Division Introduction

UT Southwestern Medical Center is widely recognized as one of the nation’s leading centers for neonatal–perinatal care, teaching, and research. The Division is dedicated to providing exceptional care for the most critically ill patients and is committed to the training of outstanding physicians and scientists. Through the continued discovery of new knowledge, division faculty and staff strive to help tomorrow’s patients as well as improve outcomes for the vulnerable population for whom we care.

Directed by Lina Chalak, M.D., M.S.C.S., the Division of Neonatal-Perinatal Medicine is comprised of a large group of nationally and internationally recognized faculty members with expertise in virtually all aspects of modern neonatal-perinatal care and state-of-the-art research.

We at UT Southwestern currently serve four hospitals across Dallas (Parkland, Clements University Hospital, Children’s Medical Center Dallas, and Texas Health Dallas), accounting for 20,000 births each year, the largest delivery program in Texas. During the COVID-19 pandemic, through the highly collaborative establishment of protocols and procedures, we have managed over 2,000 deliveries of SARS-CoV-2-positive mothers in our four hospitals. The effectiveness of these specific protocols is borne out by the fact that not a single member of the team contracted the disease while providing care on our units.

The Division’s mission is to positively impact the health of neonates in our community, our nation, and worldwide through excellence in patient care, research, and education. That mission is three-fold:

Excellence in Neonatal Care

Through multidisciplinary and family-centered care, we will strive to improve the standard of practice and ensure the highest quality of care for neonates in our hospitals and around the world. We will care for neonates with the highest respect for their precious lives in a compassionate and caring environment and will utilize evidence-based approaches to clinical care that are regularly evaluated and updated.

Leadership in Research

We will pursue new knowledge through high-quality research that explores unanswered questions as well as tests and refines previously established ideas in neonatal-perinatal care. As global leaders in research, we will work collaboratively inside and outside our institution in order to generate important discoveries that will lead to improvements in the care that is provided for neonates worldwide.

Education of Future Leaders

We will impart knowledge, instill excitement for learning, and translate these into focused areas of research for our neonatal medicine trainees, pediatric residents, medical students, and advanced practice providers. We will train future leaders in neonatal medicine, who will in turn impart the knowledge and values obtained during their training to those with whom they interact during their careers.
**Faculty**

The Division consists of neonatologists and pediatricians who are committed to providing the highest level of clinical care to the infants they treat, to conducting cutting-edge research, and to the education of postdoctoral and advanced practice trainees. The Division faculty’s research interests span a wide range of topics, including pulmonary and vascular biology, neonatal resuscitation, hypoxic ischemic encephalopathy, clinical informatics, and long-term follow-up care. The faculty are also involved in extensive quality improvement projects that aim to improve care and efficiency. In addition to its own databases, the Division participates in both The Vermont Oxford Network and The Children’s Hospital Neonatal Consortium, as well as the databases for the National Institute of Child Health and Human Development (NICHD) Neonatal Research Network.

We were thrilled to welcome five new faculty members to the Neonatal-Perinatal Medicine team in 2022.

**Maryam Ali, M.D.**  
Assistant Professor

M.D.  
Geisel School of Medicine at Dartmouth, Hanover, NH, 2013  
**Postdoctoral Training**  
Residency, Pediatrics  
University of Massachusetts Memorial Medical Center, Worcester, MA, 2014 - 2016  
**Interests**  
Newborn pediatrics

**Nicole Bailey, M.D.**  
Clinical Associate Professor

M.D.  
Tufts University School of Medicine, Boston, MA, 2005  
**Postdoctoral Training**  
Residency, Pediatrics  
Rainbow Babies and Children’s Hospital, Cleveland, OH, 2006-2009  
Fellowship, Neonatology  
**Interests**  
Patient centered care and quality initiatives

**Margaret Hoge, M.D.**  
Assistant Professor

M.D.  
Wake Forest University, Winston-Salem, NC, 2014  
**Postdoctoral Training**  
Residency, Pediatrics  
UT Southwestern, 2014-2017  
Fellowship, Neonatal-Perinatal Medicine  
UT Southwestern, 2017– 2020  
Fellowship, Developmental/Behavioral Pediatrics  
UT Southwestern, 2019– 2022  
**Interests**  
Neonatal follow up and vulnerable child syndrome
Athra Kaviani, M.D.
Assistant Professor

M.D.
UT Southwestern, 2013

Postdoctoral Training
Residency, Pediatrics
UT Southwestern, 2013-2016
Chief Resident, Pediatrics
UT Southwestern, 2016 – 2017

Interests
Newborn pediatrics

Marina Santos Oren, M.D.
Assistant Professor

M.D.
Universidade do Estado do Para, Belem, Brazil, 2008

Postdoctoral Training
Fellowship, Neonatal-Perinatal Medicine
University of New Mexico of Medicine, Albuquerque, NM, 2016 - 2019
Residency, Pediatrics
Tufts Medical Center, Boston, MA, 2019 - 2021

Interests
Patient centered care and quality initiatives

Honors / Awards

Noorjahan Ali
- Promoted to Associate Professor

Erin Gordon
- Patient and Family Recognition Award – UT Southwestern Medical Center

Jawahar Jagarapu
- Texas Super Doctors – Texas Monthly Magazine

Mambarambath Jaleel
- Promoted to Professor

Rashmin Savani
- Texas Super Doctors – Texas Monthly Magazine

Jack Seidel
- Texas Super Doctors – Texas Monthly Magazine
Myra Wyckoff

- Mentoring Award – UT Southwestern Medical Center
- Pediatric Educator Award – Southern Society of Pediatric Research

Sushmita Yallapragada

- Texas Rising Star Doctors – Texas Monthly Magazine

Invited Lectures

Lina Chalak

- Department of Psychiatry Grand Rounds, UT Southwestern/Children’s Health, Dallas, TX, February 2022
  - “Biomarkers of Fetal-Neonatal Brain Health”
- International Perinatal Consortium, Iceland, June 2022
  - “Role of parents and stakeholders in trials development”
- AAP 100th Perinatal & Developmental Medicine Symposium (50th Anniversary), Clearwater, FL, November 2022
  - “Two decades progress Improving Asphyxia Outcomes: A Physician Scientist Inspired Journey”
- Department of Neurology Grand Rounds, UT Southwestern/Children’s Health, Dallas, TX, December 2022
  - “A scholar Clinical translational journey in neonatal asphyxia”

Becky Ennis

- THR THD Neonatal Grand Rounds – Dallas, TX, June 2022
  - “Cognitive Biases: The Choice is Up to You. . . or is it?”

Vishal Kapadia

- 2022 Annual International Neonatal Conference, Middlesbrough, United Kingdom, June 2022
  - “Heart Rate Monitoring in the Delivery Room: Current State of Evidence and Implications for Your Clinical Practice”
- Research Conference, University of Oklahoma, OK, February 2022
  - “Optimal Oxygen Saturation Targets: The Goldilocks Rule”

Christoph Lehmann

- Frank – van Swieten Lectures on Strategic Information Management, University of Heidelberg, Germany, June 2022
  - “The Future and Challenges of E-Health”

Imran Mir

- Perinatal Research Group, Columbia University, New York City, NY, February 2022
  - “Fetal Inflammatory Response and Placental Clearance in Clinical Chorioamnionitis”
- Grand Rounds Presentation by Department of Obstetrics and Gynecology and Neonatology at Texas Health Presbyterian Hospital, Dallas, TX, March 2022
  - “Placental Pathology, FIRS and Neonatal Morbidities”
Julie Mirpuri

- Texas Health Dallas Neonatal Grand Rounds, Dallas, TX, January 2022
  - “The neonatal microbiome: influence of pre- and post-natal exposures that affect health and susceptibility to NEC.”
- Columbia University Neonatology Research Conference, New York City, NY, March 2022
  - “Maternal diet, offspring innate immunity and necrotizing enterocolitis”
- Smithsonian Museum, Arts and Science, Washington, DC, March 2022

Shalini Ramachandran

- Latifa Hospital, Dubai, United Arab Emirates, March 2022
  - “International Neonatal Resuscitation Program (NRP) sessions”
- Corniche Hospital, Abu Dhabi, United Arab Emirates, June 2022
  - “International Neonatal Resuscitation Program (NRP) sessions”

Rashmin Savani

- Johns Hopkins University Clinic K12 Glycoscience Training Program Seminar Series, Cleveland, OH, February 2022
  - Invited Speaker
- Federation of European Biochemistry Societies, (FEBS) 8th Advanced Lecture Course, Crete, Greece, May 2022
  - “Matrix Pathobiology, Signaling & Molecular Targets”
- International Perinatal Collegium, Reykjavik, Iceland, June 2022
  - “Matrix Pathobiology, Signaling & Molecular Targets”
- Proteoglycans Gordon Conference, Andover, NH, July 2022
  - Invited Speaker
- Matrix Biology Europe, Florence, Italy, September 2022
  - “Matrix Pathobiology, Signaling & Molecular Targets”

Elizabeth Stehel

- Academy of Breastfeeding Medicine, European Association of Breastfeeding Medicine, Virtual, February 2022
  - “ABM Protocol 2: Guidelines for Birth Hospitalization Discharge of Breastfeeding Dyads.”

Katherine Stimpf

- Southern Society for Pediatric Research, New Orleans, LA, February 2022
  - “Growth failure in preterm infants is associated with a decrease in Enterococcus and Clostridiae”

Myra Wychoff

- International Symposium on Neonatal Resuscitation, Brazilian Pediatric Society, Salvador, Brazil, 2022
  - “ILCOR Neonatal Life Support Task Force role in guiding neonatal resuscitation in the World.”
  - “Controversies in cord clamping management and in the initial steps.”
  - “What is the evidence for chest compressions and medication use in neonatal resuscitation at birth?”
  - “Knowledge gaps in neonatal resuscitation.”

Sushmita Yallapragada

- Surgical Grand Rounds, Children’s Health Dallas, TX 2022
  - “Persistent Pulmonary Hypertension of the Newborn”
Conference Presentations

Western Conference on Perinatal Research, Indian Wells, CA, January 2022

Saha S, Wickland J, Brennan S, Gant T, Lee D, Brion LP, Dariya V

Oral Presentation, “Improving Intubations at Children’s Medical Center, Dallas (CMCD) Using an Intubation Bundle.”


Oral Presentation, “Quality Improvement (QI) Project to Decrease Necrotizing Enterocolitis (NEC) Stage≥II by Increasing Administration of Breastmilk (BM) Among Very Low Birth Weight (VLBW) and/or ≤32 Weeks (wks) Gestational Age (GA) Infants.”

International Newborn Brain Conference, Clearwater Beach, FL, Virtual, February 2022

Angelis, D

Abstract, “Using a bundle of care to improve rates of intraventricular hemorrhage (IVH) in Extremely Low Birth Weight infants (ELBW)”

Chalak, L

Oral Presentation, “Role of parents and stakeholders in trials development”

Pediatric Academic Societies, Denver, CO, April 2022

Babata KL, Yeo KT, Sultana R, Chan CS, Mazzarella K, Adhikari EH, Kong JY, Hascoët J, Brion LP

Poster Presentation, “Feeding strategies to prevent neonatal SARS-CoV-2 infection in term or late preterm babies born to mothers with confirmed COVID-19.”

Brown LC, Roblyer L, Sanghavi R, Ortigoza E

Poster Presentation, “Preterm Infants with Feeding-Associated Cardiorespiratory Events Have Transient Dysmotility During Postnatal Development”

Chalak, L

State of the Art Plenary, “Hot Debate Cooling in Mild HIE: Bridging Bench to Bedside”
Abstract, “Randomized Controlled Trial of Erythropoietin for Neonatal Hypoxic-Ischemic Encephalopathy”
Abstract, “Placental Vascular Malperfusion Lesions in Fetal Congenital Heart Disease”
Abstract, “Placental Pathology in SARS-CoV-2 Infected Pregnancies: Single-Institution Retrospective Cohort Analysis”


Chiu M, Tolentino-Plata K, **Heyne R**, Brown S, **Kakkilaya V**

Oral Abstract, “Identifying Risk Factors and Associated Outcomes Among Preterm Infants with Admission Hyperthermia”

Hu, J

Poster Presentation, “Practice Variation for Fetal and Neonatal Congenital Heart Disease within the Children’s Hospital Neonatal Consortium”


Workshop Presentation, “Say No to Mechanical Ventilation – Strategies to Optimize Non-Invasive Respiratory Support in Preterm Infants”

Kapadia V

Workshop, “Say No to Mechanical Ventilation - Getting the Beginning Right from the First Breath”

**Kapadia V**, Brown S, Burchfield P, **Kakkilaya V**

Poster Presentation, “Effectiveness of CPAP Optimization and Less Invasive Surfactant Administration (LISA) Strategy in 35-38 Weeks GA Infants”

**Leon RL**, Sharma K, Mir IN, Chalak LF

Poster Presentation, “Placental Vascular Malperfusion Lesions in Fetal Congenital Heart Disease.”

**Leon RL**, Chalak L, Mir IN, Sharma K

Poster Presentation, “Practice Variations for Fetal and Neonatal Congenital Heart Disease within the Children’s Hospitals Neonatal Consortium.”

**Maddox K**, Kissel AM, Francis J, Diaz MD, **Sanghavi R**, Rao D, Menzies C, Lehmann C.

Poster Presentation, “Effects of the Electronic Health Record on Job Satisfaction of Academic Pediatric Faculty.”

**Mir IN**, Frost M, Brion LP

Poster Presentation, “Correlation between In-Training Examination Scores and Neonatal-Perinatal Medicine Boards Pass Rate.”

**Mirpuri J**, Niu X, Lu D

Oral Presentation, “Amniotic fluid metabolites mediate maternal high fat diet expansion of group 3 innate lymphoid cells and susceptibility to NEC in offspring”


Poster Presentation, “Electrogastrography as a Non-Invasive Tool to Measure Gastrointestinal Maturity in Preterm Infants”
Reis JD, Sanchez-Rosado M, Mathai D, Kiefaber I, Brion LP

Poster Presentation, “Time of Initiation of Pumping vs Breastfeeding at Discharge of Preterm Infants”

Reis JD, Hagan T, Heyne R, Tolentino-Plata K, Clarke R, Brown S, Brion LP

Poster Presentation, “Relationship between ventricular size on latest ultrasonogram and Bayley scores in extremely low gestational age neonates (ELGANS).”

Reis JD, Tolentino-Plata K, Caraig M, Heyne R, Rosenfeld CR, Brown LS, Brion LP

Oral Poster Symposium, “Double-Blinded Randomized Controlled Trial (RCT) of Optimizing Nutrition in Preterm (PT) Very Low Birth Weight Infants: Bayley Scores at >18 Months of Age.”


Poster Presentation, “Growth, Zinc Deficiency and Mortality to Discharge after Implementing a Donor Breast Milk (DBM) Program in Neonates <33 weeks Gestational Age and Birthweight <1500.”


Oral Presentation, “A QI Project to Decrease Necrotizing Enterocolitis (NEC) by Increasing Administration of Breastmilk (BM) Among Very Low Birth Weight (VLBW) and/or ≤32 weeks Gestational Age (GA) Infants.”

Sanchez-Rosado M, Reis JD, Verma D, Kiefaber I, Burchfield, Brown S, Brion LP

Poster Presentation, “Necrotizing enterocolitis in small for gestational age (GA) (SGA) vs appropriate for GA (AGA) infants.”


Poster Presentation, “The Hyaluronan Receptor RHAMM is Critical for Toll-Like Receptor 7- and SARS-CoV-2-Mediated Increases in Lung Cytokines and Inflammation”

Schlegel A, Nayak SP, Black A, Fry JT, Ling CY Leuthner SR, Sullivan KM

Workshop, “Life-Limiting Diagnosis in the Level IV NICU: Communication with Families facing Complex Decision-Making”


Sisman J, Brown LS, Mir IN

Poster Presentation, “The Association of Placental Pathology and Lenticulostriate Vasculopathy (LSV) in Preterm Infants.”
Sivarajan M, Schneider JH
Poster Presentation, “Utility of routine hematocrit screening in large and small for gestational age newborns”

Workshop, “Clinical Event Debriefing: How to Build and Operationalize Patient Safety-Focused Clinical Event Debriefing Programs”

Wyckoff M


American Medical Informatics Association (AMIA) Clinical Informatics Conference, Houston, TX, May 2022
Saleh SN, Turer RW, Pickering M, Lanier HD, Diaz MI, Casazza JA, Ho M, Hanna JJ, Most ZM, Lehmann CU, Medford RJ
Poster Presentation, “Using an Organic Apprenticeship Model to Incorporate Data Science into Medical Education.”

Turer RW, Martin KR, Ramello N, Jackson A, Chu L, Willett DL, Thakur B, Lehmann CU, McDonald SA

Association of Pediatric Program Directors (APPD) 2022 Annual Spring Meeting, San Diego, CA, May 2022
Mir I, Frost M, Brion LP
Poster presentation, “Correlation between In-Training Examination Scores and Neonatal-Perinatal Medicine Boards Pass Rate.”

American Academy of Pediatrics National Conference, Anaheim, CA, October 2022
Poster Presentation, “Identifying Risk Factors for Severe Clinical Outcomes in Pediatric COVID-19 Patients In a National Electronic Health Record Repository.”
Kapadia V

NRP Live Webinar, “Start at the beginning: Tips for Effective Newborn Resuscitation”

American Medical Informatics Association (AMIA) Annual Symposium 2022, Washington, DC, November 2022

Furmaga F, Turer RW, Reeder J, Thakur B, Lehmann CU, O’Connell E, McDonald SA.


Knake LA, Alrifai MW, McCoy AB, Wanderer JP, Johnson KB, Lehmann CU, Wright A, Hatch LD.

Abstract Presentation, “Lessons Learned from Implementing Clinical Decision Support for Neonatal Ventilation.”

Lehmann C

Oral Presentation, “Primum non Nocere: Challenges and Strategies for Protecting Privacy for Adolescent Patients in the 21st Century Cures Act Setting”

Oral Presentation, “A debate on the extension of the Practice Pathway for ABMS clinical informatics board certification for physicians in the United States”

Other Conferences

Hanna J, Nijhawan A, Lehmann CU, Medford J.

29th Conference on Retroviruses and Opportunistic Infections, Denver, CO, February 2022

Poster Presentation, “Facebook Advertisement Cost per New HIV Diagnosis using Routine and Targeted Models.”

Education and Training

The Neonatal–Perinatal Medicine Division provides educational opportunities for medical students and pediatric residents in addition to our fully accredited fellowship program. Our goal is to impart knowledge, instill excitement for learning, and translate questions into focused areas of research.

Third-Year Medical Students

During their pediatrics rotation at UT Southwestern, third-year medical students spend time in the Newborn Nursery at Parkland Hospital.

Fourth-Year Medical Students

Students in their fourth year at UT Southwestern may elect to spend time in the Newborn Nursery or the Neonatal Intensive Care Units (NICU) at Parkland Hospital and Children’s Medical Center Dallas.

Residents

The design of the Pediatric Residency Program at UT Southwestern and Children’s Medical Center Dallas allows for exposure to Neonatal-Perinatal Medicine at Parkland Hospital and elective exposure at Children’s throughout the three-year training program.
Elective Rotations for Pediatric Residents from External Programs

The Division offers the following elective rotations to residents from other programs:

- Children’s Neonatal Intensive Care Unit
- Parkland Neonatal Intensive Care Unit
- Texas Health Dallas Presbyterian Hospital NICU
- Parkland Newborn Nursery
- Children’s Thrive Clinic
- Neonatal Neurology
- Research

Fellows

Vision – We envision that our graduates will positively impact the health of neonates through their leadership, research, and excellence in patient care.

Mission – We have three missions:

- **Patient Care:** We will strive to improve the standard of practice and ensure the highest quality of care for neonates in our hospitals and around the world. We will care for neonates with the highest respect for their precious lives in a family-centered, compassionate, and caring environment, utilizing evidence-based approaches to treatments that are regularly evaluated and updated.

- **Research:** We will pursue new knowledge through high-quality research that explores unanswered questions and tests and refines previously established ideas in developmental biology and neonatal-perinatal care. We will engage in world-class clinical, translational, and basic science research aimed at improving babies’ lives throughout their lifespan. We will work collaboratively within and outside our institution to generate important discoveries that will enhance medical practice and inform the medical community and the public of evidence-based approaches to neonatal-perinatal medicine.

- **Education:** We will impart knowledge, instill excitement for learning, and translate and refine questions into focused areas of research for our trainees. We will train future leaders in neonatal medicine who will work in an academic or private setting and deliver the highest quality care to their patients. We will accomplish this by:
  - Allowing fellows to pursue their interests in a structured manner in order to produce quality research addressing significant questions in neonatal-perinatal medicine.
  - Promoting a collegial environment that provides ample opportunity for fellows to grow and learn from their own and others’ experiences.

Research Activities

The following are representative of various research activities occurring in the Division of Neonatal-Perinatal Medicine at UT Southwestern. The division held $1.4 million in direct funding in 2021 as of August 22, 2022. This amount includes sponsored egrants and non-egrants data.

Clinical Research

- **NIH Neonatal Network for Clinical Trials:** The Division of Neonatal-Perinatal Medicine is an active participant in the Neonatal Network clinical studies and has been since its inception in 1986.
- **Treatment of chorioamnionitis-exposed neonates:** Several alternative diagnostic tests and therapies have been promoted for the neonate whose mother is diagnosed with chorioamnionitis.
Follow-up care for very low birth weight and high-risk infants, including neurodevelopment, chronic disease, and nutrition, is part of our ongoing study of these babies.

Neonatal resuscitation: Randomized trials (e.g., temperature control, oxygen delivery, and resuscitation educational interventions), observational studies (ETCO2 guidance of CPR, effectiveness of epinephrine dosing), as well as other observational studies using the resuscitation database, which includes detailed information about all resuscitation team calls since 2003.

Hypoxic-ischemic encephalopathy: Mechanism of injury; assessment of tools such as the amplitude electroencephalogram (EEG); translational research utilizing a piglet model of asphyxia; optimizing neuro-protection offered by hypothermia; rewarming after hypothermia; cerebrovascular hemodynamic modulation of asphyxiated infants; neuroimaging; neurodevelopment.

Studies in the newborn nursery: Late preterm infants, hypoglycemia, transcutaneous bilirubin

Observational studies using available databases: Several research studies and quality improvement projects use information from available databases, including: the neonatal resuscitation database (Parkland, see above), the NICU databases at Parkland or Children’s Medical Center (CMC), the NICHD Neonatal Research Network Databases (Generic Database, Follow-up Database, and Moderate Preterm Registry), the Vermont-Oxford Network (Parkland NICU), and the Child Health Neonatal Consortium Database (CMC NICU).

Early evidence suggesting potential risk of metabolic syndrome in infancy among very low birth weight infants: Evidence for abnormal weight-to-length ratio, increased adiposity, glomerular hyperfiltration, and high blood pressure in very low birth weight infants followed at the low-birth-weight clinic.

Nutritional and growth studies: Optimizing Individual Nutrition in Preterm Very Low Birth Weight Infants: Randomized clinical trial comparing individualized versus optimized supplementation of human milk; Quality improvement in nutrient administration and linear growth assessment.

Weaning continuous positive airway pressure (CPAP) in preterm infants: randomized study comparing two modes of weaning CPAP: from five centimeters vs. decreasing from five to four and three centimeters.

Optimization of CPAP in the delivery room and decreasing CPAP failure in the NICU

Less Invasive Surfactant Administration

Laboratory Research

Maternal and fetal cardiovascular physiology and development
Animal models relating to neonatal resuscitation and gestational hypertension
Pathogenesis of bronchopulmonary dysplasia/chronic lung disease and novel therapies
Molecular basis of vascular disease
Pulmonary endothelial function, nitric oxide, persistent pulmonary hypertension, and calcium metabolism
The roles of hyaluronan (hyaluronic acid) and its receptors in inflammation, endothelial function, and COVID-19
Gut microbiome and its effects on immune responses in the developing gut and risks for necrotizing enterocolitis (NEC)

Clinical Activities

The Division of Neonatal-Perinatal Medicine has provided care for normal newborns and newborns with complex medical and surgical problems for more than 45 years. Faculty offer clinical services at four distinct institutions with a total of 18,000-20,000 births and 250 NICU beds.

Parkland Health and Hospital System

Neonatal Intensive Care Unit: Since 1974, the NICU at Parkland Memorial Hospital has been providing exceptional and comprehensive care to critically ill newborns. This was the first NICU in Dallas County and is the largest Level III unit in the region. The 96-bed unit averages about 1,800 admissions annually, or about 150 admissions a month. Our staff consists of a collaborative team of physicians, advanced practice providers, nurses, and support staff who are all highly experienced in caring for a wide array of neonatal disorders both medical and surgical. Working closely with our highly skilled colleagues in the maternal-fetal medicine department, we
are able to provide exceptional care both before and after birth. This teamwork has resulted in some of the lowest mortality and morbidity rates in the country. This unit achieved Level III designation by the state in 2018 and again in 2021.

- **Newborn Nursery:** With more than 12,000 deliveries a year, the newborn nursery at Parkland Hospital is one of the busiest in the country. Under the supervision of pediatric faculty from the Neonatal-Perinatal Division, pediatric residents and pediatric advanced practice providers provide comprehensive care for both term and near-term infants from birth through discharge.

- **Labor and Delivery:** We provide a unique and highly trained neonatal resuscitation team that attends more than 300 high-risk deliveries a month and have the capability to deliver cutting-edge delivery room care in even the most complex cases, including Ex Utero Intrapartum Treatment (EXIT) procedures. Under the direction of Myra Wyckoff, M.D., an internationally acclaimed physician in neonatal resuscitation research, the labor and delivery faculty provide a very unique resuscitation rotation for fellows, residents, and medical students, which includes exposure to a computerized patient simulator, participation in resuscitation research, review of the literature, and attendance at high-risk deliveries.

**Children's Health System of Texas**

- **Level IV Neonatal Intensive Care Unit:** The NICU at Children's combines advanced technology with highly trained healthcare professionals to provide comprehensive care for critically ill newborns. This state-of-the-art, 47-bed NICU opened in 2007 as the premiere referral unit in North Texas. The NICU staff, under the supervision of faculty members from the Division of Neonatal-Perinatal, is experienced in caring for a wide-array of neonatal disorders, both medical and surgical. Through an integrated collaboration between Children’s and an extensive network of pediatric subspecialists from UT Southwestern, this NICU is able to provide exceptional care tailored to the specific needs of each individual patient, serving over 800 infants in 2021. This NICU achieved Level IV designation by the state in 2016 and re-designation as a Level IV NICU in 2020.

- **Thrive at Children’s:** The Thrive Clinic provides comprehensive medical and psychosocial treatment through intensive intervention, education, social services, and developmental testing for high-risk infants from birth to age five.

- **The Fetal Evaluation and Treatment Alliance (FETAL) and The Fetal Center:** Established in 2008, this program has grown substantially and culminated in the opening of a dedicated Fetal Center in 2014. FETAL was the first program in North Texas offering a full continuum of specialized care for pregnant women diagnosed with a fetal anomaly. Patient families and their referring providers receive prenatal conferences with a highly specialized multidisciplinary team, all in one location, that brings the expertise of UTSW subspecialists to the affected baby at risk. A personalized approach addresses each in utero diagnosis to determine the best strategy for pregnancy, delivery, and continuity of care after birth. Receiving care through the FETAL Center provides access to maternal fetal medicine specialists, a world-renowned neonatal resuscitation team, and a complete range of pediatric and surgical subspecialists who work together to deliver the highest level of comprehensive care.

- **TeleNICU:** In 2013, in collaboration with Children’s Health, we launched TeleNICU, the state’s first dedicated neonatal telemedicine service and one of the most sophisticated systems of its kind in the U.S. TeleNICU links specially trained, board-certified UT Southwestern neonatologists at Children’s Health to physicians at other hospitals’ NICUs to consult and assist in the management of the sickest and most fragile infants. Using specialized equipment and secure broadband transmission, our dedicated neonatologists are able to communicate with doctors at other facilities 24/7. Using two-way, real-time interactive communication, virtual examination of newborns at distant-site NICUs is achieved. Participating hospitals connect with UTSW neonatologists using a mobile equipment cart with medical-quality videoconferencing capabilities, secure data transfer, and digital equipment that permits diagnostic testing. Our physicians are able to use specialized cameras to perform high-definition visual examinations and a high-tech stethoscope to listen to the baby’s heart, lungs, and abdomen. *Information Week* named TeleNICU as one of the Elite 100 Information Technology Innovations in 2015. We have since established TeleTransport, where our transport teams have telemedicine capabilities to allow neonatologists direct ability to examine and manage patients with the transport team, TeleFETAL.
which allows fetal consultations to be done remotely, as well as TeleCooling for infants that have suffered hypoxic-ischemic encephalopathy (HIE) at outside hospitals.

William P. Clements Jr. University Hospital

- **Level III NICU**: The William P. Clements Jr. University Hospital features 30 single-patient NICU rooms. State-of-the-art neonatal care, including conventional and high-frequency mechanical ventilation, inhaled nitric oxide therapy, and outstanding nursing care, is provided to fragile infants. Parents can sleep in the room overnight with their newborns – enabling parents to focus on their infant and build bonds that will help the baby grow stronger. This NICU received Level III designation from the state in 2018 and redesignation in 2021. The quality improvement work in the unit has received several awards for innovation and excellent outcomes.

- **Newborn Nursery**: The Labor, Delivery, and Recovery rooms combine modern technology with a warm, home-like environment to provide a safe and comfortable experience for mothers and families. Our highly experienced newborn physicians provide state-of-the-art care for the newborn infant. We also have lactation consultants to provide breastfeeding assistance. UT Southwestern is a member of the Texas Ten Step Program to improve maternity care practices. Policy development, education of staff, and provision of discharge resources for breastfeeding mothers are key initiatives of the program.

Southwestern Health Resources – Texas Health Dallas (Presbyterian) Hospital (THD)

The UT Southwestern Division of Neonatal-Perinatal Medicine assumed care of the newborn infants in the NICU and Special Care Nursery at THD in September 2015, marking the beginning of Southwestern Health Resources, a close affiliation between UT Southwestern and Texas Health Resources.

- **Level III NICU**: Located on the third floor of the Margo Perot Center at Texas Health Dallas, a 47-bed Level III NICU provides 24-hour comprehensive care to premature, high-risk, and ill infants. The self-contained program offers therapies, equipment, and an experienced multidisciplinary specialist team that includes UTSW neonatologists, medical subspecialists, and surgeons, as well as excellent neonatal nurses, respiratory therapists, pharmacists, and occupational therapists. This NICU received Level III designation from the State in 2018 and again in 2021.

- **Special Care Nursery**: The Special Care Nursery provides specialized services and medical monitoring for infants who have graduated from the NICU but still require additional care. The nursery is staffed by board-certified UT Southwestern neonatologists who provide around-the-clock expert care for premature and special-needs infants. This 44-bed nursery is the only Level II nursery in the Dallas area that offers private rooms. Parents are able to room with their infants in hotel-like surroundings that include a refrigerator, granite countertops, a flat-screen TV, and a private bath, thereby encouraging parents to spend as much time with their babies as possible.

- **Thrive at THD**: As an extension of the Thrive program at Children’s, Thrive at THD has skilled developmental specialists and pediatricians to provide comprehensive developmental testing for high-risk infants that have graduated from THD and surrounding NICUs.

- **FETAL at THD**: The Fetal Evaluation and Treatment Alliance (FETAL) provides fetal consultations at the Children’s Health Specialty Center Park Cities located in the Margot Perot Center for Women & Infants at THD. Staffed by UT Southwestern neonatologists, pediatric subspecialists, and surgical specialists, this program extends the continuum of specialized care for pregnant women diagnosed with a fetal anomaly.

**Patient Statistics**

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<tbody>
<tr>
<td>Births</td>
<td>12,441</td>
<td>12,424</td>
<td>12,563</td>
<td>12,574</td>
<td>12,600</td>
<td>12,600</td>
<td>12,535</td>
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<tr>
<td>NICU Admissions</td>
<td>1,639</td>
<td>1,822</td>
<td>1,960</td>
<td>1,803</td>
<td>1,813</td>
<td>1,647</td>
<td>1,758</td>
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### William P. Clements Jr. University Hospital

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<tbody>
<tr>
<td>Births</td>
<td>1,899</td>
<td>2,122</td>
<td>1,941</td>
<td>2,055</td>
<td>1,978</td>
<td>2,000</td>
<td>2,256</td>
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<tr>
<td>NICU Admissions</td>
<td>450</td>
<td>479</td>
<td>430</td>
<td>461</td>
<td>410</td>
<td>372</td>
<td>495</td>
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<tr>
<td>Average Length of Stay</td>
<td>12.6</td>
<td>15.6</td>
<td>16.6</td>
<td>15.7</td>
<td>11.6</td>
<td>10.6</td>
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### Children’s Medical Center

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<tbody>
<tr>
<td>Admissions</td>
<td>642</td>
<td>706</td>
<td>669</td>
<td>736</td>
<td>560</td>
<td>691</td>
<td>740</td>
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<tr>
<td>Average Length of Stay</td>
<td>21.7</td>
<td>20.6</td>
<td>21.3</td>
<td>19.7</td>
<td>21.3</td>
<td>21.2</td>
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### Texas Health (Presbyterian) Dallas – NICU & Special Care Nursery

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<tbody>
<tr>
<td>Births</td>
<td>5,144</td>
<td>5,008</td>
<td>4,859</td>
<td>4,496</td>
<td>4,977</td>
<td>5,125</td>
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<tr>
<td>NICU Admissions</td>
<td>688</td>
<td>728</td>
<td>833</td>
<td>842</td>
<td>705</td>
<td>711</td>
<td>681</td>
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<tr>
<td>Average Length of Stay</td>
<td>22.6</td>
<td>21.8</td>
<td>17.3</td>
<td>20.3</td>
<td>23.2</td>
<td>17.8</td>
<td>57.38</td>
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### FETAL Program

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<tbody>
<tr>
<td>PHHS Referrals</td>
<td>219</td>
<td>174</td>
<td>238</td>
<td>219</td>
<td>311</td>
<td>342</td>
<td>147</td>
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<tr>
<td>UTSW Referrals</td>
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<td>108</td>
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<tr>
<td>THD Referrals</td>
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<td>30</td>
<td>38</td>
<td>37</td>
<td>298</td>
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### Current Grant Support

**Noorjahan Ali**

- **Grantor:** The International Network for Simulation-based Pediatric Innovation, Research and Education
- **Title of Project:** Implementation of a resuscitation bundle for neonatal resuscitation
- **Role:** Principal Investigator
- **Dates:** 07/2020 – 12/2022

**Luc Brion**

- **Grantor:** UT Southwestern Internal
- **Title of Project:** Optimizing Individual Nutrition in Preterm Very Low Birth Weight Infants
- **Role:** Principal Investigator
- **Dates:** 12/2021 – 12/2022

**Lina Chalak**

- **Grantor:** University of California, San Francisco
**Title of Project:** HEAL – High Dose Erythropoietin for Asphyxia and Encephalopathy – Year 6  
**Role:** Principal Investigator  
**Dates:** 07/2018 – 06/2022  
**Grantor:** NIH-National Inst of Neuro Disord & Strk

**Title of Project:** A Novel Wavelet Neurovascular Bundle for Real Time Detection of Injury in Neonatal Encephalopathy  
**Role:** Principal Investigator  
**Dates:** 07/2017 – 06/2022

**Grantor:** Washington University in St. Louis

**Title of Project:** NIRS Monitoring to Stop Injury  
**Role:** Principal Investigator  
**Dates:** 04/2021 – 03/2023

**Grantor:** UT Southwestern

**Title of Project:** Safeguarding the Brain of Our Smallest Children – an open-label phase-III randomized trial of cerebral oximetry combined with a treatment guideline versus treatment as usual in premature infants.  
**Role:** Principal Investigator  
**Dates:** 01/2020 – 01/2023

**Grantor:** Cerebral Palsy Alliance Research Fndt

**Title of Project:** An investigator-initiated, pragmatic, multi-site single-arm phase II clinical trial evaluating neuroprotective treatment for preterm infants based on near-infrared spectroscopy monitoring in premature infants. BOx-II  
**Role:** Principal Investigator  
**Dates:** 01/2020 – 01/2023

**Grantor:** Patient Centered Outcomes Research Institute (PCORI)

**Title:** COOL PRIME (Cooling Comparative Effectiveness Prospective Study In Infants with Mild Encephalopathy)  
**Role:** Principal Investigator  
**Dates:** 11/2022 – 10/2027

**Venkatakrishna Kakkilaya**

**Grantor:** Chiesi USA Inc

**Title of Project:** Less Invasive Surfactant for Extremely Preterm Neonates in the Delivery Room: randomized controlled trial (DRLISA study)  
**Role:** Principal Investigator  
**Dates:** 06/2021 – 06/2024

**Grantor:** Chiesi USA Inc

**Title of Project:** Use of Premedication for Less Invasive Surfactant Administration: A Randomized Control Trial  
**Role:** Principal Investigator  
**Dates:** 04/2022 – 04/2024

**Grantor:** Spark Biomedical, Inc.

**Title of Project:** Delivering Transcutaneous Auricular Neurostimulation as an Adjunct Treatment for Neonatal Opioid Withdrawal Syndrome  
**Role:** Principal Investigator  
**Dates:** 07/2022 – 06/2024

**Vishal Kapadia**

**Grantor:** NIH – National Institute of Child Health & Human Development – K23
**Title of Project:** Low versus High Transitional Oxygen Saturation Targets for Preterm Resuscitation in the Delivery Room: A Randomized Controlled Trial  
**Role:** Principal Investigator  
**Dates:** 05/2016 – 11/2022  
**Grantor:** American Academy of Pediatrics

**Title of Project:** Delivery Room Intervention and Evaluation (Drive) Network  
**Role:** Principal Investigator  
**Dates:** 09/2022 – 12/2023

**Christoph Lehman**

**Grantor:** NCCN/Pfizer  
**Title of Project:**  
**Role:** Co-Investigator  
**Dates:** 02/2021 – 01/2022

**Rachel León**

**Grantor:** NIH-National Heart, Lung and Blood Inst  
**Title of Project:** Placental hemodynamic effects on brain development in infants with congenital heart disease  
**Role:** Principal Investigator  
**Dates:** 09/2022 – 08/2023

**Imran Mir**

**Grantor:** Children’s Health Foundation  
**Title of Project:** Brain Injury in Extremely Preterm Infants – Role of Exposure to Intrauterine Inflammation  
**Role:** Principal Investigator  
**Dates:** 08/2020 – 12/2022

**Julie Mirpuri**

**Grantor:** NIH-National Institute of DDK Diseases  
**Title of Project:** Mechanisms of maternal high fat diet induced susceptibility to gut inflammation in offspring  
**Role:** Principal Investigator  
**Dates:** 03/2022 – 02/2023

**Grantor:** NIH-National Institute of Children Health & Human Development  
**Title of Project:** The role of diet and dietary metabolites in directing ILC3 lineage commitment in the fetus and newborn  
**Role:** Principal Investigator  
**Dates:** 07/2022 – 06/2023

**Grantor:** Children’s Health Foundation  
**Title of Project:** Mechanisms of maternal high fat diet induced susceptibility to gut  
**Role:** Principal Investigator  
**Dates:** 12/2019 – 12/2022

**Grantor:** American Association for the Advancement of Science  
**Title of Project:** Walls can Talk: Creation of the IF/THEN Female Leaders Advancing Medicine, Education and Science (FLAMES)
Eric Ortigoza

**Grantor:** Children’s Medical Center Foundation, Children’s Clinical Research Advisory Committee (CCRAC)

**Title of Project:** Gut Motility and the Microbiome in Preterm Infants

**Role:** Principal Investigator

**Dates:** 11/2018 – 11/2022

**Grantor:** NIH/NCATS UT Southwestern CTSA Pilot Grant Program

**Title of Project:** Biomarkers of Feeding Intolerance in Preterm Infants

**Role:** Principal Investigator

**Dates:** 02/2022 – 04/2022

**Grantor:** NIH/NCATS KL2 Clinical Scholars Program

**Title of Project:** Biomarkers of Feeding Intolerance in Preterm Infants

**Role:** Principal Investigator

**Dates:** 09/2021 – 09/2023

Myra Wyckoff

**Grantor:** RTI International

**Title of Project:** NICHD Neonatal Research Network Capitation Funding

**Role:** Principal Investigator

**Dates:** 04/2011 – 03/2023

**Grantor:** NIH – National Institute of Child Health & Human Development

**Title of Project:** NICHD Cooperative Multicenter Neonatal Research Network

**Role:** Principal Investigator

**Dates:** 04/2022 – 03/2023

Sushmita Yallapragada

**Grantor:** Mallinckrodt Pharmaceuticals

**Title of Project:** Multicenter; Prospectively defined observational registry with retrospective data collection, evaluating premature and term-near-term neonates with pulmonary hypertension receiving inhaled nitric oxide via invasive or noninvasive ventilator support at US

**Role:** Principal Investigator

**Dates:** 04/2018 – 04/2023

Peer-Reviewed Publications


43. Lehmann CU, Puckett AL, Betz BO. 56-year-old man • increased heart rate • weakness • intense sweating • horseradish consumption • Dx? *J Fam Pract.* 2022 Sep;71(7):317-321. PMID:36179141


47. Leon RL, Kalvacherla V, Andrews MM, Thomas JM, Mir IN, Chalak LF. Placental pathologic lesions associated with stroke in term neonates. *Front Endocrinol (Lausanne).* 2022;13():920680. PMID:36157451


64. Ramachandran S, Bruckner M, **Kapadia V**, Schmölzer GM. **Chest compressions and medications during neonatal resuscitation.** *Semin Perinatol.* 2022 Oct;46(6):151624. PMID:35752466

65. Ramachandran S, Foglia EE, DeMauro SB, Chawla S, **Brion LP**, **Wyckoff MH**. **Perinatal management: Lessons learned from the neonatal research network.** *Semin Perinatol.* 2022 Nov;46(7):151636. PMID:35835614


69. Sawyer C, Sanghavi R, **Ortigoza EB**. **Neonatal gastroesophageal reflux.** *Early Hum Dev.* 2022 Aug;171():105600. PMID:35716649


Book Sections


