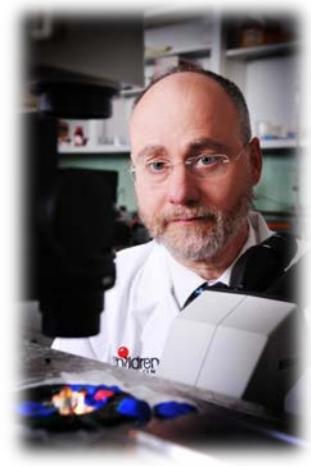


Division Introduction

The Division of Pediatric Nephrology at UT Southwestern provides care for children with kidney disease and hypertension. The division is among the largest pediatric nephrology programs in the United States and consistently the highest ranking medical service according to U.S. News and World Report at Children's Health™. The faculty are not only devoted to patient care but also to improving the lives of children with renal disease by performing cutting edge research.

[Michel Baum, M.D.](#), who is a widely respected scientist, heads the Division. Dr. Baum serves as the Editor-in-Chief of *Pediatric Nephrology*.

The clinical service of the Division consists of the following components: hemodialysis and peritoneal dialysis, inpatient services, clinic services and testing services. Each of these services is coordinated to provide outstanding care for children who have kidney disease and/or hypertension.



Michel Baum, M.D.

Faculty

With the addition of Dr. Smith Vidi, who joined the faculty in 2015, there are seven pediatric nephrologists in the Division.

Smitha Vidi, M.D.

Assistant Professor



M.B.B.S.

Madras Medical College, The Tamilnadu Dr. MGR Medical University, Chennai, India, 2002

Postdoctoral Training

Residency, Pediatrics

Royal College of Pediatrics & Child Health, London, UK, 2002-2006

Research Fellowship, Pediatric Nephrology

Massachusetts General Hospital, Harvard Medical School, Boston, MA, 2007-2008

Residency, Pediatrics

Massachusetts General Hospital, Harvard Medical School, Boston, MA, 2008-2011

Fellowship, Pediatric Nephrology

The Children's Hospital of Philadelphia, University of Pennsylvania, 2011-2014

Following her Pediatric Nephrology fellowship, Dr. Vidi worked as an Assistant Professor of Pediatrics at Columbia University Medical Center in New York before joining the faculty at UT Southwestern. She manages and treats patients with hypertension, chronic kidney diseases, patients on hemodialysis and peritoneal dialysis and renal transplant recipients. Her interests include hypertension, glomerulonephritis and nephrotic syndrome.

Honors / Awards

Michel Baum

- Best Doctors in America
- Best Pediatric Specialists in Dallas, *D Magazine*
- Texas Super Doctors, *Texas Monthly Magazine*

Raymond Quigley

- Best Pediatric Specialists in Dallas, *D Magazine*

Mouin Seikaly

- Best Pediatric Specialists in Dallas, *D Magazine*
- Texas Super Doctors, *Texas Monthly Magazine*

Invited Lectures**Michel Baum**

- Demetrius Ellis Endowed Lectureship, University of Pittsburgh Grand Rounds, March 2015
 - *“Prenatal Programming of Hypertension”*
- Internal Medicine Nephrology Research Conference, University of Pittsburgh, March 2015
 - *“Prenatal Programming of Hypertension and Renal Disease”*
- Tri Service General Hospital and National Defense Medical Center, Taiwan, May 2015
 - *“Prenatal Programming of Hypertension and Renal Disease”*
- Chang Gung Memorial Hospital, Taiwan, May 2015
 - *“Prenatal Programming of Hypertension and Renal Disease”*
- International Pediatric Nephrology Association, Brussels, Belgium, June 2015
 - *“Pediatric Nephrology 2015 Journal Report to IPNA Council”*

Jyothsna Gattineni

- Albert Einstein College of Medicine, Renal Grand Rounds, New York, NY, January 2015
 - *“FGF23 and Its Receptors”*

Mouin Seikaly

- 42nd Pediatric Nephrology Seminar, Miami, FL, March 2015
 - *“Nutritional Management in Children with CKD”*
- Texas Scottish Rite Hospital for Children, Orthopedics Grand Rounds, Dallas, TX, April 2015
 - *“Metabolic Bone Disorders in Children”*
- Doctor’s Hospital, Grand Rounds, McAllen, TX, May 2015
 - *“Metabolic Bone Disorders in Children”*
- Driscoll Children’s Hospital, Grand Rounds, Corpus Christi, TX, September 2015
 - *“Metabolic Bone Disorders in Children”*
- University of California Davis, Grand Rounds, Sacramento, CA, November 2015
 - *“Metabolic Bone Disorders in Children”*

Raymond Quigley

- Texas Tech University Health Sciences Center, Paul F. Foster School of Medicine, Department of Pediatrics Grand Rounds, El Paso, TX, December 2015
 - *“Renal Tubular Acidosis in the 21st Century”*

Platform & Poster Presentations

Michel Baum and Jyothsna Gattineni

- *“The Role of FGF23 in Vascular Calcification”*
Alphonse P, Khin E, **Baum M, Gattineni J**
 - Poster Presentation: Pediatric Academic Society (PAS), San Diego, CA, April 2015

Raymond Quigley

- *“Fluid Removal Kinetics and ICU Mortality in Critically Ill Children Undergoing Continuous Renal Replacement Therapy (CRRT)”*
Tadphale S, Dhar A, Luckett P, **Quigley R**, Gollhoffer D, Modem V
 - Platform Presentation: Pediatric Academic Society (PAS), San Diego, CA, April 2015
- *“Clinical Outcome Following PD Catheter Insertion Prior to 30 Days of Life”*
Hanevold C, Zaritsky J, Lawlor J, **Quigley R**, Neu A, Warady B
 - Poster Presentation: Pediatric Academic Society (PAS), San Diego, CA, April 2015

Education and Training

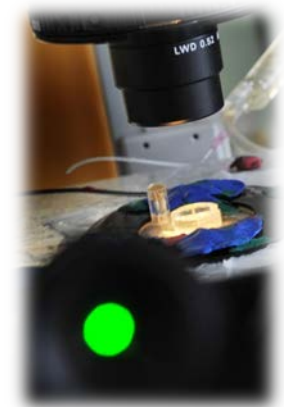
The Division of Pediatric Nephrology is one of a hand full of Nephrology Programs to be funded by an NIH T32 grant. This grant has funded the training of some of the most successful and productive pediatric nephrologists in the country. There are six trainees in the ACGME training program. They spend a total of 12 months on inpatient clinical service during the three years of training. All fellows spend one day a week seeing outpatients in the nephrology clinic. They also spend time in the metabolic bone clinic at Texas Scottish Rite Hospital for Children. The rest of their training is devoted to clinical or basic research. The trainees may go into one of the Division’s basic science laboratories or one of the laboratories of others on campus who study renal disease. Some trainees have elected to spend a fourth year of training in renal transplantation.

Research Activities

The Division of Pediatric Nephrology has three basic research laboratories devoted to research into clinically important issues.

Baum Laboratory

The laboratory has published more than 140 research papers and 60 reviews in chapters in areas related to understanding of how ions are transported across the renal epithelia in both children and adults. The Baum laboratory has been funded by the NIH for more than 25 years and investigated the regulation of salt transport by the neonatal and adult kidney as well as the transporters involved in salt transport. The laboratory has shown that some of the mechanisms involved in both active and passive salt transport are different in neonates than adults. Recently the laboratory has focused on the mechanism of hypertension with prenatal programming. Small for gestational age infants and very premature infants develop hypertension and chronic kidney disease. The Baum laboratory uses a rat model to explore the pathophysiology for the increase in blood pressure and kidney injury with programming. Most recently they have made significant discoveries that have shown that hypertension and kidney injury can be prevented by changes in the postnatal environment.



Gattineni Laboratory

FGF23 is a phosphaturic hormone that is elevated in many metabolic bone diseases. It is the first hormone to increase in the blood stream in patients with chronic kidney disease and the levels increase progressively as renal disease worsens. The Gattineni laboratory has characterized the receptors for this hormone, and in so doing, has generated a mouse that has a

50-fold increase in FGF23 levels. Dr. Gattineni is using this mouse to determine if FGF23 contributes to the bone, vascular and cardiac disease seen in patients with chronic kidney disease.

Wolf Laboratory

The Wolf laboratory studies the mechanism and regulation of magnesium and calcium transport. Calcium and magnesium are transported in the distal tubule by channels. This laboratory has made seminal contributions showing how these channels get to and stay in the membrane. Several diseases, including diabetes, have dysregulated magnesium transport that can make the disease much worse. Dr. Wolf is examining why there is dysregulation of magnesium transport in diabetes and if there are factors that can normalize magnesium transport and improve the outcome of patients with diabetes.

Clinical Research

Pediatric Nephrology faculty members perform clinical research to study the pathogenesis and therapy for children with chronic kidney disease, end stage renal disease, hypertension, and transplantation. Patients with end stage renal disease are at risk for developing metabolic bone disease and opportunistic infections. The Division has made significant contributions examining therapy for these complications. Faculty also care for a large number of children with metabolic bone disease and have made significant strides in improving the care and outcome for patients with X-linked hypophosphatemic rickets.

Clinical Activities

Dialysis

The Division of Pediatric Nephrology cares for 60-70 patients with end stage renal disease, which places it among the three largest providers of such care for children in the United States. Approximately half of these patients are treated with peritoneal dialysis and half with hemodialysis. Under the direction of Dr. Raymond Quigley, the Dialysis Program has met all of the federal and state requirements necessary to provide services for the children under its care. The Division provides 24 hour/day and seven day/week on call services for emergency dialysis to support children with acute kidney injury hospitalized at Children's.

Inpatient Services

The Division provides care to all hospitalized children with hypertension and renal disease at Children's. The average inpatient census is ten patients. In addition, most of the rheumatology patients that receive immunosuppressive medication are admitted to the Nephrology service. The division also provides inpatient consultation and manages acute dialysis and continuous renal replacement therapy for the ICU. There is an Attending Physician on call for consultation 24 hours/day and seven days/week. All consults are provided within 24 hours of the time requested.

In addition to providing inpatient services for patients with chronic kidney disease and dialysis requiring hospitalization, the Division also admits and cares for patients who have received renal transplants. This includes patients who have new renal transplants and those who have complications from a transplant such as rejection or opportunistic infection.

Clinic Services

Division faculty provide treatment for children with kidney disease and hypertension in Dallas and surrounding areas. An Attending Physician staffs clinics five days/week. The division also provides outpatient care for those patients who have received renal transplants in the Solid Organ Transplant Program clinic.

Testing Services

The Division provides testing services for children with chronic kidney disease and disorders of bone and mineral metabolism. These services are directed by Dr. Mouin Seikaly and include:

- **Blood Pressure**
 - Measurement of blood pressure in an outpatient and inpatient setting has been found to be unreliable to assess whether or not the patient has hypertension. The Division offers 24-hour blood pressure monitoring, which is the gold standard for assessment of hypertension.
- **Bone Mineral Density**
 - The Division oversees a service dedicated to the quantification of bone mineral density. Many patients suffering from endocrine, rheumatologic, orthopedic and kidney diseases have decreased bone mineral density, which may require therapy to improve bone strength.
- **Renal Function**
 - Renal function has traditionally been assessed using serum creatinine levels. Unfortunately, serum creatinine has been found to be an inaccurate measure of renal function in children. Creatinine levels not only reflect renal function but also muscle mass which can be quite low in children with chronic disease. To circumvent this limitation, the Division has been providing an accurate measure of renal function using the Glofil technique, which is the gold standard for assessment of glomerular filtration rate in children.

Metabolic Bone Disease

Dr. Mouin Seikaly runs the Metabolic Bone disease clinic at Texas Scottish Rite Hospital for Children and consults for disorders of metabolic bone disease at Children's Medical Center. Metabolic bone disease comprises a number of inherited disorders which can often be treated. Dr. Seikaly is a world's expert on the diagnosis and treatment of metabolic bone disease and has made research discoveries that have translated to improved patient care.

2015 Patient Statistics

Total number of admissions to C5	1,121
New Nephrology Clinic outpatient visits	1,141
Dallas – 977 Plano – 164	
Follow up Nephrology Clinic outpatient visits	2,829
Dallas – 2,416 Plano – 413	
Patients seen at Legacy	577
Acute hemodialysis procedures: Inpatient hemodialysis	597
Patients treated with CVVH	75
Renal transplants: Live and cadaver	14
Average number of hemodialysis patients	34
Average number of peritoneal dialysis patients	33

Current Grant Support

Michel Baum

Grantor: NIH Training Grant T32 DK07257

Title of Project: Renal Control of Body Composition and Blood Pressure

Role: Co-Director (Orson Moe, Principal Investigator)

Dates: 2012 – 2017

Grantor: UT Southwestern O'Brian Kidney Research Core P30DK079328

Title of Project: Core B - Physiology

Role: Co-Principal Investigator (Orson Moe, Principal Investigator)

Dates: 2012 – 2017

Jyothsna Gattineni

Grantor: K08, National Institute of Diabetes and Digestive and Kidney Diseases
Title of Project: FGF23 and its Receptors, R03DK105298
Role: Principal Investigator
Dates: 2015 – 2017

Grantor: Mark and Marcia King Foundation
Title of Project: FGF23: Friend, Foe or Innocent Bystander
Role: Principal Investigator
Dates: 2013 – 2016

Grantor: Norman S. Coplion Extramural Grant Program
Title of Project: FGF23 and Vascular Calcification
Role: Principal Investigator
Dates: 2014 – 2015

Raymond Quigley

Grantor: Abbvie
Title of Project: A Phase 3, Open-Label, Multicenter Study to Evaluate the Safety of Paricalcitol Capsules in Pediatric Subjects Ages 10 to 16 with Stage 5 Chronic Kidney Disease Receiving Peritoneal Dialysis or Hemodialysis
Role: Site Investigator
Dates: 2012 – Current

Grantor: North American Pediatric Renal Transplant
Title of Project: An Open-label, Single-arm Study to Assess the Safety and Tolerability of Cinacalcet HCl in Addition to Standard of Care in Pediatric Subjects Age 28 Days to < 6 Years with Chronic Kidney Disease and Secondary Hyperparathyroidism Receiving Dialysis
Role: Site Investigator
Dates: 2013 – Current

Mouin Seikaly

Grantor: NIH
Title of Project: Chronic Kidney Disease in Children Prospective Cohort Study (CKID)
Role: Site Investigator
Dates: 2014 – Current

Matthias Wolf

Grantor: NIH, K08 DK095995-03
Title of Project: Role of Uromodulin in Regulation of Renal Calcium Channel TRPV5
Role: Principal Investigator
Dates: 2013 – 2016

Grantor: Carl W. Gottschalk Research Scholar Grant, American Society for Nephrology
Title of Project: The Role of Mucin 1 in Protection against Nephrolithiasis by Regulation of the Renal Calcium Channel TRPV5
Role: Principal Investigator
Dates: 2014 – 2016

Journal Publications

1. **Baum M.** [Overview of polycystic kidney disease in children.](#) *Current Opinion in Pediatrics* 2015;27:184-5.
2. Bhaskar P, **Dhar AV**, Thompson M, **Quigley R**, **Modem V.** [Early fluid accumulation in children with shock and ICU mortality: a matched case-control study.](#) *Intensive Care Medicine* 2015;41:1445-53.
3. Cheng CJ, Yoon J, **Baum M**, Huang CL. [STE20/SPS1-related proline/alanine-rich kinase \(SPAK\) is critical for sodium reabsorption in isolated, perfused thick ascending limb.](#) *American Journal of Physiology Renal Physiology* 2015;308:F437-43.
4. Eckardt KU, Alper SL, Antignac C, Bleyer AJ, Chauveau D, Dahan K, Deltas C, Hosking A, Knoch S, Rampoldi L, Wiesener M, **Wolf MT**, Devuyst O. [Autosomal dominant tubulointerstitial kidney disease: diagnosis, classification, and management-A KDIGO consensus report.](#) *Kidney International* 2015;88:676-83.
5. **Gattineni J**, **Baum M.** [Developmental changes in renal tubular transport-an overview.](#) *Pediatric Nephrology* 2015;30:2085-98.
6. **Gattineni J**, Friedman PA. [Regulation of hormone-sensitive renal phosphate transport.](#) *Vitamins and Hormones* 2015;98:249-306.
7. Gleason CE, Frindt G, Cheng CJ, Ng M, Rashmi P, Lang F, **Baum M**, et al. [mTORC2 regulates renal tubule sodium uptake by promoting ENaC activity.](#) *The Journal of Clinical Investigation* 2015;125:117-28.
8. Herbert C, Patel M, **Nugent A**, **Dimas VV**, Guleserian KJ, **Quigley R**, **Modem V.** [Serum Cystatin C as an Early Marker of Neutrophil Gelatinase-associated Lipocalin-positive Acute Kidney Injury Resulting from Cardiopulmonary Bypass in Infants with Congenital Heart Disease.](#) *Congenital Heart Disease* 2015;10:E180-8.
9. Lozano G, Elmaghrabi A, Salley J, Siddique K, **Gattineni J**, **Baum M.** [Effect of prenatal programming and postnatal rearing on glomerular filtration rate in adult rats.](#) *American Journal of Physiology Renal Physiology* 2015;308:F411-9.
10. Mansuri A, Elmaghrabi A, Legan SK, **Gattineni J**, **Baum M.** [Transient Exposure of Enalapril Normalizes Prenatal Programming of Hypertension and Urinary Angiotensinogen Excretion.](#) *PLoS One* 2015;10:e0146183.
11. Pirojsakul K, **Gattineni J**, Dwarakanath V, **Baum M.** [Renal NHE expression and activity in neonatal NHE3- and NHE8-null mice.](#) *American Journal of Physiology Renal Physiology* 2015;308:F31-8.
12. Pirojsakul K, Powell J, Sengupta A, Desai D, **Seikaly M.** [Mass lesions in the transplanted kidney: Questions.](#) *Pediatric Nephrology* 2015;30:1107-8, 9-11.
13. **Wolf MT.** [Nephronophthisis and related syndromes.](#) *Current Opinion in Pediatrics* 2015;27:201-11.
14. Wu Y, **Baum M**, Huang CL, Rodan AR. [Two inwardly rectifying potassium channels, Irk1 and Irk2, play redundant roles in Drosophila renal tubule function.](#) *American Journal of Physiology Regulatory, Integrative and Comparative Physiology* 2015;309:R747-56.

Book Sections

1. **Baum M.** Renal Tubular Development. In: Avner ED, Harmon WE, Niaudet P, Yoshikawa N, Emma F, Goldstein SL, eds. *Pediatric Nephrology*, 7th ed. Berlin-Heidelberg-New York: Springer; 2015.
2. **Quigley R**, **Wolf MTF.** Renal Tubular Acidosis. In: Avner ED, Harmon WE, Niaudet P, Yoshikawa N, Emma F, Goldstein SL, eds. *Pediatric Nephrology*, 7th ed. Berlin-Heidelberg-New York: Springer; 2015.