

The Division of [Pediatric Respiratory Medicine](#) at UT Southwestern is devoted to improving the pulmonary health of infants, children, and young adults. We do this by providing quality clinical services, furthering the understanding of respiratory illnesses through research and participating in the education of physicians at all levels.

Under the direction of the Chief of Respiratory Medicine, Andrew Gelfand, M.D., the division's 11 physicians and other associated health care professionals comprise a team that work together to form a truly multidisciplinary program. As our division is somewhat small for the volume of patients that we see, one of our major focuses over the next few years will be growth. We are excited to announce that we have one new pulmonary physician joining us this year and are actively recruiting several others. We are trying to attract faculty with specific clinical and research interests within the field of pulmonology, as well as general pulmonologist to better serve our growing population of patients.



Andrew Gelfand, M.D.
Associate Professor, Division Chief

The Division provides care to infants, children, and young adults with a wide spectrum of respiratory illnesses, including disorders of respiratory control, the chest wall, respiratory muscles, airway and parenchyma.

- Inpatients are treated at Children's Health locations of Children's Medical Center Dallas and at Our Children's House.
- Outpatients are treated at Children's Health Specialty Center, both in Dallas and Plano. We will soon be relocating our Plano Clinics to Texas Health Resources location in Frisco.
- Chronically ventilated patients are seen at the Cityville location of Children's Health for outpatient services.
- A large sleep program, with 20 beds divided between Dallas and Plano, also provides rooms for outpatient visits.
- We participate in a variety of multidisciplinary clinics to help improve the care delivered to our patients. Some of these clinics include cystic fibrosis, high-risk asthma, sickle cell, neuromuscular, sleep, hereditary hemorrhagic telangiectasia and chronically ventilated children.
- We are working to start new programs to better serve the needs of our patients with primary ciliary dyskinesia and pulmonary hypertension.
- We are leading the charge to improve safe sleep practices for infants within the hospital system.
- We are working on national guidelines to develop treatment plans for patients with EVALI. (E-cigarette or Vaping product Associated Lung Injury)

Varied research interests include cystic fibrosis biology and care, near-fatal asthma, pulmonary outcomes in neuromuscular disease, pulmonary complications of sickle cell disease, pulmonary complications of obesity, and sleep-related disorders in children.

Division faculty is committed to the education and training of medical students, residents, and fellows. The Pediatric Pulmonology Fellowship Program prepares pediatricians to be experts in pulmonary medicine through a combination of educational activities, clinical experience, competencies such as bronchoscopy and pulmonary function testing, and assessment methods.

This year the United States learned about a new disease process known as EVALI (E-cigarette or Vaping product Associated Lung Injury). Under the direction of Dr. Devika Rao, we formulated a multidisciplinary team to create a treatment algorithm to help improve the respiratory status of patients afflicted with this condition.

Faculty

The Division has ten full-time and three part-time faculty members, and four fellows, all with varied interests in clinical and translational research.

2019 Honors / Awards

Best Pediatric Specialists in Dallas, *D Magazine*

- Andrew Gelfand
- Tanya Martinez-Fernandez
- Yadira Rivera-Sanchez
- Peter Schochet
- Preeti Sharma

Texas Super Doctors, *Texas Monthly*

- Steven Copenhaver
- Andrew Gelfand
- Peter Schochet

Top Doctors, *US News & World Report/Castle Connolly*

- Andrew Gelfand
- Peter Schochet

Invited Lectures

Elisa Basora

- DeWitt Perry Middle School for Carrollton-Farmers Branch ISD, November 2019
"Truth about vaping"

Devika Rao

- Red Oak High School, Red Oak, TX, October 2019
Keynote Speaker: *"Vaping: Be in the Know"*
- Bishop Lynch High School, Dallas, TX, November 2019
"The Truth About Vaping"

Preeti Sharma

- Coppell ISD Teach the Teacher Series, Coppell, TX, February 2019
"Respiratory System Overview"

Conference Presentations

American Thoracic Society (ATS) Meeting, Dallas, TX, May 2019

- Araj F, **Rao DR**, Umana L, Basora E.
Poster Presentation: “*Combined Use of Whole Lung Lavage and Inhaled Sargramostim for Lysinuric Protein Intolerance - Associated Pulmonary Alveolar Proteinosis in a 13 year-Old Male*”
- Ghazala Z, Foy A, **Rao DR**.
“*Spontaneous Pneumomediastinum in a Neonate with Spinnaker-sail Sign*”
- Ghazala Z, De Keyzer L, **Rao DR**.
“*The Many Faces of Cytomegalovirus Infection in the Bone Marrow Transplant Complications of the Lung*”

Media Appearances/Interviews

Michelle Caraballo

- *Parents Magazine*, February 2019
“My 7-Year-Old Sleepwalks Frequently. What’s going on?”

Preeti Sharma

- *Al Día – Dallas Morning News*, January 2019
“Flu Cases Significantly Increase in the Last Few Weeks”
- *FOX4 News*, February 2019
“North Texas Hospitals Seeing a Jump in Flu Cases”
- *NBC DFW*, December 2019
“RSV Facts”

Andrew Gelfand

- Interview with *Lifestyle Frisco*, October 2019
“The Dangers of Vaping”

Devika Rao

- Interview with *CBS 11 News DFW*, August 2019
“North Texas Teen’s Lung Collapse Leads To Heartfelt Warning About Vaping”
- Cited in news story by *WFLA Local News*, Daytona Beach, August 2019
“Teen’s lung collapses due to vaping”
- Interview with *Fox 4 News Dallas-Fort Worth*, September 2019
“Dallas County health officials report 14 cases of severe lung illness due to vaping”
- Op-Ed for *GoodLIFEfamily*, October 2019
“Now is the time to talk to your kids about vaping”
- Interview with *WFAA 8 ABC Dallas*, August 2019
“First Texas case of lung disease linked to vaping found in teen”
- Interview with *The Wall Street Journal*, October 2019
“Vaping related lung illnesses jump to 1,299, with 26 deaths, the CDC says”
- Interview with *The Washington Post*, October 2019
“Some patients with vaping-related lung injuries are being hospitalized a second time”

- Interview with *Lifestyle Frisco*, October 2019
“The Dangers of Vaping”
- Interview for *Children’s Health Medical Blog*, December 2019
“4 Health Effects of Vaping”

Education and Training

The Division of Pediatric Respiratory Medicine provides educational opportunities for medical students and pediatric residents in addition to our accredited fellowship program.

Medical Students

A full curriculum based on the core competencies as published by the Council on Medical Student Education in Pediatrics (COMSEP) is taught through bedside clinical supervision and daily rounds, in addition to various didactic sessions and interactive case-based discussions facilitated by faculty in nearly all the divisions in the Department of Pediatrics. The entire curriculum is reviewed on an ongoing basis through feedback from UT Southwestern Medical School faculty, national regulatory agencies, and students themselves. Students rotating through the core clerkship continue to outpace national averages on standardized assessments.

Medical students participate in outpatient specialty clinics staffed by members of the Division of Pediatric Respiratory Medicine faculty. During clinic sessions, medical students receive individualized, one-on-one teaching by the faculty. Third year medical students participate on the inpatient pulmonary service. As part of their rotation and under the supervision of the Division faculty, they are assigned to obtain the history, complete the physical exam and present their patients during daily rounds.

Residents

The evaluation of children with respiratory problems is an integral component of the practice of pediatric medicine. Respiratory symptoms and problems are the most common reason for childhood physician encounters and are the number one cause of school absenteeism and hospital admission. Hence, it is essential that the pediatric resident become familiar with the recognition, diagnosis, and care of respiratory diseases. The overall goal of the Pediatric Respiratory Medicine rotation is to provide residents with intensive exposure to a broad spectrum of pulmonary disorders, in order to highlight principles of diagnosis and management, and the respective roles played by the pediatrician and pulmonary subspecialist, as well as other disciplines in the management often very complex patients.

The Pediatric Pulmonary rotation has been designed for first year as well as senior general pediatric residents. Goals are aimed at gaining experience in the daily management of children with known as well as presumptive pulmonary disorders. Expectations include the demonstration of medical knowledge, comprehension of pathophysiology, development of differential diagnoses, and development of increased independence in the formulation of management plans. In addition, residents should maintain an overall awareness of the high acuity of the patients on the inpatient service which in turn helps improve critical thinking.

Yadira Rivera-Sanchez, M.D., directs the Pediatric Respiratory Medicine Resident Education Program.

Fellows

The mission of our accredited Pulmonology Fellowship Training Program is to prepare postgraduate pediatricians to be experts in pulmonary medicine. Training is through a combination of educational activities, competencies, and assessment methods, including patient care, guided reading, and discussion with regards to organization, business planning, and management of the pediatric pulmonary service, and research methodology.

Under the direction of Tanya Martinez Fernandez, M.D., and overseen by the ACGME, our three-year Fellowship Program began in July 2011. The majority of fellowship education is through didactic conferences and active participation in the inpatient, outpatient, and consulting services.

Research Activities

The Division's research efforts focus on the areas of clinical expertise of the Division faculty.

- Dr. Preeti Sharma's research continues to incorporate clinical drug trials through the Cystic Fibrosis Foundation and the Therapeutics Development Network, studying CFTR modulator therapies in infants and young children, infection control and prevention, as well as the use of novel anti-infectives in severe pulmonary infection. She has expanded her focus on optimizing clinical care in Cystic Fibrosis to include assessing barriers related to access to care by investigating social determinants of health care in the CF population and how that affects care across the continuum. As a part of the national Success with Therapies Research Consortium, she has been investigating more patient and family centered care models and how that affects nutritional outcomes and adherence. She again has led the CF team in many quality improvement projects, ranging from addressing length of inpatient stay to creation of an algorithm for treating pulmonary exacerbation. CF research endeavors have increased in number, and Dr. Sharma and team members have received national recognition from the CF Foundation and other research collaborative groups that they have continued to be a part of.
- Sleep positioning and other aspects of sudden infant death syndrome risk prevention are the focus of Dr. Michelle Caraballo's research. She is also working on a project to promote safe sleep in the hospital setting.
- Dr. Devika Rao's research interests lie in the realm of the pulmonary complications of sickle cell disease. She is also doing some work in the care of infants with severe Bronchopulmonary dysplasia and pulmonary hypertension. Lastly, she is heavily involved in studying the lung damage caused by the effects of e-cigarettes and vaping products.
- Dr. Kamal Naqvi's investigative efforts involve pediatric sleep disorders, including narcolepsy. The sleep program, under his direction, also participates in numerous multicenter research trials.
- The respiratory consequences of early-onset scoliosis and neuromuscular disease are the focus of Dr. Peter Schochet's research.
- Dr. Elisa Basora has research interests in pediatric sleep medicine. She is also involved in the safe sleep project.
- The optimization of care of children with asthma is the focus of the scholarly pursuits of Dr. Yadira Rivera-Sanchez and Dr. Tanya Martinez.

Clinical Activities

The Pediatric Respiratory Medicine Division offers both inpatient and outpatient consultation for a wide variety of respiratory and sleep disorders in children.

Inpatient Services

The inpatient population consists primarily of patients with cystic fibrosis, chronic respiratory failure on mechanical ventilation and patients with neuromuscular diseases hospitalized for an acute respiratory process. If we have bed availability, we also like to manage patients with high-risk asthma as well as less common pulmonary issues such as primary ciliary dyskinesia, hereditary hemorrhagic telangiectasia, and idiopathic pulmonary hemosiderosis as well as other interstitial lung diseases. We do frequently admit patient with tenuous airways or who need non-invasive mechanical ventilation when ICU acuity is no longer needed. We also provide a consultation service to help with the needs of the rest of the hospital. This service typically has 20 - 30 patients and we help advice respiratory management to patients throughout the hospital, including the Pediatric intensive care unit, the Cardiovascular intensive care unit, the neonatal intensive care unit, as well as to the general and other specialty services. We also provide bronchoscopy services when indicated.

Dr. Yadira Rivera-Sanchez oversees the inpatient activities of the Division. There is an attending pulmonologist assigned to the Pediatric Respiratory Medicine Service as well as the consultation service at all times.

Outpatient Services

Outpatient activities are comprehensive and primarily centered on a busy general pulmonology practice. Physicians combine their efforts with a group of talented and dedicated nurse practitioners, who conduct clinical consultations on selected patients. Additionally, the pulmonary division directs a few programs that also deserve mentioning.

- Tanya Martinez Fernandez, M.D. has led the development and organization of the outpatient clinics.
- The Pediatric Cystic Fibrosis program, one of the largest in the country with over 300 pediatric patients, is co-directed by Dr. Preeti Sharma from Pediatric Respiratory Medicine and Meghana Sathe from Pediatric Gastroenterology. The center provides a comprehensive team approach to this complex and chronic disease. It is actively involved in many national multicenter trials, including clinical trials of new and innovative treatments. The cystic fibrosis care center continues to grow to provide outstanding clinical care and cutting-edge research to the children of North Texas and beyond. We are also founding members of the CF Learning Network.
- Pediatric Sleep Program – under the direction of Kamal Naqvi, M.D., our sleep center provides comprehensive care for all pediatric sleep disorders including obstructive and central sleep apnea, narcolepsy, hypersomnia, insomnia, circadian rhythm disorders, and behavioral sleep disorders. A licensed sleep psychologist offers cognitive behavioral therapy for insomnia (CBTi). Two PAP specialists provide mask fitting sessions and expertise for other equipment-related issues. Our 20-bed sleep lab (divided between Dallas and Legacy campuses) performs over 4000 outpatient sleep studies per year and inpatient sleep studies as needed, including diagnostic sleep studies, PAP titration studies, multiple sleep latency tests and maintenance of wakefulness tests. The sleep program also participates in numerous multicenter research trials.
- Peter Schochet, M.D., conducts specialized clinics on neuromuscular and chest wall related respiratory diseases. Elisa Basora M.D. and Michelle Caraballo M.D. recently started participating in a multidisciplinary clinic for young patients with Duchenne’s Muscular Dystrophy.
- In 2015, Devika Rao founded a Pulmonary-Sickle Cell interdisciplinary clinic to address pulmonary needs of children with sickle cell anemia. This clinic takes place at the Pauline Allen Gill Center for Cancer and Blood Disorders once each month.
- Devika Rao, M.D., is Director of the Pulmonary Function Lab, Children’s Health. The pulmonary function lab has greater than 1000 visits per month. We have a fully functioning lab with the ability to do spirometry, body plethysmography, FeNO, methacholine and exercise challenges, and other measures of pulmonary function.
- Yadira Rivera-Sanchez, M.D., co-directs the Aerodigestive Multidisciplinary Clinic, which is conducted with the pediatric otolaryngology and gastroenterology services.
- Drs. Yadira Rivera-Sanchez and Tanya Martinez-Fernandez co-direct the High-Risk Asthma clinic. This multidisciplinary clinic is improving the care to some of our most serious patients with life threatening asthma. We are working to expand this clinic by incorporating allergy, nutrition, social work, and physical therapy.
- Andrew Gelfand, M.D. directs the ventilator clinic. This is a multidisciplinary clinic involving ENT, respiratory therapy, nursing, social work, radiology, nutrition, and case management. Here we follow over 200 patients with chronic mechanical ventilator needs from a variety of causes such as bronchopulmonary dysplasia, neuromuscular weakness, congenital heart disease, high spinal cord injury, neurologically impaired children with poor control of breathing as well as other causes of respiratory insufficiency.
- Dr. Preeti Sharma directs the Hereditary Hemorrhagic Telangiectasia (HHT) clinic. She has partnered with the adult HHT center, Interventional Radiology, Hematology and Gastroenterology to provide ease of care and increased benefit to these patients.

Patient Care Guidelines

Division members have been actively engaged in the establishment of patient care guidelines, including for the evaluation and implementation of non-invasive ventilation in infants at home, for the care of asthma patients, and for tracheostomy care.

Patient Statistics

Pulmonary at Children's Medical Center Dallas	2018	2019
Inpatient admissions	408	329
Inpatient consultations	1,091	806
New outpatient visits	1,061	1,249
Outpatient follow up	5,571	6,096

Pulmonary at Children's Plano	2018	2019
New outpatient visits	282	303
Outpatient follow up	500	562

Procedures	2018	2019
Sleep studies – Dallas	2,351	2,757
Sleep studies – Plano	1,882	1,995
Pulmonary function testing	12,379	12,808
Laboratory procedures		
Bronchoscopies	155	124

Current Grant Support

Syed Naqvi

Grantor: Syneos Health

Title of Project: A Double-Blind, Placebo-Controlled, Randomized-Withdrawal, Multicenter Study of the Efficacy and Safety of Xyrem with an Open- Label Pharmacokinetic Evaluation and Safety Extension in Pediatric Subjects with Narcolepsy with Cataplexy.

Role: Co-principle Investigator

Dates: 03/2016 – 02/2021

Grantor: Cincinnati Children's Hospital Medical Center

Title of Project: A Multicenter Retrospective with Prospective Follow-Up Study of Early Onset Childhood Narcolepsy: Recent cases and Post infection

Role: Co-principle Investigator

Dates: 11/2017 – 11/2022

Preeti Sharma

Grantor: Cystic Fibrosis Foundation

Title of Project: Mental Health Coordinator Award

Role: Co-principle Investigator

Dates: 01/2016 – 03/2019

Grantor: Cystic Fibrosis Foundation

Title of Project: Award for Physical Therapist

Role: Co-principle Investigator

Dates: 11/2016 – 10/2019

Grantor: Cystic Fibrosis Foundation

Title of Project: Success with Therapeutics Research Consortium Application

Role: Co-principle Investigator

Dates: 08/2018 – 07/2020

Grantor: Cystic Fibrosis Foundation

Title of Project: TX-34/34 - Care Center Award - Year 6

Role: Co-principle Investigator

Dates: 07/2018 – 06/2019

Grantor: Cystic Fibrosis Foundation

Title of Project: TX-34/34 - Care Center Award - Year 7

Role: Co-principle Investigator

Dates: 07/2019 – 06/2020

Grantor: University of North Carolina at Chapel Hill

Title of Project: STaph Aureus Resistance-Treat Early and Repeat (STAR-TER)

Role: Co-Principal Investigator

Dates: 01/2019 – 12/2019

Grantor: Iqvia RDS, Inc.

Title of Project: A retrospective Observational Study in Cystic Fibrosis Patients with Chronic Respiratory Pseudomonas Aeruginosa Infection Treated with TOBI Podhaler (Tobramycin Inhalation Powder) or Other FDA Approved Inhaled Antipseudomonal Antibacterial Drugs.

Role: Sub-investigator

Dates: 02/2015 – 02/2022

Grantor: Savara, Inc.

Title of Project: A Phase III, Randomized, Double-blind, Placebo-controlled Study of AeroVanc for the Treatment of Persistent Methicillin Resistant *Staphylococcus Aureus* Lung Infection in Cystic Fibrosis Patients.

Role: Principal Investigator

Dates: 04/2018 – 04/2023

Grantor: Vertex Pharmaceuticals, Inc.

Title of Project: A Phase 3, 2-part, Open-label Study to Evaluate the Safety and Pharmacokinetics of Lumacaftor/Ivacaftor in Subjects 1 to Less Than 2 Years of Age with Cystic Fibrosis, Homozygous for F508del.

Role: Principal Investigator

Dates: 11/2018 – 11/2023

Grantor: Abbott Laboratories and Janssen Research and Development LLC

Title of Project: A Long-Term Prospective Observational Safety Study of the Incidence of and Risk Factors for Fibrosing Colonopathy in US Patients with Cystic Fibrosis Treated with Pancreatic Enzyme Replacement Therapy: A Harmonized Protocol across Sponsors

Role: Co-principle Investigator

Dates: 2013 – 2020

Grantor: Cystic Fibrosis Foundation

Title of Project: Therapeutic Drug Development Network

Role: Co-principle Investigator

Dates: 2018 – 2020

Grantor: Cystic Fibrosis Therapeutics
Title of Project: Additional Research Coordinator Award
Role: Co-principle Investigator
Dates: 2016 – 2020

Grantor: Cystic Fibrosis Foundation / Cincinnati Children's Hospital
Title of Project: CFC3N – Pilot Learning Network for Enhancing Quality Care
Role: Co-principle Investigator
Dates: 2017 – 2020

Peer-Reviewed Publications

1. Fan KC, Patel NA, Yannuzzi NA, Prakhunhungsit S, Negron CI, **Basora E**, Colin AA, Tekin M, Berrocal AM. [A unique case of vision loss in a patient with hypotrichosis and juvenile macular dystrophy and primary ciliary dyskinesia.](#) *Am J Ophthalmol Case Rep.* 2019 Jun 5;15:100486. PMID: 31431935
2. Isaiah A, Daher A, **Sharma PB, Naqvi K**, Mitchell RB. [Predictors of sleep hypoxemia in children with cystic fibrosis.](#) *Pediatr Pulmonol.* 2019 Mar;54(3):273-279. PMID: 30609295
3. *Jatlaoui TC, Wiltz JL, Kabbani S, Siegel DA, et al.; Lung Injury Response Clinical Working Group (Rao DR).* [Update: Interim Guidance for Health Care Providers for Managing Patients with Suspected E-cigarette, or Vaping, Product Use-Associated Lung Injury - United States, November 2019.](#) *MMWR Morb Mortal Wkly Rep.* 2019 Nov 22;68(46):1081-1086. PMID: 31751322
4. LaMont LE, Jo C, Molinari S, Tran D, Caine H, Brown K, Wittenbrook W, **Schochet P**, Johnston CE, Ramo B. [Radiographic, Pulmonary, and Clinical Outcomes With Halo Gravity Traction.](#) *Spine Deform.* 2019 Jan;7(1):40-46. PMID: 30587319
5. Siegel DA, Jatlaoui TC, Koumans EH, et al.; Lung Injury Response Clinical Working Group; Lung Injury Response Epidemiology/Surveillance Group (**Rao DR**). [Update: Interim Guidance for Health Care Providers Evaluating and Caring for Patients with Suspected E-cigarette, or Vaping, Product Use Associated Lung Injury - United States, October 2019.](#) *MMWR Morb Mortal Wkly Rep.* 2019 Oct 18;68(41):919-927. PMID: 31633675
6. Tomkies A, Johnson RF, Shah G, **Caraballo M**, Evans P, Mitchell RB. [Obstructive Sleep Apnea in Children with Autism.](#) *J Clin Sleep Med.* 2019 Oct 15;15(10):1469-1476. PMID: 31596212

Book Chapters

1. **Basora E**, Wani A, **Naqvi SK**. (2019). [RLS Caused by Over-the-Counter Medications/Bruises on My Legs.](#) In: Khawaja IS and Hurwitz TD (Eds.), *Comorbid Sleep and Psychiatric Disorders: A Clinical Casebook* (pp 209-214). Switzerland: Springer Nature Switzerland AG.
2. Wani A, **Basora E**, **Naqvi SK**. (2019). [My Son is a Night Owl. Can You Help?](#) In: Khawaja IS and Hurwitz TD (Eds.), *Comorbid Sleep and Psychiatric Disorders: A Clinical Casebook* (pp 95-103). Switzerland: Springer Nature Switzerland AG.