisory Board for the Epilepsy Foundation of Texas
- Member, American Epilepsy Society Committee for Epilepsy Monitoring Unit Safety

Michael M. Dowling, M.D., Ph.D., M.S.C.S.

- Co-Chairman, Ethics Session, AAN Annual Meeting, American Academy of Neurology, Toronto, Canada
- Co-Chairman, Science Committee and Scientific Program Subcommittee, American Academy of Neurology
- Co-Director, Pediatric Stroke Program, Children's
- Medical Director, Pediatric Stroke Clinic, Children's
- Medical Director, Sickle Cell Neurology Clinic, Children's
- International Stroke Conference Abstract Grading Subcommittee, American Stroke Association
- Child Neurology Topic Work Group, American Academy of Neurology
- Member, National Subcommittee, Child Neurology Topic Work Group Planning for Educational Conference for AAN, American Academy of Neurology
- Moderator/Reviewer, ANA/ASA International Stroke Conference, Pediatric Stroke Section
- Reviewer, Ethics, Pain and Palliative Care Section for American Academy of Neurology
- Journal Reviewer, Archives in Neurology, Pediatric Blood and Cancer, Neuropediatrics, Stroke, International Journal of Immunopathology and Pharmacology, American Journal of Medical Genetics and Circulation
- Co-director, UT Southwestern Neuroscience Graduate Program "Ion Channels" course
- Implemented small group instruction with MS3 and MS4 medical students in the Pediatric Neurology rotation to review the social and emotional impact of a neurologically-impaired child in the family. All students read the play, Joe Egg, by Peter Nichols, and submitted an essay describing their response. Approximately 250 medical students have been involved to date, UT Southwestern 2007-present

Patricia Evans, M.D.

- Member, Neurodevelopmental Disabilities Task Force, Child Neurology Society
- Chair, Section on Ethics, American Academy of Neurology

Juan Pascual, M.D., Ph.D.

- Member, Scientific Review Board of the Alzheimer's Association
- Associate Editor, Neuroscience Letters
- Reviewer, Genetics Home Reference National Center on Birth Defects and Developmental Disabilities, Centers for Disease Control and Prevention
- Ad hoc reviewer, Archives of Neurology, Journal of Neurology Neurosurgery and Psychiatry, Neuroscience Letters, Journal of Neuroscience, Biochemistry, Journal of Biological Chemistry
- Member, Liaison Committee on Medical Education Self Study Medical Students Sub-Committee, 2009
- Member, Expert panel to develop comprehensive care considerations for Duchenne muscular dystrophy, National Center on Birth Defects and Developmental Disabilities, Centers for Disease Control and Prevention

Rana R. Said, M.D.

- Director, Child Neurology Residency Program
- Site Director, UT Southwestern Pediatric Neurology Medical Student Clerkship
- Director, Ketogenic Diet Clinics
- Member, Professional Advisory Board, Epilepsy Foundation of North Texas
- Member, Health Advisory Committee, Southlake-Carroll Schools
- Member, Children's Medical Center Pediatric Peer Review Committee
- Member, Children's Medical Center Graduate Medical Education Committee
- Member, Graduate Education Subcommittee, American Academy of Neurology
- Member, UT Southwestern Graduate Medical Education Committee

Awards and Honors

Jose Aceves, M.D.

- Teaching Award, Pediatric Neurology Residents
- Core Clerkship Teaching Award from UT Southwestern Medical Students

Michael M. Dowling, M.D., Ph.D., M.S.C.S.

- Clinical Research Scholar, Department of Clinical Sciences, UT Southwestern, 2006-2009
- Doris Duke Innovations in Clinical Research Award
- Core Clerkship Teaching Award from UT Southwestern Medical Students

Juan Pascual, M.D., Ph.D.

- 2009 Young Investigator Award, Neurobiology of Disease in Children, Louisville, KY

Residents

Satish Agadi, M.D.

- 2009 American Academy of Neurology Meeting, Scholarship Recipient, Seattle, WA, May 2009

Andrea Andrade, M.D.

- Teaching Award among UT Southwestern Medical Students in Neurology Clerkship, June 2009
- 2009 J. Kiffen Penry Pediatric Epilepsy Resident Program Scholarship Recipient, Wake Forest University, May 2009
- 2009 Neurology Residents Scholar Program, Scholarship Recipient, Chandler, AZ, October 2009

Lindsay Elton, M.D.

- Teaching Award among UT Southwestern Medical Students in Neurology Clerkship, June 2009

Sailaja Golla, M.D.

- 2008 Child Neurology Society Annual Meeting and Pediatric Epilepsy Seminar, Scholarship Recipient, Santa Clara, CA, November 2008

Adrian Lacy, M.D.

- Teaching Award among UT Southwestern Medical Students in Neurology Clerkship, June 2009
- 2009 Child Neurology Society Annual Meeting and Pediatric Epilepsy Seminar, Scholarship Recipient, Louisville, KY, October 2009





Phil Shaul, M.D.

Director, Pediatric Pulmonary and Vascular Biology

The Division of Pulmonary and Vascular Biology was established in 2005-2006 to provide a programmatic research home for pediatric faculty and trainees pursuing basic research in Pulmonary Biology and Vascular Biology. It is an exclusively research-driven division in the Department of Pediatrics, thereby representing a novel concept that amplifies the efforts and effectiveness of pediatric faculty and trainees alike. In addition, Pulmonary and Vascular Biology has provided a valuable resource for campus-wide investigative endeavors. This is represented by active collaborations between Pulmonary and Vascular Biology faculty and other UT Southwestern faculty in the Departments of Internal Medicine, Cell Biology, Physiology, Pharmacology and Biophysics, and by the participation of Pulmonary and Vascular Biology faculty in numerous training and center grants across the campus. Notably, in 2009 a shared effort by Pulmonary and Vascular Biology and the Division of Pulmonary

and Critical Care Medicine (PCCM) in the Department of Internal Medicine resulted in procurement of a coveted T32 training grant from the National Institutes of Health to support postdoctoral research training at UT Southwestern in Lung Biology and Disease. Pulmonary and Vascular Biology is one of but a handful of research divisions in Pediatric departments nationwide.

The division's mission is to expand basic understanding of lung and vascular diseases, striving to gain new knowledge that will ultimately lead to new diagnostic, prophylactic and therapeutic strategies. Within the context of lung and vascular diseases, the division focuses on lung and vascular development and responses to inflammation and injury.

The faculty members in Pulmonary and Vascular Biology are physician-scientists from the Pediatric divisions of Neonatal-Perinatal Medicine (Drs. Rashmin Savani and Phil Shaul), Pediatric Critical Care Medicine (Drs. Margaret Schwarz and Julio Pérez Fontán), Pediatric Infectious Disease (Dr. Michelle Gill) and Pediatric Pulmonary Respiratory Medicine (Drs. Carolyn Cannon and Olatunji Williams); and Drs. Chieko Mineo, Ruth Levitz and Michi Umetani, who are basic scientists working in partnership with physician scientists. During 2008-2009, Pulmonary and Vascular Biology was comprised of 10 faculty, 17 graduate students, postdoctoral fellows or residents pursuing research fellowships, and 14 laboratory research staff, including a number of experienced scientists holding doctoral degrees. Further recruitments of faculty and trainees are ongoing.

Faculty

Philip W. Shaul, M.D., Professor, is Director of Pulmonary and Vascular Biology and holds the Lowe Foundation Professorship in Pediatric Critical Care Research at UT Southwestern. He specializes in neonatal-perinatal medicine, and his research interests encompass caveolae-lipid rafts, membrane-associated estrogen receptors, nitric oxide synthase, scavenger receptor class B-Type I (HDL receptor) and signaling by C-reactive protein. Dr. Shaul received his B.A. from Dartmouth College, Hanover, New Hampshire, in 1977 and his medical degree from the University of Cincinnati, Ohio, in 1981. He received residency training in pediatrics at the Children's Medical Center of Cincinnati, University of Cincinnati, from 1981 to 1984, and was a fellow in neonatal-perinatal medicine at the Women and Infants Hospital of Rhode Island, Brown University, Providence, from 1984 to 1986. He joined the faculty of UT Southwestern in 1986. Dr. Shaul was elected to the American Society for Clinical Investigation in 1999, and he was President of the Society for Pediatric Research in 2005-2006.



Rashmin C. Savani, M.B.Ch.B.

Professor and Director, Division of Neonatal-Perinatal Medicine
Associate Director, Pulmonary and Vascular Biology
William Buchanan Chair in Pediatrics

Clinical/research expertise: Neonatal-perinatal medicine, bronchopulmonary dysplasia, chronic lung disease, inflammation, lung injury, surfactant, role of hyaluronan in tissue injury

Education: King Edward VII School, Sheffield, England, U.K., A-Levels, 1977; University of Sheffield Medical School, England, U.K., M.B.Ch.B., 1982

Post-doctoral training: Duke University Medical Center, Durham, NC, Resident, Pediatrics, 1984-1987; Cincinnati Children's Medical Center, OH, Fellow, Neonatology, 1987-1989; Fellow, Pulmonary Biology, 1989-1991



Carolyn L. Cannon, M.D., Ph.D.

Assistant Professor

Clinical expertise: Cystic Fibrosis, asthma, pediatric pulmonology

Research expertise: Pathogenesis of pulmonary infection in the lungs of patients with CF and the development of novel therapies to treat these infections

Education: Texas A&M University, College Station, B.S., cum laude, 1982; Worcester Polytechnic Institute, Worcester, MA, M.S., 1985; UT Houston, M.D., 1993; UT Graduate School of Biomedical Sciences, Houston, Ph.D., 1993

Post-doctoral training: Children's Hospital, Boston, MA, Intern and Resident, Pediatrics, 1993-1996; Fellow, Pulmonology, 1996-1999; Channing Laboratory, Harvard Medical School/Brigham & Women's Hospital, Boston, MA, Research Fellow, 1998-1999



Michelle A. Gill, Ph.D., M.D.

Assistant Professor

Clinical/research expertise: General infectious diseases, immunity, RSV

Education: Louisiana State University, Baton Rouge, B.S., summa cum laude, 1988; Louisiana State University Medical Center, Shreveport, Ph.D., 1993; Louisiana State University Medical Center, M.D., 1995

Post-doctoral training: University of Arkansas for Medical Sciences, Little Rock, Intern and Resident, Pediatrics, 1995-1998; Chief Resident, Pediatrics, 1998-1999; UT Southwestern, Fellow, Pediatric Infectious Diseases, 1999-2003



Ruth Levitz, Ph.D.

Instructor

Research expertise: Biotechnology, drug discovery, neurogenic inflammatory amplification, signal transduction

Education: Hebrew University, Jerusalem, Israel, B.Sc., 1972; Hebrew University, Jerusalem, Israel, M.Sc., 1974; Tel Aviv University, Israel, Ph.D., Biochemistry, 1986

Post-doctoral training: Tel Aviv University, Israel, Fellow, Biological Chemistry, 1986-1989; Public Health Research Institute (PHRI), Newark, NJ, Fellow, Biomedical Studies, 1990-1995

The faculty members in Pulmonary and Vascular Biology are seven physician-scientists from four other pediatric divisions working in partnership with three basic scientists.

Chieko Mineo, Ph.D.

Assistant Professor

Research expertise: Vascular biology and atherosclerosis

Education: University of Tokyo, Japan, B.S., 1982; M.S., 1984; Ph.D., 1992

Post-doctoral training: UT Southwestern, Post-doctoral Research Fellow, Cell Biology, 1994-1999



Julio Pérez Fontán, M.D.

Professor and Vice Chairman, Department of Pediatrics

Interim Director, Division of Respiratory Medicine

Joel B. Steinberg, M.D., Chair in Pediatrics

Clinical expertise: Pediatric cardiac critical care

Research expertise: Airway smooth muscle, autonomic nervous system, neurogenic inflammation

Education: Colegio Marista Santa Maria, Spain, B.S., 1971; University De Santiago De Compostela, Spain, M.D., 1977

Post-doctoral training: Universidad Autonoma de Barcelona, Resident, Pediatrics, 1978-1981; University of California San Francisco, Fellow, Pediatric Critical Care Medicine, 1981-1984; Cardiovascular Research Institute, University of California San Francisco, Research Fellow, 1982-1985



Margaret A. Schwarz, M.D.

Associate Professor

Clinical expertise: Pediatric critical care

Research expertise: Pulmonary morphogenesis and vascularization, endothelial-monocyte activating polypeptide II, 5 1 integrin / FN / VEGFR interactions, pancreatic tumor growth

Education: University of Missouri, Kansas City, B.A., 1986; University of Missouri Six-year Medical School, Kansas City, M.D., 1987

Post-doctoral training: Children's Hospital, Columbus, OH, Intern and Resident, Pediatrics, 1987-1990; Children's Hospital of Pittsburgh, Fellow, Pediatric Critical Care, 1990-1993



Michihisa Umetani, Ph.D.

Instructor, Pediatrics and Pharmacology

Research expertise: Oxysterols, nuclear receptor biology, vascular disease

Education: University of Tokyo, Japan, B.S., 1991; M.S., 1993; Ph.D., 2000

Post-doctoral training: University of Tokyo, Japan, Postdoctoral Research Fellow, 2001-2002; UT Southwestern, Post-doctoral Research Fellow, Pharmacology and Biochemistry, 2002-2007



Olatunji W. Williams, M.D.

Assistant Professor

Clinical expertise: Respiratory diseases, acute asthma therapy

Research expertise: Lung development, lung injury

Education: UT Dallas, B.A., 1994; UT Medical Branch at Galveston, M.D., 1999

Post-doctoral training: Oklahoma University Medical Center, The Children's Hospital, Norman, Resident, Pediatrics, 1999-2002; Chief Resident, Pediatrics, 2002-2003; Baylor College of Medicine, Texas Children's Hospital, Houston, Fellow, Pediatric Pulmonology, 2003-2006



Postdoctoral Fellows, Other Research Trainees and Research Staff

Fellows

6th Year

Hongmei Jiang, Ph.D.

5th Year

Keiji Tanigaki, Ph.D.

4th Year

Sarah Oltmann, M.D. (Surgery Resident)

Qian Wu, Ph.D.

Cristina Tarango, M.D.

3rd Year

Katherine Bennett, M.D.

Rodica Catrinel Marinescu, M.D.

Yao Chen, Ph.D.

David Lam, M.D.

James Reid, M.D.

Christopher Todd, M.D.

2nd Year

Maria Afandor, M.D.

Sonika Saddar, Ph.D.

Nathan Sundgren, M.D, Ph.D.

1st Year

Jose Barrera, Ph.D.

Natalie Frost, M.D.

Wan-Ru Lee, Ph.D.

Anne Mahan, M.D.

Elizabeth Persad, M.D.

David Pyle (Graduate Student)

Parth Shah, Ph.D

Victoria Ulrich (Graduate Student)

Research Staff

Anupama Aditham, M.S.

Research Associate

Mohamed Ahmed, B.S.

Research Technician II

Rajihha Alsaadi, M.S.

Senior Research Associate

Gagan Bajwa, M.S.

Research Associate

Ken Chambliss, Ph.D.

Senior Research Scientist

Naeun Cheong, Ph.D.

Senior Research Scientist

Caroline Dong, Ph.D.

Research Associate

Daniel Han, B.S.

Research Assistant I

Kevin Han, B.A.

Research Technician I

Susan Legan, Ph.D.

Senior Research Associate

Jie Liao, Ph.D.

Senior Research Associate

Jason Mitchell

Research Technician II

Janet Thornton, B.S.

Senior Research Associate

Junko Umetani, B.S.

Research Assistant II

Haiming Xu, Ph.D.

Senior Research Associate

Ivan S. Yuhanna, M.S.

Senior Research Associate

Research Activities

The research efforts of Pulmonary and Vascular Biology are focused on lung and vascular development and responses to inflammation and injury. Through these efforts, the division strives to more fully understand lung and vascular diseases with the end goal of developing new diagnostic, prophylactic and therapeutic approaches. The studies of lung biology are pursued primarily by the laboratories of Drs. Rashmin Savani, Margaret Schwarz, Olatunji Williams, Michelle Gill, Julio Pérez-Fontán, Ruth Levitz and Caroline Cannon. The studies of vascular biology are pursued primarily in the laboratories of Drs. Philip Shaul, Chieko Mineo and Michihisa Umetani.

Faculty (research interests)

Philip W. Shaul, M.D.

- Regulation of endothelial cell phenotype and vascular development, health and disease by estrogen
- Role of 27-hydroxycholesterol in modifying the impact of estrogen on vascular biology
- Regulation of endothelial cell phenotype and vascular development, health and disease by HDL
- Regulation of endothelial cell phenotype and vascular development, health and disease by CRP
- Role of nitric oxide synthases in developmental pulmonary biology and diseases of the developing lung
- Molecular basis of the antiphospholipid syndrome

Carolyn L. Cannon, M.D., Ph.D.

- Pathogenesis of pulmonary infections in cystic fibrosis
- Novel therapies for pulmonary infections in cystic fibrosis

Michelle A. Gill, Ph.D, M.D.

- The host mucosal immune response to respiratory viral infections
- The role of dendritic cells in the pathogenesis of RSV infection

Ruth Levitz, Ph.D.

- The significance of substance P oxidation in halting the amplification of neurogenic inflammatory response –developed an extraction/purification method for detecting substance P forms in lung and brain tissues by mass spectroscopy
- The autocrine signaling mechanism of neurokinins – optimized conditions for autostimulation of macrophage cell-line in culture by truncated substance P

Chieko Mineo, Ph.D.

- The mechanisms by which high density lipoproteins modulate endothelial cell function
- The mechanisms by which C-reactive protein modulates endothelial cell function
- The role of eNOS antagonism in the antiphospholipid syndrome

Julio Pérez-Fontán, M.D.

- Neural contribution to lung injury
- Biology of neurokinins in the lung

Rashmin C. Savani, M.B.Ch.B.

- The role of HA and its receptors in the response to lung injury, using transgenic and knockout mice, in particular CD44 and RHAMM
- Investigation of the molecular signals arising from oxidative and nitrative stresses after injury that initiate the inflammatory cascade, including the effects of post-translational modification on inflammation and surfactant protein gene expression after lung injury
- Examination of the cellular and molecular signals regulating angiogenesis and alveolar formation
- Studying endothelial cell behavior in vitro and animal models of decreased alveolar septation (hypoxia and hormonal regulation of alveogenesis) to determine the regulation of this intricate process
- The regulation of signaling mechanisms mediated by HA and its receptors within lipid microdomains and caveolae that regulate macrophage, endothelial and vascular smooth-muscle cell migration

Michihisa Umetani, Ph.D.

- Regulation of estrogen receptor function by cholesterol metabolites
- Role of oxysterols in atherosclerosis and metabolic diseases

Olatunji W. Williams, M.D.

- Molecular basis of mucus hypersecretion in chronic obstructive pulmonary disease
- SNARE protein regulation of mucin exocytosis in airway secretory cells
- Rab protein regulation of mucin vesicle biogenesis and intracellular trafficking



Fellows (research interests)

Maria Afandor, M.D.

- Role of Ephrin B2 on lung morphogenesis

Joseph Barrera, Ph.D.

- Impact of the first identified endogenous SERM, 27-hydroxycholesterol, on metabolic and vascular health

Katherine Bennett, M.D.

- Role of Ephs and Ephrins in lung vascular and parenchymal development

Yao Chen, Ph.D.

- Role of vascular mediators in alveolar type 2 cell differentiation into type 1 cells

Natalie Frost, M.D.

- Role of estrogen receptor beta in lung development and bronchopulmonary dysplasia

Hongmei Jiang, Ph.D.

- Mechanisms of hyaluronan oligosaccharide or SP-A stimulated chemotaxis

David Lam, M.D.

- Matrix-metalloproteinase 9 mediated migration of RAW 264.7 murine macrophages

Anne Mahan, M.D.

- Role of $\alpha 5\beta 1$ integrin on epithelial cell

Rodica Catrinel Marinescu, M.D.

- Hyaluronan (HA) receptor RHAMM and its role in VEGF-stimulated endothelial cell migration and angiogenesis

Sarah Oltmann, M.D.

- Role of nongenomic estrogen receptor action in breast cancer progression

Elizabeth Persad, M.D.

- Role of $\alpha 5\beta 1$ integrin in lung fibrosis

James Reid, M.D.

- Impact of CRP on angiogenesis and role of Fc γ RI in CRP modulation of endothelial cell phenotype

Sonika Saddar, Ph.D.

- Structure-function characterization of SR-BI and PDZK1

Parth Shah, Ph.D.

- Metabolic, toxicology and efficacy studies of the potential medicinal uses of silver-based therapeutics

Nathan Sundgren, M.D., Ph.D.

- Role of Fc gamma RI and Src in CRP actions in the vasculature

Keiji Tanigaki, Ph.D.

- Molecular basis of CRP antagonism of insulin signaling

Christina Tarango, M.D.

- Role of LDL receptor family members in the pathogenesis of the antiphospholipid syndrome

Christopher Todd, M.D.

- Endothelial-monocyte activating polypeptide II (EMAP II) role in mediating adhesion through $\alpha 5\beta 1/\alpha V\beta 3$ mechanisms

Qian Wu, Ph.D.

- Molecular basis of protein-protein interactions between ER α and G α and G $\beta\gamma$

Presentations/Teaching Activities

The primary teaching activities of the Pulmonary and Vascular Biology faculty occur at the laboratory bench. There they train residents, clinical pediatric subspecialty fellows, graduate students and Ph.D. post-doctoral fellows in pulmonary biology research and vascular biology research. Pulmonary and Vascular Biology faculty also perform didactic teaching in various settings and make presentations at national and international meetings.

Philip W. Shaul, M.D.

- “New Insights into the Cardiovascular and Pulmonary Actions of Estrogen: A Hormone for the Ages,” Jerry Elliott Memorial Lecture, Austin, TX, October 2008
- “Molecular Basis and Functional Implications of Cell Signaling by HDL and SR-BI,” Boston University School of Medicine, MA, January 2009
- “Mechanisms of Estrogen Action in the Vasculature: New Insights into the Protagonists and Antagonists,” Molecular Medicine Series, Tufts Medical Center, Boston, MA, January 2009
- “Caveolae and the Regulation of Endothelial Cell Phenotype: Location, Location, Location,” Fourth Annual Joseph B. Warshaw Lecture, Association of Medical School Pediatric Department Chairs/Frontiers in Science Meeting, Savannah, GA, March 2009
- “Nongenomic Estrogen Receptor Signaling, G-Proteins and Cardiovascular Protection,” Estrogen, SERMs and TSECs Scientific Meeting, Fort Myers, FL, April 2009
- “Molecular Basis of Estrogen Action in Vascular Cells: New Insights into the Protagonists and Antagonists,” Oregon Health & Science University, Portland, April 2009
- “HDL Signaling Through SR-BI,” University of Cincinnati, Genome Research Institute, OH, April 2009
- “New Insights into the Vascular Actions of Estrogen” and “Nitric Oxide in Bronchopulmonary Dysplasia: Past, Present and Future,” University of Cincinnati, OH, April 2009
- “Nitric Oxide in BPD: Past, Present and Future,” Pediatric Grand Rounds, Massachusetts General Hospital, Harvard Medical School, Boston, September 2009
- “New Insights into the Vascular Actions of Estrogen,” Research Conference, Massachusetts General Hospital, Harvard Medical School, Boston, September 2009
- “Endothelial Repair, Regeneration, and Function: Modulation by CRP,” Basic and Clinical Science Symposium, American Society of Nephrology Annual Meeting, San Diego, CA, October 2009
- “Circulating Cardiovascular Disease Risk Factors and Signaling in Endothelial Caveolae,” Plenary Session, Society for Free Radical Biology and Medicine, San Francisco, CA, November 2009



Carolyn L. Cannon, M.D., Ph.D.

- “Silver Carbenes as Novel Nebulized Antimicrobials,” Department of Pediatrics Research Conference, Vanderbilt University, Nashville, TN, October 2008
- “Nebulized Silver Carbene Antimicrobials for the Treatment of Pulmonary Infection,” Center for Therapeutics Research, Akron, OH, July 2009
- “Nebulized Silver Carbene Antimicrobials for the Treatment of Pulmonary Infection,” Ethicon, Inc., Sommerville, NJ, July 2009
- “Treatment of MRSA in CF,” The North American Cystic Fibrosis Conference, Minneapolis, MN, October 2009
- “Antimicrobial properties of nanoparticles loaded with Silver N-heterocyclic Carbenes,” Massachusetts General Hospital Center for Systems Biology, Boston, October 2009

Michelle Gill, Ph.D., M.D.

- “Rhinoviruses: Clinical Impact on Pediatrics and Implications for Research,” Pediatrics Grand Rounds, Children’s, January 2009
- “Pandemic Influenza: Novel H1N1 2009,” Children First! Collin County Coalition, Plano, TX, October 2009
- “Mechanistic Study Pilot; Allergen Interference with Rhinoviral-induced Plasmacytoid Dendritic Cell Function,” NIH/NIAID Inner City Asthma Consortium Steering Committee Meeting, Chicago, IL, December 2009

Chieko Mineo, Ph.D.

- “FcγRIIB Mediates CRP Actions that Alter Endothelial Cell Phenotype In vivo,” American College of Rheumatology Meeting, San Francisco, CA, November 2008
- “C-reactive Protein (CRP) Causes Insulin Resistance in Mice through FcγRIIB mediated Inhibition of Insulin Signaling” and “Mutations in the C-terminal Transmembrane Domain of Scavenger Receptor Class B Type I (SR-BI) Selectively Inhibit the Cholesterol Sensing that is Required for HDL-initiated Intracellular Signaling,” American Heart Association Annual Meeting, Orlando, FL, November 2009

Rashmin C. Savani, M.B.,Ch.B.

- “Does Inflammation Play a Role in the Development of Chronic Lung Disease?” American Academy of Pediatrics NCE Meeting, Washington, DC, October 2008
- “Role of Hyaluronan and Its Receptors in Angiogenesis and Alveolarization,” Glyco XX, San Juan, Puerto Rico, November 2009

Margaret Schwarz, M.D.

- “Determining the role of Vascular Regulators in Lung Development,” Pediatric Intensive Care Fellows Research Conference, UT Southwestern, September 2008
- “EMAP II Modulates Distal Alveolar Cell Differentiation,” Faculty Research Conference, UT Southwestern, December 2008
- “EMAP II Mediates Alveolar Cell Endothelial-Mesenchymal Transition,” Neonatal Research Conference, UT Southwestern, January 2009
- “Lung Development: Vessel Rule and EMAP II Mediation,” Visiting Professor, Indiana Center for Vascular Biology and Medicine, Indianapolis, June 2009

Michihisa Umetani, Ph.D.

- “LXRβ Promotes Vascular Reendothelialization Via Novel Mechanism Involving Non-nuclear Signaling in Endothelium,” Kern Aspen Lipid Conference, Aspen, CO, August 2009

Olatunji W. Williams, M.D.

- “CD44 Regulates Hypoxia Induced Inhibition of Alveolar Development,” Pediatric Academic Society, Baltimore, MD, May 2009

Major Administrative or Leadership Responsibilities

Philip W. Shaul, M.D.

- Director, Division of Pulmonary and Vascular Biology, UT Southwestern
- Member, Steering Committee, Medical Scientist Training Program, UT Southwestern Medical School, UT Southwestern Graduate School of Biomedical Sciences
- Member, Steering Committee, University Lecture Series, UT Southwestern
- Co-Program Director, NIH T32 Training Program in Lung Biology and Disease
- Co-Program Director, Howard Hughes Medical Institute Medicine into Graduate Program

Carolyn L. Cannon, M.D., Ph.D.

- Member, American Thoracic Society (ATS) Pediatric Assembly Program Committee
- Cystic Fibrosis Stakeholder, Texas Newborn Screening Program
- Chief Scientific Officer, Akron Research Commercialization Corp., DBA Nebusil, Inc.

Michelle Gill, Ph.D., M.D.

- Course Director, Pediatric Infectious Diseases Core Curriculum Series
- Member, PROSE (Preventative Omalizumab Therapy for Severe Fall Exacerbations) Clinical Trial Protocol Team, NIH/NIAID Inner City Asthma Consortium

Pulmonary and Vascular Biology is one of but a handful of research divisions in pediatric departments nationwide.

Julio Pérez Fontán, M.D.

- Vice Chairman, Department of Pediatrics, UT Southwestern
- Executive Vice President for Medical Affairs, Children's
- Associate Dean for Pediatric Services and Program Development, UT Southwestern
- Interim Director, Division of Pediatric Respiratory Medicine, UT Southwestern
- Chairman, CTSA Pilot Grant Program
- Co-Chair, Chair of Radiology Search Committee
- Associate Director, T32 Training Grant
- Chairman, Anesthesiologist for Children Board of Directors

Rashmin C. Savani, M.B.,Ch.B.

- Director, Division of Neonatal-Perinatal Medicine, UT Southwestern
- Associate Director, Division of Pulmonary and Vascular Biology, UT Southwestern
- Chief of Service, Pediatrics and Neonatal-Perinatal Medicine, Parkland
- Chief of Service, Neonatal-Perinatal Medicine, Children's
- Member, Editorial Board, *Journal of Biological Chemistry* and *American Journal of Physiology-Lung Cell and Molecular Physiology*
- Member, Consulting Editorial Board, *Journal of Clinical Investigation*

Margaret Schwarz, M.D.

- Member, NHLBI Respiratory Integrative Biology and Translational Research Study Section
- Member, Integrative Biology Graduate Program Qualifying Exam Committee of Christopher Javadi

Olatunji W. Williams, M.D.

- Medical Director, Pulmonary Function Laboratory, Children's
- Pediatric Site Consultant, Hereditary Telangiectasia Center
- Counselor, Camp Broncho of North Texas
- Member, The Consortium of Children's Asthma Camps

Awards and Honors

Carolyn L. Cannon, M.D., Ph.D.

- Best Doctors in America
- Best Doctors in St. Louis

Margaret Schwarz, M.D.

- 2009 Society of Pediatric Research

Michihisa Umetani, Ph.D.

- 2009 UT Southwestern O'Brien Kidney Research Center Pilot & Feasibility Award



Children with Cystic Fibrosis Have a Friend in Dr. Claude Prestidge

While the genetic disorder cystic fibrosis had been described since 1938, care for children with the disease was not organized in the Dallas area until 1967, when Robert Kramer, M.D. founded a Cystic Fibrosis Club that caught the attention of Claude Prestidge, M.D. By 1973, Dr. Prestidge had joined a Dallas clinic for children with cystic fibrosis and now serves as the director of the Children's Cystic Fibrosis Care and Teaching Center, accredited by the Cystic Fibrosis Foundation. Dr. Prestidge's 37

years of consistent leadership makes the Center at Children's very unusual among the centers around the country. Unlike children with cystic fibrosis elsewhere, children with the disease in Dallas have had a lifetime caregiver, advocate and friend.

The pioneering days of the Dallas cystic fibrosis clinic were trying due to both the paucity of treatment options available to help the patients and limited staff. Dr. Prestidge started with a secretary who had lost her grandson to the disease, and by the 1980s had added a nurse, two social workers and a registered dietician to the team. The team helped launch a series of summer camps for children with cystic fibrosis, which Dr. Prestidge not only founded, but helped to fund personally with the Junior League of Dallas. He speaks wistfully of Camp John Marc Myers in Bosque County, Texas, the ultimate home for the Cystic Fibrosis Camp, after it wandered around to various sites including the current camp for children with diabetes, Camp Sweeney. One Cystic Fibrosis Camp was held at a "dude ranch" that was not prepared for the bulky stools generated by many children with cystic fibrosis, who do not absorb nutrients without replacement of pancreatic enzymes. The John Birch Society group that followed the cystic fibrosis campers had a more rustic experience without functional indoor plumbing.

The Cystic Fibrosis Camp had a permanent home after 1988, when Jan and Marc Myers donated the land that became Camp John Marc. Two years later, Camp John Marc Myers was selected to be one of two chosen charities of the Crystal Charity Ball, allowing the camp to host two cystic fibrosis camps a year with about 100 children per session. Campers participated in a variety of activities, some of which are illustrated on a special collage that hangs in Dr. Prestidge's office. The collage depicts wooden figures, each engaged in a camp activity, each decorated by a camper with cystic fibrosis and each dear to Dr. Prestidge, who would have remained the Cystic Fibrosis Camp doctor if it were not for the announcement in 1993 by the National Cystic Fibrosis Foundation, along with the Center for Disease Control that children with cystic fibrosis could no longer attend camp anywhere in the country. The edict came as a result of further understanding of the origins of the lung infections suffered by patients with cystic fibrosis, in particular, that serious infections could be transmitted between patients. Today patients admitted to the hospital with cystic fibrosis must remain in their own rooms to avoid the risk of acquiring a particularly virulent or resistant strain of bacteria. The wistful tone with which Dr. Prestidge talks about the cystic fibrosis camps intensifies when he is asked about the achievement of which he is most proud. "I don't think about the successes. I think about swinging and missing or dropping the ball." You can almost hear the little campers playing softball in the background.

In the mid-1980s Dr. Prestidge recruited Dr. Michael Brown to join him, and then in the mid 1990s Dr. Randall Rosenblatt joined the pair to care for the adults and to begin a lung transplant program. Subsequently, Drs. Andrew Gelfand and Steven Copenhaver joined the team. With the recent addition of Drs. Carolyn Cannon and Meghana Sathe, the team of doctors caring for cystic fibrosis patients at Children's has grown to six. The team of physicians is complemented by four nurses, a social worker, a nutrition specialist, a respiratory therapist and a clinical psychologist to create a multi-disciplinary approach to every visit. The clinic serves as a template for how caregivers of children with chronic illness ultimately work with adult caregivers. The fact that more and more patients with cystic fibrosis require transition to care by an internist illustrates the success of this multi-disciplinary approach. Dr. Prestidge has assembled a winning team. He may not see it, but he has hit a home run.



The Division of Respiratory Medicine provides care for infants through adolescents with a variety of respiratory disorders, including acute and chronic lung parenchyma and airway diseases, ventilatory muscle weakness, and disorders of neurologic control of breathing. For example, the division cares for a large cohort of chronically ventilated children, children with pulmonary artery hypertension, children in the accredited Cystic Fibrosis Care and Teaching Center, as well as children served by the multi-bed Sleep Disorders Center. Created in 2006, Respiratory Medicine encompasses twelve physicians and numerous associated healthcare professionals who together, form a truly multidisciplinary program at the two Children's campuses. The division continues to grow with three new faculty members joining Respiratory Medicine this year, Drs. Carolyn Cannon, Steven Copenhaver and Andrew Gelfand.

Additional faculty allowed the addition of new programs and enhancement of existing ones. In June 2008, for example, a respiratory inpatient service was created to better serve the patients in the general pulmonary program and the various specialized programs including sleep, pulmonary vascular disease, asthma and cystic fibrosis. The inpatient service has expanded substantially necessitating separate coverage of the respiratory service on the seventh floor of the C-Tower at Children's and the consultative service provided throughout the inpatient services at both Children's campuses, as well as the neonatal intensive care unit at Parkland.

Faculty



Julio Pérez Fontán, M.D., Professor and Vice Chairman of Pediatrics, holds the Joel B. Steinberg, M.D. Chair in Pediatrics and is serving as the Interim Director of Respiratory Medicine at UT Southwestern. He is also Associate Dean for Pediatric Services and Program Development at UT Southwestern and Executive Vice President of Medical Affairs at Children's. The autonomic nervous system, control of airway smooth muscle and neurogenic inflammation are the focus of Dr. Pérez Fontán's research. Dr. Pérez Fontán received his medical degree *summa cum laude* from the Universidad de Santiago De Compostela, Spain, in 1977. He performed his residency in Pediatrics at the Universidad Autonoma de Barcelona from 1978 to 1981, and a fellowship at the University of California and the Cardiovascular Research Institute in San Francisco from 1981 to 1984. Prior to joining the UT Southwestern faculty, Dr. Pérez Fontán was a member of the faculty at the University of California in San Francisco, Yale University and Washington University in St. Louis, Missouri. He was honored as the Alumni Endowed Professor of Pediatrics at Washington University School of Medicine in 2001.

Carolyn L. Cannon, M.D., Ph.D.

Assistant Professor

Clinical/research expertise: Cystic fibrosis (CF), pediatric pulmonology, respiratory diseases including asthma, interstitial lung disease, chronic lung disease, bronchoscopy, pathogenesis of pulmonary infection in the lungs of patients with CF and the development of novel therapies to treat these infections including targeted nanoparticles to provide depot delivery of a new class of silver-based antimicrobials

Education: Texas A&M University, College Station, B.S., *cum laude*, 1982; Worcester Polytechnic Institute, Worcester, MA, M.S., 1985; UT Houston, M.D., 1993; UT Graduate School of Biomedical Sciences, Houston, Ph.D., 1993

Post-doctoral training: Children's Hospital, Boston, MA, Intern and Resident, Pediatrics, 1993-1996; Fellow, Pediatric Pulmonology, 1996-1999; Channing Laboratory, Harvard Medical School/Brigham & Women's Hospital, Boston, MA, Research Fellow, 1998-1999



Steven C. Copenhaver, M.D.

Clinical Associate Professor

Clinical/research expertise: Cystic fibrosis, chronic mechanical ventilation, premature neonates with chronic lung disease, muscle disorders, pulmonary hypertension, bronchoscopy and invasive pulmonary interventions, asthma, microbiology of cystic fibrosis airways, Steven Johnson syndrome/TENs, lung transplant

Education: Sterling College, KS, B.S., 1984; Texas A&M University Medical Center, College Station, M.D., 1989

Post-doctoral training: Duke University Health Center, Durham, NC, Resident, Pediatrics, 1989-1992; University of Colorado Health Science Center, Denver, Fellow, Pediatric Pulmonology, 1992-1995



Andrew S. Gelfand, M.D.

Clinical Associate Professor

Clinical/research expertise: Chronic mechanical ventilation, premature neonates with chronic lung disease, asthma, cystic fibrosis

Education: UT Austin, B.A., 1986; Baylor College of Medicine, Houston, TX, M.D., 1990

Post-doctoral training: Baylor College of Medicine, Houston, Resident, Pediatrics, 1990-1993; University of Colorado Health Science Center, Denver, Fellow, Pediatric Pulmonology, 1993-1996



Peter M. Lockett, M.D.

Associate Professor

Clinical/research expertise: Pediatric pulmonology, respiratory disease associated with neuromuscular diseases and critical care medicine

Education: University of Kentucky, Lexington, B.G.S., 1975; University of Kentucky College of Medicine, Lexington, M.D., 1978

Post-doctoral training: University of Kentucky, Lexington, Resident, Pediatrics, 1978-1981; Columbia University College of Physicians and Surgeons, New York, NY, Fellow, Pediatric Pulmonology, 1981-1984, Fellow, Cellular Physiology, 1984-1987





Tanya M. Martinez-Fernandez, M.D.

Assistant Professor

Clinical/research expertise: Pediatric pulmonology, infant lung disease/infant pulmonary function and sleep medicine

Education: University of Chicago, IL, B.A., 1993; University of Puerto Rico School of Medicine, Rio Piedras, M.D., 1997

Post-doctoral training: University Pediatric Hospital, University of Puerto Rico School of Medicine, Rio Piedras, Resident, Pediatrics, 1997-2000; Indiana University, Indianapolis, Fellow, Pediatric Pulmonology, 2000-2003; Research Fellow, 2003-2004



S. Kamal Naqvi, M.D.

Assistant Professor

Clinical/research expertise: Sleep disorders, non-invasive ventilation, narcolepsy, obstructive sleep apnea in children, pediatric pulmonology, respiratory diseases

Education: Dow Medical College, University of Karachi, Pakistan, M.B.B.S., 1989

Post-doctoral training: The Brookdale University Medical Center, Brooklyn, NY, Resident, Pediatrics, 1992-1995; SUNY Health Sciences Center, Brooklyn, Fellow, Pediatric Hematology/ Oncology, 1995-1996; Tulane University Medical Center, New Orleans, LA, Fellow, Pediatric Pulmonology, 2001-2004; Fellow, Sleep Medicine, 2004-2005



Claude B. Prestidge, M.D.

Clinical Assistant Professor

Clinical/research expertise: Cystic fibrosis

Education: UT Southwestern, M.D., 1968

Post-doctoral training: UT Southwestern/Children's Medical Center, Intern, Pediatrics, 1968-1970; U.S. Navy Camp Pendleton and Sasebo, Japan, Pediatrics, 1970-1972; UT Southwestern/Children's Resident, Pediatrics, 1972-1973



Yadira M. Rivera-Sanchez, M.D.

Assistant Professor

Clinical/research expertise: Pediatric pulmonology respiratory diseases including premature neonates with chronic lung disease, interstitial lung disease, asthma, bronchoscopy

Education: University of Puerto Rico, Humacao, B.S., 1994; Ponce School of Medicine, Puerto Rico, M.D., 1998

Post-doctoral training: University Pediatric Hospital, University of Puerto Rico, Rio Piedras, Resident, 1998–2001; Children's Hospital, Harvard Medical School, Boston, MA, Fellow, Pediatric Pulmonary Medicine, 2001-2004



Peter N. Schochet, M.D.

Clinical Assistant Professor

Clinical/research expertise: Chronic respiratory failure, chronic lung disease, neuromuscular disorders, bronchoscopy, asthma, sickle cell-related lung disease, chronic aspiration, restrictive lung disease and chest wall disorders, non-invasive ventilation, respiratory consequences of early onset scoliosis, as well as the respiratory complications of neuromuscular disease

Education: University of Pennsylvania, Philadelphia, B.A., 1986; Temple University School of Medicine, Philadelphia, PA, M.D., 1990

Post-doctoral training: Texas Children's Hospital/Baylor College of Medicine, Houston, Resident, Pediatrics, 1990-1993; Boston Children's Hospital/Harvard Medical School, MA, Fellow, Pediatric Pulmonology, 1993-1996

Felix R. Shardonofsky, M.D.

Associate Professor

Clinical/research expertise: Pediatric pulmonology, pulmonary disease, pulmonary function testing, pulmonary hypertension, respiratory diseases

Education: Colegio Nacional Bartolomé Mitre, Buenos Aires, Argentina, B.S., 1965; University De Buenos Aires, Argentina, M.D., 1971

Post-doctoral training: Hospital de Ninos, Buenos Aires, Argentina, Resident, Pediatrics, 1972-1975; Chief Resident, Pediatrics, 1975-1976; Meakins-Christie Laboratories, McGill University, Montreal, Canada, Fellow, Pulmonary Research, 1987-1990; The Children's Hospital of Philadelphia, University of Pennsylvania, Fellow, Pulmonary Medicine, 1990-1992; Fellow, General Pediatrics, 1992-1993



Olatunji W. Williams, M.D.

Assistant Professor

Clinical/research expertise: Respiratory diseases, pulmonary hypertension, acute asthma therapy

Education: UT Dallas, B.A., 1994; UT Medical Branch at Galveston, M.D., 1999

Post-doctoral training: The Children's Hospital, Oklahoma University Medical Center, Norman, Resident, Pediatrics, 1999-2002; Chief Resident, Pediatrics, 2002-2003; Texas Children's Hospital, Baylor College of Medicine, Houston, Fellow, Pediatric Pulmonology, 2003-2006



Clinical/Research Staff

Suja Abraham, RN

Clinical Nurse

Barbara Baum, LMSW

CF Social Worker

Genelle Beerbower, RD, CSP, LD

CF Clinical Dietitian

Linda Blane, RN

Clinical Nurse

Amy Boronow, RN, BSN

CF Clinical Nurse

Beth Coleman, RN, MSN, CPNP

Clinical Nurse Practitioner

Cindy Contreras, MA

CF Medical Assistant

Ashlee Dillow, RRT

Respiratory Care Practitioner

Katherine Gapp, RN, MSN, CPNP

Clinical Nurse Practitioner

Jamie Grollman, Ph.D.

CF Clinical Psychologist

Andrew Hebert, BSRC, RRT, RCP

CF Research Coordinator

Maria Izaguirre, MA

Medical Assistant

LuAnn Jackson, RRT, CPFT

Respiratory Care Practitioner

Paul Klemm, RRT, RPFT

Respiratory Care Practitioner

Elizabeth Lopez, MA

Medical Assistant

Robin Luffy, RN, MSN, CPNP

Clinical Nurse Practitioner

Vivian Ojeda, MA

Medical Assistant

Poonam Patel, RN, BSN

CF Clinical Nurse

Pamela Petersen, RN

Clinical Nurse

Jennifer Powell, RN, BSN, MHA

CF Practice Manager

Rebecca Richardson, RD, LD

CF Clinical Dietitian

Rachel Rosen, RN, MSN, CPNP

Clinical Nurse Practitioner

William Ruiz, RRT, AE-C

Respiratory Care Practitioner

Laura Smith, RRT-NPS, RPFT, AE-C

Respiratory Care Practitioner

Margaret Smith, RN, BSN

CF Clinical Nurse

Brenda Urbanczyk, RN, BSN, BBA

Practice Administrator

Guadalupe Villarreal, RRT

CF Respiratory Care Practitioner

Christine Wagner, RN, CPNP

Clinical Nurse Practitioner



Research Activities

Although the first priority of the Division of Respiratory Medicine has been the establishment of an excellent clinical program, research efforts have expanded. Each faculty member is developing areas of interest for scholarship, which includes research in cystic fibrosis, lung development, pulmonary consequences of neuromuscular diseases and asthma.

Researchers in Dr. Julio Pérez Fontán's laboratory investigate the influence of the nervous system on the structure and function of the airways. Physiological and neuroanatomical studies have contributed to the present view of the bronchomotor system as an integral part of breathing control through the relationships between vagal and phrenic outflows and the overlap between the bronchomotor and breathing networks. Recent attention has been focused on the participation of sensory neuropeptides in the regulation of the inflammatory response.

Dr. Carolyn Cannon's group focuses on the pathogenesis of pulmonary infection with several related bacterial species found in the lungs of patients with cystic fibrosis (CF) and development of novel therapies to treat these infections. Using both in vitro and mouse models of infection, the Cannon laboratory explores the role that the defective gene and protein underlying CF, the cystic fibrosis transmembrane conductance regulator (CFTR) plays in clearance of *Pseudomonas aeruginosa* and *Burkholderia cepacia* complex (Bcc) organisms. The group also studies the activity of a series of novel silver-based antimicrobials, silver N-heterocyclic carbene complexes (SCCs), which inhibit the growth of all bacterial species tested to date including the CF lung pathogens *P. aeruginosa*, methicillin-resistant *Staphylococcus aureus* (MRSA) and Bcc organisms. Nebulized SCCs, formulated both as a solution and after incorporation into nanoparticles, have efficacy in mouse infection models. Dr. Cannon is working within a Program of Excellence in Nanotechnology to optimize drug delivery. Dr. Cannon has also expanded on the work of Dr. Claude Prestidge to involve the patients in the Cystic Fibrosis Care and Teaching Center at Children's in clinical trials of new therapies, which may one day include SCCs.

Dr. Peter Lockett's research interests center on acute lung injury, mechanical ventilation, near-fatal asthma, pulmonary outcomes in neuromuscular disease, and clinical trials in pediatric critical care. Recent work includes development of a clinical trial of strict glucose control in critically ill children using a computer-driven protocol.

Dr. Peter Schochet investigates the respiratory consequences of early-onset scoliosis. Additionally, Dr. Schochet continues to work with Dr. Susan T. Iannaccone, the Jimmy Elizabeth Westcott Distinguished Chair in Pediatric Neurology, to study the respiratory complications of neuromuscular disease.

Bronchopulmonary dysplasia (BPD) affects 30 to 50 percent of premature infants in the United States and results in part from the disruption of normal lung development. Dr. Olatunji Williams strives to understand the molecular mechanisms that regulate lung development, an understanding that is vital to disease prevention and treatment. It is now known that in addition to prematurity, environmental stresses such as hypoxia (low oxygen) and hyperoxia (high oxygen) can also disrupt lung development and that these processes are associated with elevated activation of transforming growth factor-beta (TGF- β), a growth factor that regulates lung development. Dr. Williams' research focus is dedicated to defining and manipulating molecules that regulate TGF- β signaling and activation in order to promote alveolar and vascular growth in BPD. Dr. Williams work has been presented in three international conferences in the last year.

Clinical Activities

Inpatient Service

Dr. Yadira Rivera and Dr. Carolyn Cannon oversee the Pediatric Pulmonary Medicine inpatient administrative duties. Dr. Rivera has been instrumental in the development of several process improvement initiatives. The Inpatient Pulmonary Service as it exists now was created on September 1, 2009. It consists of an Admissions Service and a Consult/Bronchoscopy Service. Assigned at all times to the Pulmonary Admissions Service is one Pediatric Pulmonary Medicine physician, one senior Pediatrics resident, two general Pediatrics interns and an Anesthesia resident. A Pharm-D, a nutritionist, a social worker, a care coordinator, a respiratory therapist and a registered charge nurse participate in rounds on a regular basis.

The patient population on this service consists primarily but is not limited to patients with chronic respiratory failure on mechanical ventilation and patients with neuromuscular diseases hospitalized for an acute respiratory process, acute asthma exacerbations and status asthmaticus, complicated pneumonias, patients status post airway surgery including but not limited to obstructive sleep apnea, chronic bronchiectasis with an acute exacerbation, chronic lung disease of prematurity with an acute respiratory illness, interstitial lung disease with an acute respiratory illness or for steroid pulses or other immunosuppressive agents. The pulmonary service has been designated the pilot service for a new program named "Revitalizing Care at the Bedside". Among other things this program will actively incorporate patients and family members into daily rounding activities. This program intends to improve patient care, as well as satisfaction of patients and their families.

The Consult Service provides service to both the entire Children's Dallas Medical Center, as well as the Parkland Health system NICU. One Respiratory Medicine physician and an inpatient pulmonary nurse practitioner are assigned to the Consult Service at all times. Inpatient bronchoscopies are performed either in the Main Operating Room (OR), Pediatric Intensive Care Unit (PICU) or Neonatal Intensive Care Unit (NICU). Bronchoscopies are assisted by the Main OR Respiratory Therapy department.

During 2008 and 2009, several important changes have been made to the Respiratory Medicine Inpatient Service. A teaching schedule was created with a pulmonary physician, providing once or twice a week rotating lecture schedule for the residents. Teaching is also provided on a rotating schedule by a pulmonary nurse practitioner asthma educator, speech pathologist and respiratory therapist. A core group of pulmonary and



general pediatrics textbooks has been incorporated into the inpatient pulmonary rotation. These textbooks are stored in the pulmonary floor and can be utilized by general pediatrics and anesthesia residents rotating through the inpatient pulmonary service. The service was sub-divided into the current two components (Admissions and Consults/Bronchoscopy), each in charge by a pediatric pulmonary physician. An inpatient nurse practitioner was recruited to assist the consult pulmonary attending. A leader respiratory therapist was incorporated into daily rounds.

Outpatient Services

Dr. Tanya Martinez leads the development and organization of the outpatient clinics and also oversees the Comprehensive Asthma Program at Children's. The outpatient care activities of the Respiratory Medicine Division encompass a comprehensive center with the capability of evaluating a variety of respiratory disorders in a multidisciplinary approach. The outpatient clinical area is housed on the 5th floor of the Pavilion Outpatient Building at Children's Medical Center in Dallas with a limited number of clinics in the Legacy Outpatient Center in Plano. Consultative services are provided through the combined effort between physicians and advanced nurse practitioners.



The outpatient clinic staff includes nursing, respiratory therapy, social work and nutrition who are available to supply support and help coordinate equipment and home nursing needs. In addition, the staff is qualified to provide education in respiratory equipment use and asthma management in the clinic setting.

A pulmonary function laboratory is conveniently located adjacent to the outpatient pulmonary clinic area. Dr. Olatunji Williams serves as the Medical Director for the pulmonary function laboratory, supervising the execution and interpretation of studies. The laboratory has the capacity to perform comprehensive respiratory function evaluation. Available testing includes simple spirometry, lung volumes, diffusing capacity, exhaled nitric oxide, evaluation of airway reactivity and cardiopulmonary exercise testing. In addition, Children's Dallas has the only infant pulmonary function laboratory in North Texas. Specialized outpatient clinical activities include:

Pulmonary Aerodigestive Disorders Clinic (PAD)

Dr. Yadira Rivera-Sanchez staffs the pulmonary component of the PAD clinic, a multidisciplinary effort between Respiratory Medicine, ENT, Gastroenterology and Speech Therapy that provides comprehensive evaluation of children with complex problems involving the upper airway, pulmonary and upper digestive tract. Clinics occur on the first Monday of each month.

Asthma Outpatient Services

Drs. Martinez and Rivera-Sanchez serve as liaisons between the Respiratory Medicine and the Allergy Divisions that jointly staff the High Risk Multidisciplinary Asthma Clinic that provides comprehensive evaluation of patients with uncontrolled asthma and life threatening asthma. The team that includes six certified asthma educators works closely with the Asthma Management Program at CMC to provide ongoing education to our asthma patients. Patients are seen in the shared Pulmonary and Allergy Clinic area. Initial funding for the clinic through the Crystal Charity Ball has been approved and expected for 2011.

Cystic Fibrosis Care and Teaching Center

Dr. Claude Prestidge serves as director of the Cystic Fibrosis Care and Teaching Center at Children's Medical Center Dallas, which cares for the largest population of patients with cystic fibrosis in North Texas. Other physicians caring for the children with cystic fibrosis include Drs. Michael Brown, Carolyn Cannon, Steven

Copenhaver and Andrew Gelfand. The center is fully accredited by the Cystic Fibrosis Foundation. The care team includes dedicated nurses, as well as a social worker, respiratory therapist, nutrition specialist, child life specialist and clinical psychologist. Dr. Meghana Sathe, a pediatric gastroenterologist with an interest in cystic fibrosis participates in clinics on a weekly basis. Clinics are held on Monday at the Legacy campus and on Tuesday, Thursday and Friday at the Dallas campus.

Neuromuscular Disorders Clinic

Drs. Peter Schochet and Peter Luckett staff the Adolescent Muscle clinic, which is a multi-disciplinary clinic devoted to the unique needs of older teenagers with various Neuromuscular Diseases. The clinic is a joint effort with the Neurology Department and provides evaluation and management of children with pulmonary involvement secondary to neuromuscular disease. The multidisciplinary clinic focused on adolescent patients is held once a month.

Pulmonary Hypertension Clinic

Dr. Olatunji Williams has remained closely involved with improving the care of patients with pulmonary vascular disease, including caring for patients with pulmonary hypertension and serving as the pediatric pulmonology consultant for the Hereditary Hemorrhagic Telangiectasia Center here at UT Southwestern.

- Comprehensive evaluation of patients diagnosed or presenting with symptoms suggestive of pulmonary hypertension
- Clinics occur once a month

Sleep Disorders Center

Dr. Kamal Naqvi directs the sleep program, which provides clinical services on a variety of sleep- and respiratory-control-related disorders.

- Comprehensive center for the evaluation of sleep disorders in children
- Dedicated monthly clinic to provide follow up care for children using non-invasive positive pressure therapy to treat sleep disordered breathing
- State of the art equipment and technologies available to perform polysomnography, multiple sleep latency test, positive airway pressure/non-invasive ventilation titrations and actigraphy
- Sleep technology staff available for equipment education and support
- Five half-day clinics a week

Presentations/Teaching Activities

Members of the Respiratory Medicine division actively engage in teaching medical students and residents at UT Southwestern. A Pediatric Pulmonology Fellowship Training program is under development by Dr. Carolyn Cannon with accreditation anticipated for the 2010 academic year.

Carolyn L. Cannon, M.D., Ph.D.

- “Silver Carbenes as Novel Nebulized Antimicrobials,” Department of Pediatrics Research Conference, Vanderbilt University, Nashville, TN, October 2008
- “Nebulized Silver Carbene Antimicrobials for the Treatment of Pulmonary Infection,” Center for Therapeutics Research, Akron, OH, July 2009
- “Nebulized Silver Carbene Antimicrobials for the Treatment of Pulmonary Infection,” Ethicon, Inc., Sommerville, NJ, July 2009
- “Treatment of MRSA in CF,” The North American Cystic Fibrosis Conference, Minneapolis, MN, October 2009
- “Antimicrobial properties of nanoparticles loaded with Silver N-heterocyclic Carbenes,” Massachusetts General Hospital Center for Systems Biology, Boston, October 2009

S. Kamal Naqvi, M.D.

- “Sleep in Children with Chronic Medical Conditions,” Southern Sleep Society, 31st Annual Meeting, Atlanta, GA, April 2009

Major Administrative or Leadership Responsibilities

Julio Pérez Fontán, M.D.

- Vice Chairman, Department of Pediatrics, UT Southwestern
- Executive Vice President for Medical Affairs, Children’s
- Associate Dean for Pediatric Services and Program Development, UT Southwestern
- Interim Director, Division of Pediatric Respiratory Medicine, UT Southwestern
- Chairman, CTSA Pilot Grant Program
- Co-Chair, Chair of Radiology Search Committee
- Associate Director, T32 Training Grant
- Chairman, Anesthesiologist for Children Board of Directors

Carolyn L. Cannon, M.D., Ph.D.

- Member, American Thoracic Society (ATS) Pediatric Assembly Program Committee
- Cystic Fibrosis Stakeholder, Texas Newborn Screening Program
- Chief Scientific Officer, Akron Research Commercialization Corp., DBA Nebusil, Inc.

Andrew S. Gelfand, M.D.

- Medical Director, Our Children’s House, Baylor, Dallas, TX

Peter M. Luckett, M.D.

- Medical Director, Respiratory Care Department, Children’s
- Member, American Thoracic Society (ATS) Membership Committee
- Member, ATS Pediatric Assembly Program Committee
- Member, ATS Task Force, “Strengthening the Pillars,” Journals/Publications

Tanya M. Martinez-Fernandez, M.D.

- Medical Director, Comprehensive Asthma Center, Children’s
- Medical Director, Pulmonary Outpatient Services

S. Kamal Naqvi, M.D.

- Medical Director, Sleep Disorders Center, Children’s
- Site Director, Sleep Medicine Fellowship
- Fellow, American Academy of Sleep Medicine

Yadira M. Rivera-Sanchez, M.D.

- Medical Director, Pulmonary Inpatient Services

Peter N. Schochet, M.D.

- Chairman of Pediatrics, Texas Health Presbyterian Hospital, Plano
- Chairman, Pediatric Peer Review Committee, Texas Health Presbyterian Hospital, Plano
- Member, Medical Board, Texas Health Presbyterian Hospital, Plano

Felix R. Shardonofsky, M.D.

- Medical Director, Pediatric Pulmonary Hypertension Program, Children’s

Olatunji W. Williams, M.D.

- Medical Director, Pulmonary Function Laboratory, Children’s
- Counselor, Camp Broncho of North Texas
- Member, The Consortium of Children’s Asthma Camps



Marilynn G. Punaro, M.D.
Director, Pediatric Rheumatology

The Division of Pediatric Rheumatology at UT Southwestern serves as the major resource for Pediatric Rheumatology in North Texas. Its clinics are unique in the region and are staffed by the only board-certified pediatric rheumatologists in North Texas.

The division was one of the first pediatric rheumatology subspecialties in the country, founded in the 1950s by Dr. Chester Fink, one of the first pediatric rheumatologists elected as a Master of the American College of Rheumatology. It has continuously trained fellows from all over the world for more than 20 years, many of whom now head divisions of their own. The Arthritis Clinic, also established by Dr. Fink in the late 1950s, has grown from a few patients seen only a half-day each month to one of the country's largest clinics for children with rheumatic diseases.

The rheumatology clinics at Children's and Texas Scottish Rite Hospital for Children (TSRHC) strive to provide the highest quality of care to their patients. The multidisciplinary team at TSRHC now includes three nurse coordinators, two pediatric nurse practitioners, a physical therapist, an occupational

therapist and a dietician. Disease-specific templates for history, physical exams and new patient consults ensure a standardized and thorough collection of information from each patient on each clinic visit. Patient-reported outcomes are monitored with visual analog scales and questionnaires.

Individual disease-specific flow sheets, unique to the clinic, allow tracking of all aspects of a patient's care across time. They also function as care maps, prompting attention to preventive care and quality indicators of care. These include evaluation of bone health, assessment of coronary risk factors in lupus patients, assessment of pneumococcal immunization in immunosuppressed patients, radiographic surveillance for bone erosions in arthritis patients, and a schedule for ophthalmologic exams to assess uveitis, retinal vasculitis and possible drug toxicity. Additionally, the Rheumatology division is involved in both translational and clinical research, with 60 percent of patients participating in a research study.

Dr. Lorien Nassi joined the rheumatology staff in the summer of 2009.

Faculty

Marilynn G. Punaro, M.D., Professor, is Director of Pediatric Rheumatology at UT Southwestern. Dr. Punaro's clinical interests focus on juvenile arthritis, lupus, scleroderma, systemic arthritis and vasculitis. She is the Site Principal Investigator for several NIH treatment trials for lupus, treatment resistant polyarticular and systemic onset arthritis. Dr. Punaro received her medical degree from Tulane University School of Medicine, New Orleans, Louisiana, in 1977. She was a resident in Pediatrics at UT Southwestern/Children's from 1977 to 1980, and held a fellowship in Pediatric Rheumatology at UT Southwestern from 1980 to 1982. Dr. Punaro is the elected leader of the pediatric rheumatology program directors and the elected representative for pediatric rheumatology to the Council of Pediatric Subspecialties. She was elected to Best Doctors in America and was named a Texas Super Doctor by Texas Monthly magazine in 2008 and 2009. She was recently invited by the American College of Rheumatology to serve as an expert in the development of treatment guidelines for juvenile arthritis.



Alisa C. Gotte, M.D., M.S.C.S.

Instructor

Clinical/research expertise: Hyperhomocysteinemia in pediatric patients with systemic lupus erythematosus, juvenile idiopathic arthritis, clinical genetic and immunologic characteristics of children with oligoarthritis that predict a poor response to therapy

Education: UT Austin, B.A., 1998; UT Southwestern, M.D., 2002; UT Southwestern, M.S.C.S., 2009

Post-doctoral training: UT Southwestern/Children's, Resident, Pediatrics, 2002-2005; UT Southwestern, Fellow, Pediatric Rheumatology, 2005-2008; K-30 Graduate Certificate Student, Clinical Sciences, 2006-2007



Katherine L. Madson, M.D., Ph.D.

Assistant Professor

Clinical/research expertise: Juvenile arthritis, juvenile dermatomyositis, lupus, scleroderma, vasculitis

Education: St. Lawrence University, Canton, NY, B.S., 1973; University of Minnesota, Minneapolis, Ph.D., 1979; East Carolina University School of Medicine, Greenville, NC, M.D., 1987

Post-doctoral training: The Children's Mercy Hospital, Kansas City, MO, Resident, Pediatrics, 1987-1990; St. Louis University Medical Center, MO, Fellow, Pediatric Rheumatology, 1990-1992



Lorien Nassi, M.D.

Instructor

Clinical/research expertise: Pediatric rheumatology, psychological/cognitive symptomatology in pediatric lupus patients

Education: Stanford University, Palo Alto, CA, B.A., with honors, 1999; UT Southwestern, M.D., 2003

Post-doctoral training: UT Southwestern/Children's, Resident, Pediatrics, 2003-2006; UT Southwestern, Fellow, Pediatric Rheumatology, 2006-2009



Matthew L. Stoll, M.D., Ph.D.

Assistant Professor

Clinical/research expertise: Pathogenesis of juvenile psoriatic arthritis, subgroups within juvenile idiopathic arthritis, early-onset versus late-onset juvenile psoriatic arthritis

Education: Wesleyan University, Middletown, CT, B.A., 1994; SUNY Upstate Medical University, Syracuse, M.D., Ph.D., 2001, UT Southwestern, Clinical Research Scholar, Clinical Sciences, 2008-2011

Post-doctoral training: Long Island Jewish Medical Center, New Hyde Park, NY, Resident, Pediatrics, 2001-2004; Children's Hospital Boston, MA, Fellow, Pediatric Rheumatology, 2004-2007



Tracey B. Wright, M.D.

Assistant Professor

Clinical/research expertise: Health disparities in rheumatic disease, obesity and Vitamin D deficiency in pediatric systemic lupus erythematosus

Education: Yale University, New Haven, CT, B.S., 1997; Medical College of Pennsylvania-Hahnemann School of Medicine, Philadelphia, M.D., 2001; University of Pennsylvania School of Medicine, Philadelphia, M.S., 2006-present

Post-doctoral training: The Children's Hospital of Philadelphia, PA, Intern, Pediatrics, 2001-2002; Resident, Pediatrics, 2002-2004; Fellow, Pediatrics, 2005-2008

Post-doctoral Fellows and Clinical/Research Staff

Fellows

2nd year

Katie L. Stewart, M.D.

- Vitamin D deficiency in lupus

1st year

Julie Fuller, M.D.

- Juvenile dermatomyositis

Research Staff

Heather M. Benham, ND, RN, CPNP

TSRHC Pediatric Nurse Practitioner/Research Assistant

Shirley H. Henry, RN, PNP

TSRHC Pediatric Nurse Practitioner/Research Assistant

Jolene Wesley, RN

TSRHC Nurse Coordinator

Alex Almanza, LVN

TSRHC Nurse Coordinator

Research Activities

The Division of Pediatric Rheumatology is actively involved in both translational and clinical research endeavors directed toward improving pathophysiologic understanding, treatment options and outcomes in a variety of pediatric rheumatologic disorders.

The use of gene-expression analysis in children with systemic onset juvenile idiopathic arthritis (SOJIA) performed by members of this division has led to great advances in the understanding of the pathophysiology of this disorder. This insight directed the novel application of the Interleukin-1 (IL-1) receptor antagonist anakinra for treatment of SOJIA, which provided impressive evidence of the long-term efficacy and safety of anakinra in the treatment of children with SOJIA. Another IL-1 blocker, Riloncept, also has been studied in a Phase I trial.

UT Southwestern is the only pediatric center in Texas participating in the first NIH-sponsored multi-center treatment trials in pediatric lupus and in systemic arthritis.

Gene-expression analysis has also been applied in this division to the study of children with systemic lupus erythematosus (SLE) and, again, has provided important insight into potential pathophysiologic mechanisms by identifying increased Type 1 interferon production in these patients that correlated with clinical disease activity.

Further, the Rheumatology division also is participating in two multi-site NIH-funded trials in pediatric SLE, projects entitled “Development of Autoimmunity During Puberty,” and “A Multi-center, Randomized, Double Blind, Placebo-controlled Study to Test the Safety and Efficacy of Lipitor (atorvastatin) in Reducing the Progression of Carotid IMT in Early Childhood SLE.” Early aggressive treatment of polyarticular juvenile arthritis is being studied in another NIH-sponsored treatment trial.

Other subtypes of juvenile idiopathic arthritis (JIA) are the topics of additional ongoing clinical research projects in the division. The pathophysiology of juvenile psoriatic arthritis (jPsA) is currently being investigated

in a prospective pilot study of children with newly diagnosed jPsA, psoriasis and early-onset oligoarticular JIA that incorporates both clinical study and gene-expression analysis. In a separate investigation, features associated with treatment resistance in children with oligoarticular JIA are being explored in both retrospective and prospective fashions. Finally, a comprehensive registry of all newly diagnosed JIA patients is in the production phase, with the goal of creating a repository for clinical data, gene-expression analyses and genetic information for use in future investigations.

Clinical Activities

This year there were 306 inpatient consultations/admissions at Children’s and TSRHC. The types of admission at the two hospitals vary significantly in the acuteness of the illness and the types of therapy given. Inpatients at Children’s are primarily patients with lupus and patients seen for consultation who have been admitted for other services. They are more acutely ill or have difficult diagnostic problems.

Patients at the TSRHC Rheumatology Clinic may be admitted for intensive occupational or physical therapy and rehabilitation, or for a short period of time for intravenous pulses of steroid, Cyclophosphamide or other drugs. Historically, TSRHC has served as the major site for outpatient clinics. Currently, more than 1700 active patients are seen in approximately 4,000 outpatient visits per year, including more than 500 new-patient visits in three all-day clinics per week. Dr. Punaro is Director of Arthritis Services at TSRHC and all UT Southwestern faculty members staff at least one clinic per week. Outpatient clinics at Children’s, staffed by rheumatology faculty, also operate three days per week. These clinics primarily evaluate new patients, with over 600 new patient visits per year, and those with systemic lupus.

Outpatient clinic visits handled by staff	4,941
Inpatient consultations/admissions per year	460
Juvenile arthritis patients receiving treatment	796
New patients	657

Those patients who have clearly defined rheumatic diseases with a primary musculoskeletal component, such as juvenile arthritis, dermatomyositis and scleroderma, are managed at TSRHC. Patients with rheumatic diseases affecting multiple organ systems, such as systemic lupus and vasculitis, and those with benign causes of musculoskeletal pain, are managed at Children’s.

2008-2009 Active Rheumatology Patients	
Juvenile Arthritis	796
Systemic Lupus	128
Dermatomyositis	101
Scleroderma	48
Miscellaneous Other Rheumatic Diseases	<u>671</u>
	1,744

Presentations/Teaching Activities

The division provides the major instruction to pediatric residents in the evaluation of the musculoskeletal system and the assessment of rheumatic diseases. It also provides didactic teaching for the pediatric residents on the basics of rheumatology and directs teaching for the pediatric residents in the regular departmental clinical conferences and as part of inpatient consultation services.

A rheumatology elective is available for pediatric residents and fourth year medical students. The objectives of this elective are to:

- Develop a working differential diagnosis of arthritis in childhood
- Learn a complete joint examination and a physical evaluation of rheumatologic patients
- Examine and discuss patients from all major collagen vascular disease categories: juvenile arthritis, dermatomyositis, scleroderma and SLE

The pediatric residents see outpatients in clinics under the supervision of one of the members of the rheumatology faculty. A notebook of selected articles about rheumatic disease, including original material, has been developed by Dr. Punaro as curriculum for the elective. Residents are encouraged to attend clinical conferences offering didactic teaching for fellows. This elective has been very popular with residents.

Trainees in other departments also spend time in the rheumatology clinics. Residents in Physical Medicine and other specialties may receive some of their training through the division. In addition to resident training, the division has one of only 28 accredited programs for fellowship training in Pediatric Rheumatology. Dr. Punaro is Program Director. She also serves as faculty for the Internal Medicine Rheumatology training program.

Marilynn G. Punaro, M.D.

- Course Director, Pediatric Rheumatology Elective for Fourth-year Students
- Course Director, Pediatric Rheumatology Elective for Pediatric Residents
- “Juvenile Arthritis for Adult Rheumatologists,” American College of Rheumatology Annual Scientific Meeting, San Francisco, CA, October 2008
- Sandborg C, Giannini EH, Feldman BM, Gottlieb B, Grom A, Hashkes P, Imundo L, Kimura Y, Lang B, Miller ML, Milojevic D, O’Neil K, Punaro M, Ruth N, Shanberg LE, Singer N, Vehe R, Verbsky J, Wallace C, Woodward C, Zemel L, Kenney K, Rivera M, Ilowite N, “Consensus Development of a Corticosteroid (CS) Tapering Algorithm for the Randomized Placebo Phase Study of Riloncept in the Treatment of Systemic JIA (Rapport),” American College of Rheumatology Annual Scientific Meeting, San Francisco, October 2008 (poster presentation)
- Sagcal-Gironella AC, Lapidus SK, Higgins GC, Ying J, Graham TB, Onel K, Punaro M, Olson J, Klein-Gitelman M, Brunner HI, “Minimal Clinically Important Difference (MCID) of SLE Disease Activity Measures When Used in Childhood Systemic Lupus Erythematosus (cSLE),” American College of Rheumatology Annual Scientific Meeting, San Francisco, October 2008 (poster presentation)
- Ardoin S, Schanberg L, Barnhart H, Yow E, Mieszkalsit K, von Scheven E, Ilowite N, Eberhanrd A, Levy D, Kimura Y, Silverman E, Bowyer S, Punaro M, Singer N, Sherry D, Silver R, McCurdy D, Klein-Gitelman M, Wallace C, Wagner-Weiner L, Higgins G, Brunner H, Jung L, Soep J, Reed A, Sandborg C, “Clinical Laboratory Markers of Cardiovascular Risk in a Pediatric SLE Cohort,” American College of Rheumatology Annual Scientific Meeting, San Francisco, October 2008 (poster presentation)
- O’Neil KM, Kickingbird LM, Brunner H, Punaro M, Li SC, Myones BL, Zeff AS, “Clinical Features of Pre-Pubertal Onset Systemic Lupus Erythematosus in Girls,” American College of Rheumatology Annual Scientific Meeting, San Francisco, October 2008 (poster presentation)

- Stewart KG, Gotte A, Browne R, Punaro M, “Longitudinal Analysis of Vitamin D Deficiency in Pediatric Lupus,” American College of Rheumatology Annual Scientific Meeting, San Francisco, October 2008 (poster presentation)
- Arkachaisri T, Vilaiyuk S, Li S, O’Neil KM, Pope E, Higgins G, Punaro M, Rabinovich E, Rosenkranz M, Kietz D, Rosen P, Spalding SJ, Hennon T, Torok K, Cassidy E, Medsger Jr. TA, “Localized Scleroderma Skin Severity Index (LoSSI): First Step Towards the Development of Localized Scleroderma Cutaneous Assessment Tool,” American College of Rheumatology Annual Scientific Meeting, San Francisco, October 2008
- Obermoser G, Blankenship D, Sabzghabaei N, Kim B, Punaro M, Banchereau J, Pascual V, “Relative Expansion of CD28-CD8+ T Lymphocytes in Paediatric SLE: Analysis by 11 Parameter/ 9 Colour Flow Cytometry,” American College of Rheumatology Annual Scientific Meeting, San Francisco, October 2008 (poster presentation)
- Punaro L, Gotte AC, Blankenship DM, Stoll ML, Allantaz F, Pascual V, “Clinical and Microarray Follow-up of Systemic-Onset Juvenile Idiopathic Arthritis (SOJIA) Patients Treated with Anakinra,” American College of Rheumatology Annual Scientific Meeting, San Francisco, October 2008
- “Juvenile Idiopathic Arthritis,” Meet the Professor, American College of Rheumatology Annual Scientific Meeting, Washington, DC, November 2008
- “Future Interventions: What’s New and Coming Soon in Juvenile Arthritis Research,” Arthritis Foundation National Juvenile Arthritis Conference, Houston, TX, July 2009
- “Autoinflammatory Syndromes: Manifestations, Mechanisms and Management,” Texas Health Presbyterian Hospital, Dallas, August 2009
- “Update on Autoinflammatory Syndromes,” Rheumatology Grand Rounds, UT Southwestern, August 2009
- Thompson SD, Ramos PS, Sudman M, Marion MC, Mueller C, Haas JP, Prahalad S, Zeff AS, Bohnsack JF, Wise CA, Punaro MG, Rosé CD, Divers J, Langefeld CD, Glass DN, “Shared Loci Between Juvenile Idiopathic Arthritis and Other Autoimmune Diseases,” American College of Rheumatology Annual Scientific Meeting, Philadelphia, October 2009
- Fuller J, Adams R, Punaro MG, “Clinical Indicators of Disease Are Not Indicative of Aspiration Risk in Newly-Diagnosed Patients with Juvenile Dermatomyositis,” American College of Rheumatology Annual Scientific Meeting, Philadelphia, October 2009 (poster presentation)
- Wright T, Punaro MG, Baisch J, Xu, Z, Pascual MV, “The Biologic Rationale for Recurrent Intravenous Methylprednisilone Pulsing for Induction of Pediatric Systemic Lupus Erythematosus,” American College of Rheumatology Annual Scientific Meeting, Philadelphia, October 2009 (poster presentation)
- Mina R, Eberhard BA, von Scheven, E, Higgins GC, Lapidus S, Eaton J, Schanberg LE, Onel K, Punaro MG, Olson JC, Ying J, Klein-Gitelman M, Brunner H, “Defining and Measuring Global Flares of Juvenile Systemic Lupus Erythematosus,” American College of Rheumatology Annual Scientific Meeting, Philadelphia, October 2009 (poster presentation)
- Nassi LA, Punaro MG, Morton A, Fribley C, Baisch J, Xu Z, Pascual MV, “Suicidal Ideation Common in Childhood-Onset Systemic Lupus Erythematosus (cSLE),” American College of Rheumatology Annual Scientific Meeting, Philadelphia, October 2009 (poster presentation)
- Gotte AC, Punaro MG, “Children with Persistent Oligoarticular Juvenile Idiopathic Arthritis (OJIA) Resistant to Standard Therapy: An Under-Recognized Population,” American College of Rheumatology Annual Scientific Meeting, Philadelphia, October 2009
- “Systemic Lupus: Manifestations, Management and Mechanisms,” Pediatric Grand Rounds, Children’s December 2009

The pediatric rheumatology faculty at UT Southwestern represent 45 percent of all board-certified pediatric rheumatologists in the state.

Alisa C. Gotte, M.D., M.S.C.S.

- “Vasculitis in Childhood,” Rheumatology Grand Rounds, UT Southwestern, January 2009 and December 2009
- “The Differential Diagnosis of Arthritis in Childhood,” 41st Annual Kenneth C. Haltalin Pediatrics for the Practitioner, Dallas, TX, April 2009
- Roundtable Discussion Leader: “JRA and Psoriatic Arthritis,” 2009 Juvenile Arthritis Conference, Houston, TX, July 2009
- Gotte AC, Punaro MG, “Children with Persistent Oligoarticular Juvenile Idiopathic Arthritis (OJIA) Resistant to Standard Therapy: An Under-Recognized Population,” American College of Rheumatology Annual Scientific Meeting, Philadelphia, October 2009



Major Administrative or Leadership Responsibilities

Marilynn G. Punaro, M.D.

- Rheumatology Representative (elected), Council of Pediatric Subspecialties (CoPS)
- Division Director, Pediatric Rheumatology, UT Southwestern
- Program Director, Pediatric Rheumatology Fellowship Training Program, UT Southwestern
- Director, Arthritis Services, TSHRC
- Chief, Pediatric Rheumatology, Children’s

Alisa C. Gotte, M.D., M.S.C.S.

- Assistant Program Director, Pediatric Rheumatology Fellowship Training Program, UT Southwestern

Awards and Honors

Marilynn G. Punaro, M.D.

- Texas Super Doctor, *Texas Monthly*
- Best Doctors in America

Alisa C. Gotte, M.D., M.S.C.S.

- Clinical Research Scholar, Department of Clinical Sciences, UT Southwestern, 2007-2010

Matthew L. Stoll, M.D., Ph.D.

- Clinical Research Scholar, Department of Clinical Sciences, UT Southwestern, 2008-2011

NIH and Other Government Grants and Contracts

James F. Amatruda, M.D., Ph.D.

- Generation and Rapid Mapping of Low-penetrance Disease Alleles in Zebrafish
NIH, 1R01CA13573101
08/01/08 - 07/31/13

Theresa Barton, M.D.

- Human Immunodeficiency Virus-perinatal Prevention, 28246
Department of State Health Services
06/01/08 - 12/31/10
- Ryan White Care Act Title IV Adolescent Initiative
HRSA, 5H12HA230520800
09/01/08 - 08/31/12
- Ryan White Care Title IV Program
HRSA, 2H12HA000361900
08/01/07 - 07/31/12

Michel Baum, M.D.

- Neonatal Proximal Tubular Acidification
NIH, 2R01DK04161214A2
04/01/09 – 03/31/14
- Effect of Prenatal Programming on Renal Tubular Transport
NIH, 1R01DK07859601A2
09/01/09 – 03/31/14

Kamal Bharucha, M.D.

- Neuroendocrine Control of Energy Balance by the Drosophila
AKH/GLU, 1-K08-DK75922-01A1
09/01/09 – 07/31/13

George R. Buchanan, M.D.

- Health Care and Other Facilities
HRSA, 1-C76-HF10995-01-00
09/01/08 – 08/31/10
- Pediatric Hematology and Oncology Research Training
NIH, 5T32CA00964019
07/01/08 - 06/30/10
- Southwestern Comprehensive Sickle Cell Center
NIH, 5U54HL07058807
04/01/09 – 03/31/10

Scott Cameron, M.D., Ph.D.

- Regulation of Programmed Cell Death in *C. Elegans*
NIH, 5R01GM06966705
07/01/08 - 06/30/09

Deborah Carlson, Ph.D.

- Project 2-Pathophysiologic and Biochemical Changes of Thermal Injury
NIH, 5P50GM02168144
09/01/08 - 8/31/11

Matthew J. Cox, M.D.

• Forensic Assessment Center Services
UT Health Science Center Houston
09/01/07 - 08/31/10

Ralph DeBerardinis, M.D., Ph.D.

• Metabolic Regulation in Growth Factor-Dependent Cells
NIH, 5K08DK07256505
07/01/08 - 6/30/11

Andrew P. Feranchak, M.D.

• Mechanosensitive ATP Release and Signaling in Cholangiocyte
NIH, 1R01DK07858701A1
03/01/08 - 02/28/13

Vidu Garg, M.D.

• Genetic Regulation of Cardiac Septation
NIH, 5R01HL08896502
07/16/07 - 04/30/12

Michelle Gill, Ph.D., M.D.

• Alteration of Human Dendritic Cell Subsets by RSV
NIH, 5K08AI05937904
05/01/08 - 04/30/09

Halim Hennes, M.D.

• EMSC Targeted Issues Grant
5-H34-MC11116-02-00
07/01/08 – 08/31/10

Michele R. Hutchison, M.D., Ph.D.

• Examination of the Pre-pubertal Mammalian Growth Plate
NIH, 5K08DK07344703
7/01/08 - 6/30/11

Janna Journeycake, M.D., M.S.

• Identification and Treatment of Clinically Silent Catheter-related Deep Vein Thrombosis in Children with Cancer
NIH, 5K23HL08409703
05/01/08 - 04/30/11

Steven Kernie, M.D.

• The Role of Neural Stem Cells in Traumatic Brain Injury
NIH, 5R01NS04819204
05/01/2008 - 04/30/11
• The Role of Neural Stem Cells in Traumatic Brain Injury
ARRA NIH, 5R01NA048192-04S1
07/27/09 – 03/02/10

Bassil M. Kublaoui, M.D.

• Role of Sim1 in Hyperphagic Obesity
NIH, 5K08DK07322803
07/01/08 - 06/30/11

Fangming Lin, M.D.

- Stem Cell Therapy for Acute Kidney Injury

NIH, 5R01DK083411-01A1

09/24/09 – 07/31/14

- Use of Umbilical Cord Blood Derived HSC to Treat Acute Kidney Injury

ARRA-NIH, 1-RC1DK086886-01

09/30/09 – 07/31/11

George Lister, M.D.

- National Children's Study

NIH/NICHHD, HHSN27520080035C

09/26/08 - 09/25/13

- Establish a Referral and Consultation Network of Medicaid Patients

Texas Health and Human Services

06/02/09 – 08/31/10

George H. McCracken, Jr., M.D.

- Pediatric Pharmacology Research Unit

NIH, 5U10HD04600005

01/01/08 - 12/31/10

Matthew H. Porteus, M.D., Ph.D.

- Using Zinc Finger Nucleases to Stimulate Gene Targeting in HSC

NIH, 5R01HL07929504

09/01/07 - 01/31/10

Zora R. Rogers, M.D.

- Comprehensive Sickle Cell Center Program Project

NIH/Thomas Jefferson University, 5U54HL07058507

09/12/08 – 03/31/09

- Pediatric Hydroxyurea Phase III Clinical Trial-Clinical Center

NIH, N01HB007159

07/01/08 - 06/30/12

- Promoting Education and Outreach of Persons with Hereditary Blood Disorders

CDC, 1U58DD00046501

09/30/09 – 09/29/10

Charles R. Rosenfeld, M.D.

- Studies of Uteroplacental Circulation

NIH, 5R01HD008783-34

09/01/77 - 04/30/14

Pablo Sanchez, M.D.

- NICHD Co-operative Multicenter Neonatal Research Network

NIH, 5U10HD04068909

04/01/08 - 03/31/10

One NIH-supported grant has been continuously funded for more than 30 years.

Rashmin Savani, M.B.Ch.B.

- ABCA3 and the Response to Lung Injury
NIH, R01HL09353502
02/01/10 – 01/31/11
- ABCA3 and the Response to Lung Injury
ARRA NIH, 3R01HL093535-01A1S1
06/01/09 – 08/31/10
- ABCA3 and the Response to Lung Injury
ARRA NIH, 3R01HL093535-01A1S2
07/01/09 – 01/31/11
- Pulmonary Collections, Hyaluronan and Macrophages
NIH, 5R01HL07389605
04/01/08 - 03/31/09

Margaret Schwarz, M.D.

- EMAP II Regulation of Pulmonary Cell Proliferation
NIH, 7R01HL06006110
03/15/08 - 03/31/09

Philip W. Shaul, M.D.

- Breast Cancer Modulation by 27-Hydroxycholesterol, First Identified
U.S. Army, W81XWH-09-1-0263
03/15/09 – 08/31/11
- Estrogen Modulation of Endothelial Cell Phenotype
NIH, 5R01HD03027617
3/1/08 - 2/28/11
- Oxysterols, Estrogen, Receptors Antagonism and Vascular Diseases
NIH, 5R01HL08756404
6/1/08 - 5/31/10
- Cholesterol and Endothelial NO Synthase Trafficking
NIH, 5R01HL05888809
2/1/04 - 1/31/08 (extended to 1/31/09)
 - CRP, eNOS and Endothelial Dysfunction
ARRA NIH, 2R01HL075473-05S1
09/01/09 – 08/31/11

James Thomas, M.D.

- Project 1-Pathophysiologic and Biochemical Changes of Thermal Injury
NIH, 5P50GM02168144
09/01/08 - 08/31/11

Michihisa Umetani, Ph.D.

- UT Southwestern O'Brien Kidney Research Pilot
ARRA NIH, 3P30DK07932803S1
08/11/09 – 08/10/11

Perrin C. White, M.D.

- Functions of Very Large G Protein Coupled Receptor-1
NIH, 5R01EY01624704
07/01/08 - 06/30/09

NIH and Other Government Subcontracts

Daniel C. Bowers, M.D.

- Childhood Cancer Survivor Study
St. Jude Children's Research Hospital, 5U24CA05572714
12/01/07 - 11/30/09

George R. Buchanan, M.D.

- Oklahoma/UT Southwestern Hemostasis Consortium
NIH/University of Oklahoma, 5U01HL07228306
09/01/07 - 08/31/10

Michael M. Dowling, M.D., Ph.D.

- PFAST: Patent Foramen Ovale and Stroke in Sickle Cell Disease
Doris Duke Foundation
11/01/09 – 10/31/12
- Validation of the NIH Stroke Scale in Children
NIH/Children's Hospital of Philadelphia, 1R01NS05048801A1
09/01/06 - 08/31/10

Rebecca S. Gruchalla, M.D., Ph.D.

- Inner City Anti-IgE Therapy for Asthma
NIH/NIAID, N01AI25496-9
09/30/02 - 09/29/09
- Inner City Anti-IgE Therapy for Asthma (Mechanistic)
NIH/NIAID, N01AI25496
09/30/05 - 07/31/09
- Mechanistic Analysis of Anti-IgE Therapy of Asthma
NIH/NIAID, R01AI49570-01
09/29/02 - 9/29/07

Susan T. Iannaccone, M.D.

- Phenylbutyrate in Pediatric Subjects with Spinal Muscular Atrophy
Westat Inc./NIH, HHSN265200423611C
06/08/07 - 06/07/09

Janna Journeycake, M.D., M.S.

- Dose Finding Pharmacokinetic Safety and Effect of Bivalirudin in Children
Children's Hospital/LA, 1R01HL9511-001
08/01/09 – 07/31/10
- Prevention of Complications of Bleeding Disorder Through Hemophilia
UT Health Science Center, Houston, SU01DD00019604
09/30/09 – 09/29/10
- Region IV Comprehensive Hemophilia Program
UT Health Science Center, Houston, 5H30MC000292000
06/01/09 – 05/31/10

Steven Kernie, M.D.

- Ephrins Regulate Stem Cell Proliferation Following TBI
NIH/University of Miami, 5R01NS04954504
08/01/05 - 04/30/09

Lynn Mahony, M.D.

- Pediatric Heart Disease Clinical Research Network
New England Research Institute/NIH, 5U01HL06827008
09/01/07 - 08/31/10

George Lister, M.D.

- Study of Attitudes and Factors Affecting Infant Care
NIH/Boston University Medical Center, 1U10HD05920701A1
08/01/09 – 07/31/10
- Contract Services for the REACH Clinic
Dallas County
10/01/09 - 09/30/10
- Fellowship for Robert Silge
NIH/Yale University, 5K12HD00085024
07/01/09 – 06/30/10

Pamela J. Okada, M.D.

- Lorazepam Efficacy and Safety Study
NIH/Children's Research Institute, N01HD43393
09/01/07 - 08/31/10
- Pediatric Traumatic Brain Injury Consortium Hypothermia
St. Joseph's Hospital, 1U01NS05247801A2
05/01/08 - 04/30/10
- EMSC Targeted Issue Grant
Children's National Med., 1H34MC105780200
09/01/08 – 08/31/10

Matthew Porteus, M.D., Ph.D.

- Nanomedicine Center for Nucleoprotein Machines
NIH/Georgia Institute of Technology, 5PN2EY01824402
09/30/08 – 09/29/10

Marilynn G. Punaro, M.D.

- Safety and Efficacy of Lipitor (Atorvastatin) in Reducing the Progression of Carotoid IMT in Early Childhood SLE
NIH/Duke University Medical Center, N01AR22265
09/04/03 - Present
- Trial of Early Aggressive Therapy in Juvenile Idiopathic Arthritis (TREAT)
NIH/Seattle Children's Institute, R01AR049762-01A2
09/01/06 - 04/30/09

Charles T. Quinn, M.D., M.S.

- Silent Cerebral Infarct Multi-center Clinical Trial (WU07196)
NIH/Washington University, U01NS04280402
12/01/04 - 03/30/10
- Silent Cerebral Infarct Multi-center Clinical Trial (WU08164)
NIH/Washington University, 5U01NS04280405
12/07/07 - 11/30/10

Norberto Rodriguez-Baez, M.D.

- A Multi-center Group to Study Acute Liver Failure in Children
Children's Hospital of Pittsburgh/NIH, U01DK072146
09/01/05 - 08/31/10

Pablo Sanchez, M.D.

- The Natural History of CMV-related Hearing Loss and Feasibility of CMV Screening as Adjunct to Hearing Screening in the Newborn
NIH/University of Alabama-Birmingham, HHSN260200500008C
07/01/05 - 06/30/12
- Multiple Dose Pharmacokinetic Study of Meropenem in Young Infants (<91 Days) with Suspected or Complicated Intra-Abdominal Infections
NIH/Duke University
07/01/05 - 09/27/10
- Influenza Vaccine Immunogenicity in Extremely Premature Infants
University of Rochester
07/01/07 - 06/30/09

Mouin Seikaly, M.D.

- Optimal Treatment of Focal Segmental Glomerulosclerosis (Fsgs)
Suny Stonybrook/NIH, 5U01DK06338502
09/01/08 - 08/31/10
- Chronic Renal Insufficiency in Naprtcs
Children's Mercy Hospital, 5U01DK06614302
08/01/04 - 07/31/10

Naomi J. Winick, M.D.

- Children's Oncology Group/Agreement #97452-1021
National Childhood Cancer Foundation, U01CA9745207
08/01/08 - 07/31/09
- Children's Oncology Group/Agreement #1233
National Childhood Cancer Foundation, 5U10CA9854303
03/01/05 - Open
- Children's Oncology Group/Agreement #16827
National Childhood Cancer Foundation, 5U01CA09745206
08/01/07 - 07/31/08
- Children's Oncology Group/Agreement #16883
National Childhood Cancer Foundation
07/01/07 - 06/30/08

Ilana Zeltser, M.D.

- Early Cardiovascular Screening Pilot (CVSP)
Championship Hearts Foundation
01/15/08 - 12/31/10

In 2009, Dr. George Lister received a large contract from the NICHD to direct the National Children's Study for the Lamar County, Texas, site. The North Texas Childrens' Study Coalition, a collaborative research group he developed, was also awarded a competitive contract from the NICHD to serve as a Vanguard Site for provider-based recruitment.

Non-governmental Organization Grants and Contracts

Soumya Adhikari, M.D.

- A Phase I-II Open Label Trial of Anti-inflammatory Therapy with Anakinra in Children with Newly Diagnosed Type I Diabetes
Children's Clinical Research Advisory Committee (CCRAC), 3001286
4/22/08 - Present

James F. Amatruda, M.D., Ph.D.

- Fellowship for Stephanie Leacock
American Cancer Society, PF-08
09/01/09 – 08/31/11
- Chemical Genetic Approaches to the Biology and Treatment of Childhood Cancers
Robert A. Welch Foundation, 1679
06/01/08 - 05/31/11
- A Novel Zebrafish Genetic Model of Testicular Cancer
Lance Armstrong Foundation
01/01/06 - 12/31/08
- Kevin Weir Ewing Sarcoma Fund
Catholic Foundation/G. Platt/D. Weir
11/20/07 - Open

Monica Ardura, D.O.

- RI-001 in Medically Immunosuppressed RSV Patients at Risk of Lower Tract RSV Illness
Adma Biologics, ADMA001
02/01/08 - 01/31/09

Michel Baum, M.D.

- Services for Linda Bridges-Halcomb
Inter Pediatric Nephrology
10/01/09 - 12/31/11

Daniel C. Bowers, M.D.

- Phase II Gleevec/Imatinib Mesylate (Sti-571, NSC 716051)
Neurofibromatosis (NF1) Subjects with Plexiform Neurofibromas
Indiana University, CSTI571BUS248
12/20/06 - Present
- A Pharmacokinetic and Phase II Study of Oral Cyclophosphamide and Oral Topotecan for Children with Recurrent Solid Tumors
Children's Clinical Research Advisory Committee (CCRAC), 1862168
10/18/02 - Present

Jane M. Brotanek, M.D., M.P.H.

- Iron Deficiency and Prolonged Bottle Feeding
Robert Wood Johnson Foundation
07/01/06 - 11/30/09

George R. Buchanan, M.D.

- North American Chronic ITP Registry
Children's Hospital Boston
12/03/06 - Open
- The Children's Cancer Fund District Chair/Pediatric Oncology-Hematology
CCF/Anonymous, GL#623180
03/19/92 – Open
- TKC Integration Services
Diamond Blackfin Anemia Outreach
01/01/09 – 02/28/10

Scott Cameron, M.D., Ph.D.

- CCF AML Research Fund
Children's Cancer Fund of Dallas
07/01/08 – Open

Cindy Darnell, M.D.

- Katamine
Children's Clinical Research Advisory Committee (CCRAC), 3000593
06/01/06 - Present

M. Teresa (Maite) de la Morena, M.D.

- Diagnostic Center for Primary Immunodeficiency Diseases
Jeffrey Modell Foundation Inc.
09/01/08 - Open

Ralph DeBerardinis, M.D., Ph.D.

- ACS Institutional Research Grant
American Cancer Society, IRG0219604
08/01/08 - 07/31/09
- ACS Institutional Research Grant
Coam Company
08/01/08 - 07/31/09

Michael Dowling, M.D.

- Detection of Neurologic Injury in Children with Sickle Cell Disease Presenting with Acute Anemia or Acute Chest Syndrome
Children's Clinical Research Advisory Committee (CCRAC), 3000866
05/01/07 - Present

Andrew P. Feranchak, M.D.

- Regulation of Biliary Secretion By Mechanosensitive Pathways
Cystic Fibrosis Foundation
04/01/08 - 03/31/10

Glenn Flores, M.D.

- Using Parent Mentors to Improve Asthma Care for Urban Minority Children
The Commonwealth Fund
07/07/03 – 11/30/08
- A Family-Centered Approach to Reducing Childhood Asthma Morbidity and Resource Use: A Randomized Trial of Community-Based Case Management by Parent Mentors
Robert Wood Johnson Foundation
10/01/03 – 11/30/08

Vidu Garg, M.D.

- Genetics of Hypoplastic Left Heart Syndrome
Children's Heart Foundation
01/01/08 - 12/31/09
- Postdoctoral Fellowship Award for Asha Acharya
American Heart Association – Texas
07/01/07 - 06/30/09
- Molecular Mechanisms of Cardiac Septation
March of Dimes Foundation
06/01/06 - 05/31/09

Rebecca S. Gruchalla, M.D., Ph.D.

- Inner-city Anti-IgE Therapy for Asthma
Genentech CTA # 290H824
07/31/06 - 07/31/09
- The Role of Dendritic Cells in the Pathogenesis of Asthma
ExxonMobil
09/01/07 - 08/31/10
- The Role of Dendritic Cell Maturation in the Pathogenesis of Allergic Asthma
Natalie Potter Funds
09/01/07 - 08/31/08

David A. Khan, M.D.

- Mechanisms of Rush Immunotherapy
Vanberg Family Foundation
04/01/02 - Present
- Safety of a Single-day Aspirin Desensitization Protocol in AERD
Vanberg Family Foundation
01/01/07 - Present
- Effect of Esomeprazole on Non-allergic Rhinitis in Patients with Symptoms of Gastric Reflux
Astra-Zeneca
09/01/04 - Present
- Fellowship Stipend, American Academy of Allergy, Asthma, and Immunology
American College of Allergy, Allergy and Immunology
07/01/07 - 06/30/08

Bassil M. Kublaoui, M.D.

- Mechanisms of Hyperphagic Obesity Due To Sim 1 Haploinsufficiency
American Heart Association, Central, 0865266F
07/01/08 - 06/30/10

Fangming Lin, M.D., Ph.D.

- Induction of Renal Cells from Hematopoietic Cells to Treat Acute Kidney Injury
American Heart Association, Central, 0855162F
07/01/08 - 06/30/10

Lynn Mahony, M.D.

- Testing the Pediatric Quality of Life Inventory
Cincinnati Children's Hospital, 225040105
07/01/07 - 06/30/10

George H. McCracken, Jr., M.D.

- Postgraduate Training Program in Pediatric Infectious Diseases
Pediatric Infectious Disease Society
01/27/95 - Present

Chieko Mineo, Ph.D.

- The Role of Nitric Oxide in the Antiphospholipid Syndrome
Alliance For Lupus Research
2/1/2008 - 1/31/2009

Jon D. Oden, M.D.

- Role of Growth Hormone in the Development of Abnormal Glucose Tolerance in Obese Youth
Children's Clinical Research Advisory Committee (CCRAC), 21743
8/14/07 - Present

Juan Pascual, M.D., Ph.D.

- Diagnostic Signatures of Metabolic Diseases by High-Field NMR Spectroscopy
Children's Clinical Research Advisory Committee (CCRAC), 26640
07/01/08 - present

Matthew Porteus, M.D., Ph.D.

- Cancer Awards in the Biomedical Sciences
Burroughs Wellcome Fund
02/01/03 – 08/31/10

Claude Prestidge, M.D.

- Cystic Fibrosis Care and Teaching Center
Cystic Fibrosis Foundation, C10908
07/01/08 - 06/30/10

Octavio Ramilo, M.D.

- "Account Title" Transcriptional Signatures for Diagnosis and Assessing Disease
Meningitis Research Fund, 6060
01/01/07 - 12/31/09
- Consortium to Analyze Tolerogenic DCS in RSV Infection
Dana Foundation
07/01/08 - 06/30/09

Charles Rosenfeld, M.D.

- Postdoctoral Fellowship Award for Andrea F. Duncan
American Academy of Pediatrics
07/0/07 - 06/30/08

Pablo Sanchez, M.D.

- Perform Cytokine Culture Assays
Medimmune Inc., MI-CP141
11/03/00 - 06/09/11

Margaret Schwarz, M.D.

- Postdoctoral Fellowship Award for Katherine Bennett
American Academy of Pediatrics
07/01/09 – 06/30/10

Philip W. Shaul, M.D.

- Cancer Research
Mary Kay Ash Charitable Foundation
06/01/09 – 12/31/11
- Fellowship for Natalie Frost
IKARIA
12/01/09 – 11/30/10
- Fellowship for Sonika Saddar
American Heart Association, National, 0825031F
7/1/08 - 6/30/10
- Postdoctoral Fellowship for Qian Wu
American Heart Association, 09POST2250860
07/01/09 – 06/30/11

Michihisa Umetani, Ph.D.

- Crosstalk Between Liver X Receptor and Estrogen Receptor in Vascular Function
American Heart Association, South Central, 0865158F
7/1/08 - 6/30/10

Perrin C. White, M.D.

- Inflammation in Type 1 Diabetes
Juvenile Diabetes Research Foundation
12/01/08 - 01/31/11

Tracey B. Wright, M.D.

- Obesity and Insulin Resistance in Pediatric Systemic Lupus Erythematosus
American College of Rheumatology
09/01/08 - 06/30/10

Myra Wyckoff, M.D.

- Evaluation of the Ergonomics of Cardiac Compression during Neonatal Cardiopulmonary Resuscitation
American Academy of Pediatrics
01/02/08 - 01/13/09

Sponsored Clinical Trials

Victor M. Aquino, M.D.

- Pediatric Blood and Marrow Consortium
Children's Mercy Hospital, 1U01HL6925401
04/01/02 - Present
- Intravenous Temsirolimus (Cc10779) in Pediatrics Subjects
Wyeth Pharmaceuticals, 3066K1139US
10/23/07 - Present
- Cytokine Gene Polymorphisms in Pediatric Patients Receiving Tacro
North Shore University Hospital
10/01/02 - Present
- Myeloablative Therapy and Allogenic Hematopoietic Stem Cell Transplantation
Amgen Inc., 20010133
08/01/06 - Present

Soumya Adhikari, M.D.

- Comparisons of Insulins Detemir, Glargine and NPH
Novo Nordisk Pharmaceuticals, 50810
08/10/06 - Present

John M. Andersen, M.D.

- Pharmacodynamics of Intravenous Mepolizumab in Pediatrics Subjects
GlaxoSmithKline, MEE103219
11/27/06 – Present
- Reslizumab (CTX55700) in the Treatment of Eosinophilic Esophagitis
Ception Therapeutics
08/01/02 – Present
- Study of Reslizumab in Pediatric Subjects with Eosinophilic Esophagitis
Premier Research
10/06/09 – Present

Theresa Barton, M.D.

- An Open-Label, Multicenter, Multiple-Dose Pharmacokinetic and 48-Week Safety and Efficacy Trial of Maraviroc in Combination with Optimized Background Therapy for the Treatment of Antiretroviral-Experienced CCR5-Tropic HIV-1 Infected Children 2-18 Years of Age
Pfizer, Inc., A4001031
03/01/09 – 10/30/09
- A Phase II, Open-Label Trial to Evaluate the Safety, Tolerability and Antiviral Activity of TMC125 in Antiretroviral Experienced HIV-1 Infected Children and Adolescents
Tibotec Pharmaceuticals, TMC125-TiDP35-C213
07/01/2008 – 04/30/2010

George R. Buchanan, M.D.

- Transfusion Medicine/Hemostasis (TMH) Clinical Trials Network
New England Research Institute
09/01/07 – Present
- Pediatrics Subjects with Chronic Immune (Idiopathic) Thrombocytopenia
Amgen, Inc., 20060195
09/26/07 – 08/31/12
- Longterm Dosing of Amg 531 in Thrombocytopenic Subjects with Immune Idiopathic Thrombocytopenic Purpura (ITP)
Amgen Inc., 20030213
02/13/08 - Present

Jennifer A. Cox, M.D.

- A Multicenter Trial of the Pediatric Blood and Marrow Transplant
PDL Biopharma Inc., ONC0313
08/24/05 - Present

Cindy Darnell, M.D.

- Pediatric Off-patient Study (PODS) Center for Lorazepam Sedation
Case Western Reserve University, HHSN275200403367C
11/01/04 - Present

William Engle, M.D.

- Absorption and Metabolism of Oral Codeine
Research Foundation of SUNY
09/18/09 – 08/31/10

Michele R. Hutchison, M.D., Ph.D.

- Norditropin National Registry Program

Novo Nordisk Pharmaceuticals

10/01/02 - Present

- Pfizer International Growth Study

Pfizer Inc., A62812761

06/01/06 - Present

- Increlex (Mecasermin [Rdna Orgin] Injection) Growth Forum Database

Tercica Inc./Mednet Solutions

01/14/08 - Present

- Genotropin in Idiopathic Short Stature Patients: Comparing an Individualized, Target-driven Regimen to Standard Dosing of Genoprin

Pfizer Inc.

05/28/08 - Present

- NCGS Post Marketing Survey Program Protropin/Nutropin for Injection

Genentech Inc.

12/27/95 - Present

Susan T. Iannaccone, M.D.

- Phase 2b, Study of PTC124 in Subjects W/Nonsense-Mutation-Mediated Duchenne and Becker Muscular Dystrophy

PTC Therapeutics - PTC124GD007DMD

12/20/07 - Present

Janna Journeycake, M.D., M.S.

- Evaluation of Prophylaxis Treatment and Characterization of B-domain

Wyeth Pharmaceuticals

02/17/09 – Present

Patrick J. Leavey, M.D.

- Phase I/II Study of Cp-751,871 in Patients With Relapsed and/or Refractory Ewing's Sarcoma Family of Tumors

Pfizer Inc./Research, A4021020

03/17/08 - Present

George H. McCracken, Jr., M.D.

- Micafungin Lock Therapy to Clear Fungemia while Attempting to Preserve the Central Line

Astellas Pharma US Inc., DS05001

07/10/06 - Present

- GlaxoSmithKline Chair of Pediatric Infectious Diseases

GlaxoSmithKline, GL#624702

08/28/01 - Present

Jon D. Oden, M.D.

- Safety and Efficacy of Exenatide As Monotherapy and Adjunctive Therapy To Oral Antidiabetic Agents in Adolescents with Type 2 Diabetes

Eli Lilly, H80-MC-GWBQ

06/23/08 - Present

Claude Prestidge, M.D.

- Study of Denufosol Tetrasodium Inhalation Solution In Patients

Inspire Pharmaceuticals Inc., 8108

08/08/06 - Present

Marilynn G. Punaro, M.D.

- IL-1 Trap Administered Subcutaneously In Pediatric Subject with Active Systemic Juvenile Idiopathic Arthritis (SJIA)

Regeneron Pharmaceuticals Inc., ILITAI0504

03/31/06 - Present

Norberto Rodriguez-Baez, M.D.

- Pediatric Subjects with Chronic Hepatitis B Virus Infection

Bristol-Myers Squibb Company, AI463028

04/01/07 - Present

- Assessment of the Safety, Efficacy, Tolerability and Pharmacokinetics of PEG-Intron Plus REBETOL in Pediatric Patients with Chronic Hepatitis C

Schering-Plough Research Institute, P02538

11/01/05 - Present

Pablo Sanchez, M.D.

- A Phase 2, Randomized, Double-Blind, Placebo-Controlled Study to Evaluate a Single Intravenous Dose of Motavizumab (Medi-524, Numax™), a Humanized Enhanced Potency Monoclonal Antibody Against Respiratory Syncytial Virus (RSV), for the Treatment of Children Hospitalized with RSV Illness.

Medimmune Inc., MICP146

01/03/08 - Present

- Pharmacokinetics of Repeated-Dose Micafungin (FK463) in Children with Esophageal Candidiasis or Other Invasive Candidiasis

Astellas Pharma US Inc., 9463CL2101

09/08/07 - Present

- To Evaluate the Incidence of Hospitalizations and Medically-Attended Lower Respiratory Tract Infection (MALRI)

Medimmune Inc., MIMA140

12/12/06 - Present

- Pharmacokinetics of Repeated Dose Micafungin in Neonates

Astellas Pharma US Inc., 9463CL2104

07/02/07 - Present

- Safety, Tolerability, Pharmacokinetics and Immunogenicity of MEDI-524

Medimmune Inc., MICP123S2

07/23/07 - Present

- Pharmacokinetics of Repeated Dose Micafungin in Infants

Astellas Pharma US Inc., 9463CL2102

07/02/07 - Present

- Evaluate a Single Intravenous Dose of Motavizumab (Medi-524)

Medimmune Inc., MICP14

09/18/06 - Present

- Study to Evaluate the Safety and Single-Dose Pharmacokinetics of Famciclovir Oral Formulation to Children 1 to 12 Years of Age with Herpes Simplex Infection

Novartis Pharmaceuticals, FAM810B23033

06/20/06 - Present

- Study to Evaluate the Single-Dose Pharmacokinetics and Safety of Famciclovir After Administration of Famciclovir Oral Pediatric Formulation in Infants 1 Month of Age to <1 Year of Age with Herpes Simplex or Varicella Zoster Virus Infections

Novartis Pharmaceuticals, CFAM810B2301

10/16/06 - Present

Rinarani M. Sanghavi, M.D.

- Pharmacokinetics of Lubiprostone in Pediatric Patients with Constipation
Sucampo Pharmaceuticals, SPI0211SC0641
02/01/08 - Present

Mouin Seikaly, M.D.

- North American Pediatric Renal Transplant Cooperative Study
Emmes Corporation
08/12/05 - Present
- Iron Maintenance Regimens in Pediatric Chronic Kidney Disease
NAPRTCS, IVEN03017
08/06/06 - Present
- Trial Evaluating Conventional and High Dose Oseltamivir (Tamiflu®) in the Treatment of Kidney Transplant Patients with the Flu
Roche/Quintiles Inc., NV20234
03/12/08 - Present

Grace M. Tannin, M.D.

- The Genetics and Neuroendocrinology of Short Stature International Study (GeNeSIS)
Lilly Research Laboratories, B9R-EW-GDFC(a)
11/01/00 - Present

Lewis Waber, M.D., Ph.D.

- Study of Phenotin in Subjects with Phenylketonuria Who Participated in Studies PKU 004 and PKU 006
Biomarin Pharmaceuticals Inc., AA3143920
09/18/06 - Present

Thomas Zellers, M.D.

- Post Market Surveillance Plan for the Amplatzer Duct Occluder
AGA Medical Corporation, IDE G980103
05/15/07 - Present
- Multicenter Continued Access Study of the Helex Septal Occluder
W.L. Gore & Associates Inc., HLX0301
01/01/04 - Present
- Closure of Muscular Ventricular Septal Defects with the Amplatzer Duct Occluder
AGA Medical Corporation
02/17/06 - Present
- Closure of Muscular Ventricular Septal Defects: Post Approval Study
AGA Medical Corporation, AGA016
05/14/08 - Present
- Coarctation of the Aorta Stent Trial (COAST)
Johns Hopkins University
05/01/08 - Present
- Gore Helex Septal Occluder: Post Approval Study
W. L. Gore & Associates Inc., HLS0604
12/12/07 - Present

Research funding for the department totaled \$12.7 million in grants and contracts in 2008-2009.

Peer-Reviewed Publications

1. Adewuya EC, **Zinser W**, Thomas C. Trichotillomania: a case of response to valproic acid. *J Child Adolesc Psychopharmacol* 2008;18:533-6.
2. **Adhikari S**. Childhood obesity: the scope of the problem. *Tex Med* 2009;105:23-4.
3. **Adhikari S**, Adams-Huet B, **Wang YC**, Marks JF, **White PC**. Institution of basal-bolus therapy at diagnosis for children with type 1 diabetes mellitus. *Pediatrics* 2009;123:e673-8.
4. Agrawal AS, Sarkar M, Chakrabarti S, Rajendran K, Kaur H, Mishra AC, Chatterjee MK, Naik TN, **Chadha MS**, Chawla-Sarkar M. Comparative evaluation of real-time PCR and conventional RT-PCR during a 2 year surveillance for influenza and respiratory syncytial virus among children with acute respiratory infections in Kolkata, India, reveals a distinct seasonality of infection. *J Med Microbiol* 2009;58:1616-22.
5. Ali S, **Russo MA**, Margraf L. Biliary rhabdomyosarcoma mimicking choledochal cyst. *J Gastrointest Liver Dis* 2009;18:95-7.
6. Ali SA, Weinberg AG, **Rodriguez-Baez N**. Gastritis cystica polyposa. *J Pediatr Gastroenterol Nutr* 2008;47:525.
7. **Alvarez R**, Elbashir S, Borland T, et al. RNAi Mediated Silencing of the Respiratory Syncytial Virus Nucleocapsid Defines a Potent Anti-Viral Strategy. *Antimicrobial Agents and Chemotherapeutics* 2009;53(9):3952-62.
8. Amlie-Lefond C, deVeber G, Chan AK, Benedict S, Bernard T, Carpenter J, **Dowling MM**, et al. Use of alteplase in childhood arterial ischaemic stroke: a multicentre, observational, cohort study. *Lancet Neurol* 2009;8:530-6.
9. **Ardura MI**. Staphylococcus aureus: old bug with new tricks. *Rev Chilena Infectol* 2009;26:401-5.
10. **Ardura MI**, Banchereau R, **Mejias A**, Di Pucchio T, Glaser C, Allantaz F, Pascual V, Banchereau J, Chaussabel D, **Ramilo, O**. Enhanced monocyte response and decreased central memory T cells in children with invasive Staphylococcus aureus infections. *PLoS One* 2009;4:e5446.
11. Arkachaisri T, Vilaiyuk S, Li S, O'Neil KM, Pope E, Higgins GC, **Punaro M**, et al. The localized scleroderma skin severity index and physician global assessment of disease activity: a work in progress toward development of localized scleroderma outcome measures. *J Rheumatol* 2009;36:2819-29.
12. Athirakul K, Bradbury JA, Graves JP, DeGraff LM, Ma J, Zhao Y, Couse JF, **Quigley R**, et al. Increased blood pressure in mice lacking cytochrome P450 2J5. *FASEB J* 2008;22:4096-108.
13. Awasthi N, **Schwarz MA**, Verma V, Cappiello C, Schwarz RE. Endothelial monocyte activating polypeptide II interferes with VEGF-induced proangiogenic signaling. *Lab Invest* 2009;89:38-46.
14. Barber TD, **Wickiser JE**, Wilcox DT, Baker LA. Prechemotherapy laparoscopic nephrectomy for Wilms' tumor. *J Pediatr Urol* 2009;5:416-9.
15. **Baum M**. Postnatal developmental renal physiology: a study of historic significance. *Am J Physiol Renal Physiol* 2009;296:F667-8.
16. **Becker AM**. Postnatal evaluation of infants with an abnormal antenatal renal sonogram. *Curr Opin Pediatr* 2009;21:207-13.
17. Beigelman A, Gunsten S, Mikols CL, Vidavsky I, **Cannon CL**, et al. Azithromycin attenuates airway inflammation in a noninfectious mouse model of allergic asthma. *Chest* 2009;136:498-506.



18. Beresford NA, Barnett CL, Howard BJ, **Scott WA**, Brown JE, Copplestone D. Derivation of transfer parameters for use within the ERICA Tool and the default concentration ratios for terrestrial biota. *J Environ Radioact* 2008;1393-407.
19. Berry A, Brousseau DC, **Brotanek J**, **Flores G**. Why do parents bring children to the emergency department for nonurgent conditions?: A qualitative study. *Ambulatory Pediatrics* 2008;360-7.
20. **Bharucha KN**. The epicurean fly: using *Drosophila melanogaster* to study metabolism. *Pediatr Res* 2009;65:132-7.
21. Bhutani S, **Khan DA**. Allergist referrals for systemic reactions to imported fire ants: a community survey in an endemic area. *Ann Allergy Asthma Immunol* 2009;102:145-8.
22. **Bird JA**, Burks AW. Food allergy and asthma. *Prim Care Respir J* 2009;18:258-65.
23. **Bird JA**, McClain KL, Rosenblatt HM, Abramson SL, Hanson IC. Hemophagocytic lymphohistiocytosis in a patient with x-linked lymphoproliferative disease. *Allergy Asthma Proc* 2009;30:458-62.
24. **Boling CL**, Westman EC, Yancy WS, Jr. Carbohydrate-restricted diets for obesity and related diseases: an update. *Curr Atheroscler Rep* 2009;11:462-9.
25. **Boling CL**, Westman EC, Yancy WS. Comparison of weight-loss diets. *N Engl J Med* 2009;360:2247; author reply -8.
26. Bosboom WM, Vrancken AF, van den Berg LH, Wokke JH, **Iannaccone ST**. Drug treatment for spinal muscular atrophy types II and III. *Cochrane Database Syst Rev* 2009:CD006282.
27. **Bowers DC**. Strokes among childhood brain tumor survivors. *Cancer Treat Res* 2009;150:145-53.
28. **Bowers DC**, **Adhikari S**, El-Khashab YM, Gargan L, Oeffinger KC. Survey of long-term follow-up programs in the United States for survivors of childhood brain tumors. *Pediatr Blood Cancer* 2009;53:1295-301.
29. Bradley JS, **McCracken GH**. Unique considerations in the evaluation of antibacterials in clinical trials for pediatric community-acquired pneumonia. *Clin Infect Dis* 2008;1;47 Suppl 3:S241-8.
30. **Brannon TS**, White LA, Kilcrease JN, Richard LD, Spillers JG, Phelps CL. Use of instructional video to prepare parents for learning infant cardiopulmonary resuscitation. *Proc (Bayl Univ Med Cent)* 2009;22:133-7.
31. **Brion LP**, Neu J, Adamkin D, et al. Resident duty hour restrictions: is less really more? *J Pediatr* 2009;154:631-2 e1.
32. **Brotanek J**, Seeley CE, **Flores G**. The importance of cultural competency in general pediatrics. *Curr Opin Pediatr* 2008;20:711-8.
33. **Brotanek JM**, Schroer D, Valentyn L, Tomany-Korman S, **Flores G**. Reasons for prolonged bottle-feeding and iron deficiency among Mexican-American toddlers: an ethnographic study. *Acad Pediatr* 2009;9:17-25.
34. Brousseau DC, Gorelick MH, Hoffmann RG, **Flores G**, Nattinger AB. Primary care quality and subsequent emergency department utilization for children in Wisconsin Medicaid. *Acad Pediatr* 2009;9:33-9.
35. Brunner HI, Higgins GC, Wiers K, Lapidus SK, Olson JC, Onel K, **Punaro M**, et al. Health-related quality of life and its relationship to patient disease course in childhood-onset systemic lupus erythematosus. *J Rheumatol* 2009;36:1536-45.
36. **Buchanan GR**. Academic promotion and tenure: a user's guide for junior faculty members. *Hematology Am Soc Hematol Educ Program* 2009:736-41.
37. **Buchanan GR**. Screening for iron deficiency during early infancy: is it feasible and is it necessary? *Am J Clin Nutr* 2009;89:473-4.
38. Cabral DA, Uribe AG, Benseler S, O'Neil KM, Hashkes PJ, Higgins G, Zeft AS, Lovell DJ, Kingsbury DJ, Stevens A, McCurdy D, Chira P, Abramson L, Arkachaisri T, Campillo S, Eberhard A, Hersh AO, Huber AM, Kim S, Klein-Gitelman M, Levy DM, Li SC, Mason T, Dewitt EM, Muscal E, **Nassi L**, et al. Classification, presentation, and initial treatment of Wegener's granulomatosis in childhood. *Arthritis Rheum* 2009;60:3413-24.
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41. Carcillo JA, **Castillo L**, Thomas J, Kissoon N. Recognizing, understanding, and treating critical community acquired methicillin-resistant *Staphylococcus aureus* infection in children. *Pediatr Crit Care Med* 2009;10:405-7.
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43. **Chadha MS**, Lole KS, Bora MH, Arankalle VA. Outbreaks of hepatitis A among children in western India. *Trans R Soc Trop Med Hyg* 2009;103:911-6.
44. **Channabasappa N**, Johnson-Welch S, **Mittal N**. De novo cholangiocarcinoma after liver transplantation in a pediatric patient. *Pediatr Transplant* 2009.
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47. Chi SN, Zimmerman MA, Yao X, Cohen KJ, Burger P, Biegel JA, Rorke-Adams LB, Fisher MJ, Janss A, Mazewski C, Goldman S, Manley PE, **Bowers DC**, et al. Intensive multimodality treatment for children with newly diagnosed CNS atypical teratoid rhabdoid tumor. *J Clin Oncol* 2009;27:385-9.
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49. Chiruvolu A, **Jaleel MA**. Therapeutic management of patent ductus arteriosus. *Early Hum Dev* 2009;85:151-5.
50. Chiruvolu A, Punjwani P, **Ramaciotti C**. Clinical and echocardiographic diagnosis of patent ductus arteriosus in premature neonates. *Early Hum Dev* 2009;85:147-9.
51. Colson ER, Rybin D, Smith LA, Colton T, **Lister G**, Corwin MJ. Trends and factors associated with infant sleeping position: the national infant sleep position study, 1993-2007. *Arch Pediatr Adolesc Med* 2009;163:1122-8.
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53. Cover J, Popek E, **Wyckoff M**, Leos NK, Rogers BB. Enterovirus is not present in placentas from cases of perinatal depression using polymerase chain reaction analysis. *Pediatr Dev Pathol* 2009;12:177-9.
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55. **Crary SE**, Van Orden H, **Journeycake JM**. Experience with intravenous enoxaparin in critically ill infants and children. *Pediatr Crit Care Med* 2008;9:647-9.
56. Dagan A, Habib S, **Gattineni J**, Dwarakanath V, **Baum M**. Prenatal programming of rat thick ascending limb chloride transport by low-protein diet and dexamethasone. *Am J Physiol Regul Integr Comp Physiol* 2009;297:R93-9.
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