

NEPHROLOGY UPDATE

Division Opens New Dialysis Center in North St. Louis County

In an effort to enhance access to dialysis services in a high-need region of St. Louis, the Division of Nephrology has opened a new community dialysis center in north St. Louis County. The new facility, which opened earlier this year in Florissant, Mo., contains 16 in-center hemodialysis stations as well as room for home hemodialysis and peritoneal dialysis training and support.

“Our initial capacity is about 90 in-center hemodialysis patients and 40 home modality patients,” says nephrologist Tingting Li, MD, the facility’s administrator. “I suspect that our census will increase gradually over the next few months as people become aware of our new location.”

“As a nephrologist, I understand the need for convenient access to quality dialysis care for my patients,” says Paul Scheel, MD, chief executive officer of Washington University Physicians, the university’s faculty practice plan. “Part of our mission at Washington University is to serve the needs of the local community. I am pleased that our patients in North County can receive this life-saving medical care close to home.”

In Missouri, more than 9,000 patients currently undergo dialysis, putting the state in the top 10 for incidence and prevalence for end stage renal disease (ESRD). In the St. Louis region, kidney disease and diabetes rank among the top 10 leading causes of death. In fact, a 2018 report recently published by the St. Louis County Public Health Department found that kidney disease and

diabetes were not only leading causes of death among older adults, but also among young adults between the ages of 18 and 24.

“I’ve seen firsthand the need for a dialysis unit in North County, which by far, has the highest number of patients suffering from ESRD in Missouri,” says nephrologist Marcos Rothstein, MD, an early advocate of the North County Dialysis Center. “It fills me with pride that Washington University Nephrology is fulfilling the needs and expectations of our patients.”

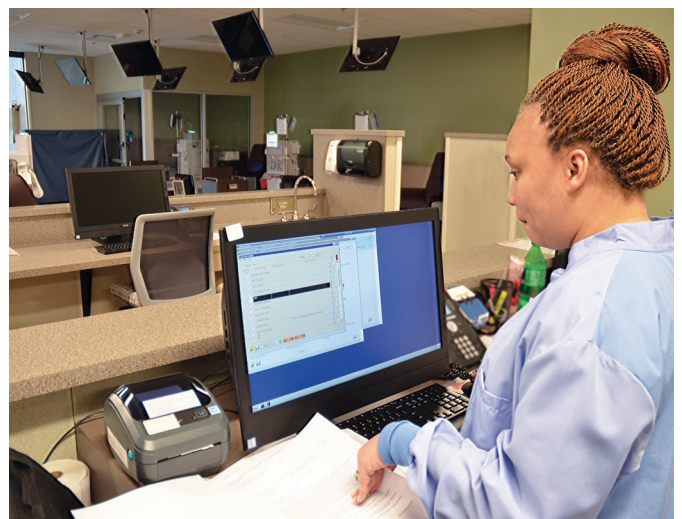
Washington University now operates four community dialysis centers, including the Chroalloy American Kidney Center at Barnes-Jewish Hospital, the oldest operating dialysis center in St. Louis. Other locations include the WU Dialysis Center at Forest Park and Home Dialysis South in south St. Louis County.

“The main benefit to these centers is location,” says Li. “Patients are closer to their own community and support systems and there is less time spent in travelling, which makes transportation issues less complicated, too. By bringing these services closer to our patients, it may lead to better adherence to dialysis regimens.”

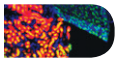
Joining Li in the new facility are Rothstein and Jim Davis, MD, who joins WU Nephrology in July. Shauntae Bailey, RN and Lisa Koester-Wiedemann, ANP, CNN-NP, renal nurse practitioner, and a dedicated nursing staff round out the care team.



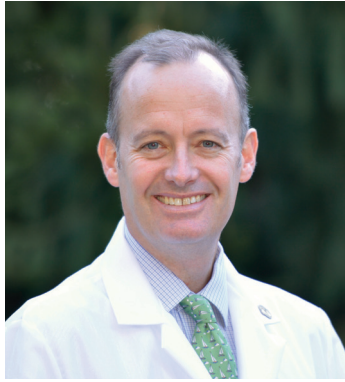
The North County Dialysis Center reflects WU’s commitment to serving those who need dialysis where they live.



Callie Dabney, Staff Nurse, preps for patients at the new North County Dialysis Center.



Message from the Chief



It's shocking that the St. Louis County Health Department released a report in February of this year that shows the number of people dying from kidney disease or diabetes is rising. For the past several years, both have been among the top 10 leading causes of death in the county.

Those statistics are why our Division and Washington University made a commitment to open a dialysis center in the area where end stage renal disease is prevalent — north St. Louis County. We believe that by providing dialysis services directly where the community needs it most

will result in higher patient satisfaction and, more significantly, improved care and outcomes.

As we focus on improving the care that we provide, we also are excited to announce plans under way to move our nephrology basic research labs into a brand new facility. As many of you know, our research labs have been in the Wohl Clinic building for decades. They've become outdated. As we have expanded our research efforts, we also have grown to occupy three floors in Wohl. The new space will be in the McDonnell Sciences building, which is undergoing a gut renovation for a state-of-the-art, open concept research facility to house our basic science laboratories. All of our basic faculty worked diligently on the design. I'm excited to have our researchers together on one floor, in an open research area that fosters collaboration and shared resources.

I look forward to seeing many of you at ASN Kidney Week 2018 in October. I am privileged to serve as chair of the Program Committee this year and I can promise you an invigorating program with relevant topics and the latest research news. Please connect with us while you are at the ASN meeting. We always like hearing what our alumni have been doing!

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Thank you to the following donors

We thank the following for their generosity in making recent donations to the Division of Nephrology:

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If you would like to support our research and teaching mission or contribute to the Division of Nephrology's programs and services, please send your contribution to:

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You may also contact Rachel A. Hartmann directly at 314-935-9715 or by email at rachel_hartmann@wustl.edu if you are considering supporting the Division through appreciated stocks, deferred giving, beneficiary plans or other assets.

Fellowship Notes



By Seth Goldberg, MD,
Associate Director,
Nephrology
Fellowship Program

Washington University School of Medicine is always on the move. One sure sign of this is the ubiquitous presence of construction cranes as the medical center continues to expand. The new 12-story Parkview Tower recently opened at the north end of the campus and that has allowed for the continued fine-tuning of the Renal Consult services to provide specialized training opportunities for each of the three attending-fellow teams.

Patients in the Parkview Tower are primarily oncology patients, so rounds in these units will take on a decidedly onco-nephrology focus. That complements nicely with news that the Division is in the process of starting a new onco-nephrology clinic. Consult teams caring for patients in the South Campus will be divided along the lines of Cardio-Nephrology and Medical/Surgical Acute Nephrology, thus ensuring a variety of experiences for the fellows as they rotate through all services.

Our Renal Transplant team recently celebrated its 5,000th adult kidney transplant, and set a new record of 254 transplant operations in 2017. The continued high volume has provided our fellows a unique opportunity to explore outcomes in this

arena; at last year's ASN meetings, Karthik Venkatachalam presented his findings on the impact of HLA matching on outcomes in ABO-incompatible kidney transplants.

First-year fellow Fizza Abbas recently led a group of our trainees back into the classroom to organize small-group sessions with medical students. She is using the teach-back technique to reinforce key concepts of renal physiology. Finally, watch for the new edition of *Washington Manual Nephrology Subspecialty Consult* to come out later this year, with many chapters written by current fellows. Those closest to the front lines of medicine are best suited to compile this, as they understand what is most relevant for those late-night urgent calls!

New Fellows

We welcome these fellows to our Division this year:

Nephrology Fellows

Aniesh Bobba, MD
John H. Stroger Hospital
of Cook County, Ill.

Andy Chuu, MD
Mayo Clinic, Scottsdale, AZ

Christina Mariyam Joy, MD
St. Joseph's University Medical
Center, Paterson, NJ

Irene Nunuk, MD
Medical College of Wisconsin
Affiliated Hospitals, Milwaukee, WI

Madhuri Ramakrishnan, MD
University of Missouri,
Kansas City, MO



Nephrology Fellows
2018-2019

Transplant Fellows

Sreelatha Katari, MD
Washington University
School of Medicine-St. Louis

Mallika Gupta, MD
University of Washington-Seattle

Alumni Connections

Giselle Kohler, MD

Springfield Nephrology Associates
Springfield, Mo.
Nephrology Fellow, 2013-2015

Giselle Kohler, MD, has long felt a strong obligation to ensure that patient and families fully understand the ramifications of medical care and long-term treatment. As a nephrologist in private practice in Springfield, Mo., the 2015 alum of the Nephrology Fellowship Program at Washington University School of Medicine takes care of patients in the region stretching from southern Missouri to northern Arkansas.

“I’m amazed at the diversity and level of pathology I see daily,” she says. “It has been an outstanding experience.”

Kohler has been interested in the physiology of the kidney since high school. One of the reasons she pursued a medical career in nephrology was that she would be able to enjoy the “critical thinking that comes from analyzing complex acid base cases.” With dialysis patients, though, the appeal of nephrology is that Kohler is

able to develop close and long-term relationships with patients. It was during her fellowship that she realized some of her most memorable experiences with patients involved helping them manage difficult situations. “In internal medicine, and even more so in nephrology, patients present with complex and often chronic medical illnesses with significant morbidity and mortality,” explains Kohler. “I wanted to better understand my role in complex medical cases where critical illness and end of life intersect, so I decided to seek additional training in bioethics.”

Kohler earned an online certificate in bioethics from Loyola University in Chicago. She subsequently joined the Washington University Ethics consultation team, a multidisciplinary team that assesses and evaluates ethical concerns and offers recommendations on approach to medical care. “It really enabled me to put into practice the ethical concepts I learned in my certificate program,” she says.

Recently, Kohler returned to the Division to lecture on A Practical Approach to Ethics in Nephrology, in which



Giselle Kohler, MD, with her family in Springfield, Mo.

she discussed shared decision-making and four key themes that influence care decisions: medical indications, patient preferences, quality of life, and contextual settings such as social, financial or other concerns.

Reminiscing about her time as a fellow, Kohler says the hours were long and the work was demanding. “But we were all supportive and helpful to one another,” she is quick to add. “I really enjoyed spending a whole conference discussing the nuances of a single case and hearing the different perspectives of faculty. The program was outstanding and the teaching and mentorship were excellent.”

Nathan Edward Hellman, MD, PhD Memorial Teaching Award Established



Nathan Hellman, MD, PhD

The Division of Nephrology is honored to receive a donation from Richard Hellman, MD, and his wife, Patricia, to establish a new teaching award in nephrology.

Dr. Hellman is a practicing nephrologist at the University of Indiana who completed his fellowship in nephrology at Washington University and Barnes Hospital in 1979

under the leadership of Saulo Klahr, MD, former director of the division.

The WU award is named after their son, Nathan Edward Hellman, who earned his MD/PhD from Washington University School of Medicine. He completed his residency in internal medicine at the University of Pennsylvania and then was a clinical fellow in nephrology at Massachusetts General Hospital in Boston. He was in the midst of completing an additional year there as a nephrology research fellow when he passed away from complications due to a stroke in February 2010.

The younger Hellman was the founder of the Renal Fellow Network Blog, a website created in 2008 that is written for and by renal fellows (renal-fellow.blogspot.com). Andrew Malone, MB, BCh, assistant professor of medicine in WU’s Division of Nephrology, currently serves as one of three faculty advisors for the site.

The new teaching award in nephrology will be given annually to a faculty member selected by fellows within the division. Names will be inscribed on a special plaque and awardees will be given a cash award to support professional development.

Program Spotlight

Washington University Tuberos Sclerosis Center

mTOR Inhibitors Part of Comprehensive Renal Care Options

The use of mTOR inhibitors as a kidney-sparing, non-surgical treatment option to shrink and suspend the growth of renal tumors in patients diagnosed with tuberous sclerosis complex (TSC) is showing dramatic promise in adult patients seen in the Washington University Tuberos Sclerosis Center.

The Center, started by pediatric neurologist Michael Wong, MD, PhD, is a collaborative multidisciplinary center combining patient care and both basic and clinical research. It brings together specialists in pediatrics, neurology, nephrology, cardiology, dermatology, genetics, neuropsychology, neurosurgery, ophthalmology, psychiatry, pulmonology, radiology, and urology. It is the only center of its kind in Missouri that sees both children and adults for long-term care and evaluation of TSC patients.

“Tuberous sclerosis can have a number of manifestations and affect various organ systems,” says Dr. Wong. “While neurological problems, such as epilepsy and autism, are

very prominent in childhood, kidney disease often becomes a progressive, impairing issue in adults with TS. Having expert adult nephrologists with specialized knowledge linked to the TS clinic is critical for the clinical care of these patients throughout their lives.”

Nephrologist Seth Goldberg, MD, oversees the evaluation and treatment of kidney complications in the TS Center. He has served as head of Washington University’s Polycystic Kidney Disease Clinic since 2009 and expanded its scope to include all cystic diseases, including TSC. As a result, he has extensive experience in diagnosing and caring for patients with this uncommon genetic disease, which affects 1 in 6,000 people.

“Our patients come from all over Missouri and the surrounding states,” says Goldberg. “Because we see more patients with TSC than the average nephrologist, we are very familiar with the latest treatment options.”

Among the options is the use of mTOR inhibitors (everolimus). Approved by the FDA in 2012, everolimus is highly effective in shrinking and stopping the growth of tumors that develop on the kidneys or in the brain. It’s now the first-line of defense for



Jennifer Colletta and Amy Rendleman, both BSN, RNs come together with Dr. Seth Goldberg (right) for last minute notes on a patient in the Tuberos Sclerosis Center

treating renal tumors, potentially enabling patients to avoid interventional ablation procedures, surgery, or, in rare cases, kidney removal and/or transplant.

The WU TS Center is now one of a number of clinics in the United States recognized by the TS Alliance for multidisciplinary expertise. “The advantage of a center such as ours is that we can collaborate with basic scientists to get a better understanding of cystogenesis and the common pathways that impact TSC as well as PKD,” says Goldberg. “There are underlying similarities, but PKD patients don’t respond as well as TSC patients to mTOR inhibitors. The goal is to continue to enhance treatment options and look at combination therapies that may result in new and better options for patients in the near future.”

5,000+ Kidney Transplants!

One of the nation’s oldest and largest kidney transplant programs in the United States hit a major milestone late last year. The program at Washington University and Barnes-Jewish Hospital, which began in 1963, logged its 5,000th adult kidney transplant.

The team, which is ranked among the best in the country for the treatment of kidney diseases by *U.S. News & World Report*, currently averages more than 200 kidney transplant surgeries annually, which is more than half of all such transplants in the state of Missouri. The program also has one of the lowest acute rejection rates in the world for kidney transplants (< 5%).

Nephrologist Tarek Alhamad, MD, MS, FACP, FASN, interim medical director of the Kidney Transplant Program, notes that the program was a pioneer in the region for offering living kidney donor transplants and paired kidney exchanges. The program now offers some of the latest treatment options, including the use of long-acting immunosuppression medications that have fewer side effects. Says Alhamad, “Our center also is one of the few centers to monitor donor-derived cell-free DNA (dd-cfDNA), a sensitive biomarker that is used to assess graft health in kidney transplant recipients.”

He adds, “It’s so rewarding when patients come in for their follow-up visits and talk about how well their transplants are working, how they enjoy not being tied to dialysis, and how satisfied and

grateful they are to be living their new lives. That’s the most exciting thing about our work.”



Celebrating 5,000 kidney transplants with Washington University Division of Nephrology and Barnes-Jewish Hospital are Dr. Willen of the Division of Transplant Surgery and Drs. Andrew Malone, Tarek Alhamad and Rowena Delos Santos of Transplant Nephrology, Division of Nephrology.

New, Expanded Research Center for Division of Nephrology

Early next year, the Division of Nephrology will debut a new, custom-designed research center on the campus of Washington University Medical Center.

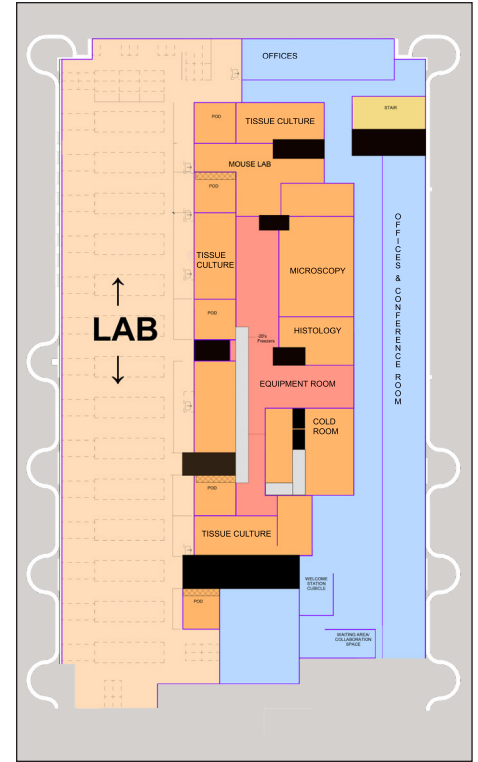
Located on the 8th floor of the McDonnell Medical Sciences Building, the research center will house eight labs, all connected synergistically with an open floor plan.

“There are no walls separating the various research groups, so this configuration will foster the development of new collaborations among our diverse faculty and staff as well as promote the sharing of expertise and equipment,” says Jeffrey Miner, PhD, FASN, who oversees the Division’s basic research efforts. “It replaces the outdated research spaces we have had in Wohl Clinic for decades and is a

much-needed upgrade. It is a fantastic opportunity for us to design modern research and office spaces from scratch that will serve our needs for years to come.”

The Division has experienced tremendous growth in the amount of research under way. In the Wohl Clinic building, nephrology research labs have expanded onto three different floors. Once those are all relocated to the McDonnell Building, eight principal investigators and seven junior and clinical research faculty will focus on a wide range of research interests, including kidney fibrosis, polycystic kidney disease, acute kidney injury, kidney and lower urinary tract development, glomerular biology, nephrotic syndrome, biomarkers of kidney injury, kidney stem cells and organoids, and tubular cell function and injury.

In addition to the shared lab space, offices, and conference rooms, the Division also will have a histology suite, a walk-in cold room, four cell and kidney organoid culture rooms, and a dedicated space to house fluorescence microscopes.



“We’ll also all have west-facing windows that have views of Forest Park,” adds Miner. “It’s a beautiful space and it should be open by early 2019.”

Translational Grant Update



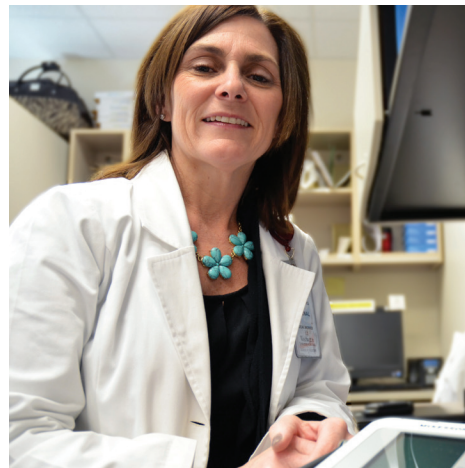
Ambulatory Blood Pressure Monitoring Program

Providing digital home blood pressure monitors and medication planners to low-income patients has a definite and positive impact on their blood pressure control and maintenance.

That’s the preliminary results of a study funded last year by the Division of Nephrology’s Renal Staff Microgrant Program. The program is open to renal staff to identify and evaluate new projects that improve the care and experience of patients in either outpatient or inpatient dialysis clinics.

In 2016, staff members from the Nephrology Clinic were awarded a micro-

grant to purchase digital home blood pressure monitors and medication planners. They were given to 45 low-income patients who couldn’t afford to purchase monitors on their own. Nurses also provided education and training. Patients then tracked their blood pressures at varying times during the day and over an extended period of time and called that information into the dialysis team. The data collected gave



nephrologists the information they needed to adjust medications and dosage requirements to optimize blood pressure control.

“By promoting self-management, patients were able to take an active role in monitoring their own blood pressures at home,” says Jane Stromberg, MSW, a social worker in the Nephrology Clinic. Over the course of the short study period — from January to December of 2017 — approximately 70 percent of patients who called in regularly saw improvements in their blood pressure control.”

The program now has 83 patients enrolled, with the clinic averaging 1-2 referrals weekly. “Our goal is to continue to fund the purchase of blood pressure monitors for similar patients over the long-term,” says Stromberg.

Jane Stromberg, MSW, has seen improvements in patient blood pressure control with the digital home blood pressure monitors.

Faculty News and Awards

New Faculty

The Division of Nephrology welcomes three new faculty:



Jeannine M. Basta, PhD, joined the Division in January 2018. She serves as assistant professor of medicine working in the research laboratory of

Michael Rauchman, MDCM. Basta previously was a pre- and post-doctoral fellow and then a research associate in Rauchman's lab while he was at Saint Louis University before both joined Washington University School of Medicine. Basta focuses on elucidating the molecular and genetic basis of kidney development in model systems. She also is researching the mechanisms and treatments of kidney injury and fibrosis. She earned her doctorate degree in biochemistry and molecular biology from Saint Louis University School of Medicine. Her research in the area of kidney development has demonstrated an essential role of a major chromatin remodeling complex (NuRD) in controlling differentiation of multipotent and lineage-restricted nephron progenitor

cells, which could have important implications for understanding congenital anomalies of the kidney. She also has taken the lead in Rauchman's laboratory to investigate novel genetic causes of human birth defects of the kidney and urinary tract.



James A. Davis, MD, joins the Division in July 2018 as assistant professor of medicine. He currently is in private practice at The Kidney and

Hypertension Center in Cincinnati, Ohio. Davis will oversee the Division's growing community-based dialysis centers, including the newest center in north St. Louis County. He has extensive clinical experience, both as a clinical and interventional nephrologist. For the past 12 years, he has provided care in multiple outpatient clinics and within several hospitals in the greater Cincinnati region. In addition to clinical care, Davis also serves as an educator, mentoring both pediatric and internal medicine residents who rotate through his clinics and inpatient services. Davis earned his medical degree from the University of Kentucky in 1999 and completed his fellowship in the Division of

Nephrology and Hypertension at the University of Cincinnati in 2005.



Charbel C. Khoury, MD, also joins the Division in July 2018 as assistant professor of medicine. He comes to the Division from Brigham and Women's

Hospital, where he completed a nephrology fellowship last year and is currently finishing an additional year as a clinical nutrition fellow. His combined expertise as a nephrologist and certified nutrition support clinician will uniquely position him to collaborate on the care of diabetes patients as well as bariatric surgery patients, many of whom suffer from chronic kidney disease and who may develop metabolic disorders after surgery. His research focuses primarily on diabetes and clinical nutrition. Khoury earned his medical degree from the American University of Beirut in Lebanon in 2008. In 2015, he was awarded the Nathan Hellman Award from Brigham and Women's Hospital and Massachusetts General Hospital for being an "outstanding fellow who pursues great science in nephrology while providing compassionate patient care."

ASN Kidney Week 2018

Humphreys Leads Program Committee

Join us in San Diego next October for ASN Kidney Week 2018! Benjamin Humphreys, MD, PhD, chief of the Division of Nephrology, is serving as Chair of the ASN's Program Committee, which is responsible for organizing the basic and clinic science sessions as well as reviewing abstract submissions for Kidney Week. Nephrologist Sanjay Jain, MD, associate professor of medicine in the Division, also serves on the Program Committee.

"We have an exciting series of programs set for Kidney Week this fall," says Humphreys. "We start on Tuesday, October 23, with 10 one- and two-day programs addressing specific topics in nephrology.

When the full annual meeting starts on October 25, we will feature scientific exposition, plenary and educational sessions, poster presentations and industry-sponsored educational programs."

Members of the Program Committee and the Postgraduate Education Committee, which is responsible for developing the clinical practice sessions, started planning last June. In January, the two committees met to select invited speakers.

The ASN is now accepting abstracts for review, so be sure to get your submissions in now! As always, ASN Kidney Week 2018 will feature a welcome reception and we look forward to seeing our alumni and friends.



Dr. Benjamin Humphreys, front row center, is this year's Chair of the ASN Program Committee. Also on the committee is Dr. Sanjay Jain, center, fourth row from front.

1st Eduardo Slatopolsky, MD Lectureship

Martin Pollak, MD, professor of medicine at Harvard Medical School and Chief of the Division of Nephrology at Beth Israel Deaconess Medical Center, was the inaugural speaker for the first Eduardo Slatopolsky, MD Lectureship, held in March.

Pollak discussed *Kidney Disease in African Americans*. As director of The Laboratory of Inherited Kidney Disease at Beth Israel Deaconess Medical Center and Harvard Medical School, Pollak studies the molecular and genetic basis of kidney disease in humans. Specifically, Pollak is looking into variants of APOL1, which are known to confer resistance to a specific parasite found in rural Africa and that causes a disease called trypanosomiasis. These variants also are known to contribute to kidney disease in later life. Pollak noted that African Americans are disproportionately at risk for non-diabetic

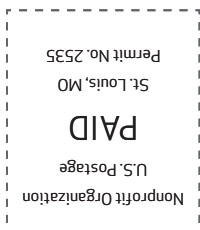


Dr. Eduardo Slatopolsky (left) was in attendance to hear Dr. Martin Pollak (center) speak. Dr. Benjamin Humphreys, Division Chief, presented Dr. Pollak with an award of appreciation for his groundbreaking investigation of kidney disease.

kidney disease, including FSGS. Pollak is investigating whether a mutated APOL1 gene could be a cause for the increased risk of FSGS in African Americans.

The Slatopolsky lectureship was established to honor long-time faculty member

Eduardo Slatopolsky, MD, who retired in 2016. Slatopolsky joined Washington University's Division of Nephrology in 1963 as a post-doctoral trainee. He rose to become the director of the Chormalloy American Kidney Center in 1967 and remained in that role for 30 years. Over his career, Slatopolsky was internationally recognized for his research into the pathophysiology of secondary hyperparathyroidism, hyperphosphatemia and vitamin D biology. In the 1970s, his research of parathyroid hormone (PTH) in roosters resulted in the development of a sensitive antibody in one particular rooster, which he called Macho. The use of that particular antibody was instrumental in developing a radioimmunoassay for PTH, which allowed nephrologists to develop a rational therapy to treat bone disease in patients with chronic renal disease.



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