The Division of Nephrology offers comprehensive care for patients with acute and chronic disorders of the kidney and urinary tract; fluid, electrolyte and acid base disorders; hypertension; and kidney transplantation. The clinical service of the Nephrology Division includes inpatient and outpatient diagnostic evaluation, hemodialysis, peritoneal dialysis, renal transplantation evaluation, follow-up and support, renal biopsy, interventional nephrology and outpatient follow-up care.

The clinical activities of the Division of Nephrology have continued to grow in the past year in several areas. Our interventional nephrology program, which is involved in the maintenance of vascular access for patients on dialysis continues to grow in volume and scope. The interventional nephrology service provides diagnostic angiography for problems with arterial venous access, angioplasty, stent placement, and thrombectomies, as required for the maintenance of adequate dialysis access. The interventional nephrology service also places temporary and semi-permanent tunneled dialysis access catheters and provides comprehensive management for complications of vascular access issues.

The outpatient dialysis services of the Division continues to bring new innovations and patient management skills to the dialysis operation, located at Drummond Hall.

The faculty of the Division of Nephrology participate in broad-based community projects such as the National Kidney Foundation KEEP program and the St. Louis Black Expo, which involved health screenings for kidney disease in the general community.

The Division of Nephrology continues to its activity in the area of transplant nephrology and now has a full-time transplant nephrology attending services for both inpatients and outpatients, for the teaching and training of nephrology fellows to add to the growing renal transplant population.

Research activities of the Division of Nephrology continue in several areas. Ongoing research in the area of renal bone disease has focused on the vitamin D system and clinical trials with vitamin D analogs and phosphate binders are in progress. The faculty of the Division has been instrumental in demonstrating a high prevalence of nutritional vitamin D deficiency in patients with kidney disease, and are actively working on ways to find adequate means of correcting this deficiency. Clinical research also continues in the area of vascular access complications, and the Division participates in national studies to try to improve outcomes of vascular access procedures. Clinical studies in dialysis patients also focus on nutrition and the
consequences of malnutrition in this patient population. Area of basic research have also
grown, particularly among the faculty based at the VA hospital, where studies are in
progress on the area of kidney development, acute kidney injury, and the pathophysiology
of vascular calcification. As the population ages, so does the population with kidney
disease, and studies are in progress to evaluate pertinent issues with dialysis in the elderly.

In the area of vascular access, it should be noted that the Division of Nephrology continues
to train interventional nephrologists from other universities who have returned to start
interventional nephrology programs at their parent institutions.

Working closely with the Center for Outcomes Research, the Division of Nephrology faculty
and fellows have contributed to significant outcomes research projects.

Educational activities of the Division include the education and training of internal
medicine residents, medical students and nephrology fellows. The nephrology training
program is accredited by the ACGME.

The educational programs under the direction of Dr. Paul Schmitz have undergone
considerable growth and incorporated new technologies, which will allow the
program to embrace reforms in healthcare, align the program with the ACGME
outcomes project, and most importantly, ensure a robust and invigorating educational
experience for all members of the Division. In addition to the weekly journal club and
monthly research seminar, the Division covers topics that fall into nine major content areas
or themes. The topics are specifically chosen to highlight recent advances in basic science
which influence medical practice and provide state-of-the-art reviews of important or
emerging clinical topics. The nine major content areas include the pathological basis of
nephrology, the physiological basis of nephrology, interdisciplinary nephrology, acute and
chronic kidney disease, renal replacement therapies, fluid, electrolyte and acid/base
disorders, clinical implications of basic science, fundamentals of renal transplantation and
hypertension. The Division has developed a website which discusses in detail the goals and
objectives of each of these themes, provides the presenter with specific guidelines for their
presentation, and lists specific topics via a web-based, embedded Google calendar.

In the past year, the Division has also developed and incorporated podcasting and
videocasting into the core curriculum. These are available for viewing or listening by the
trainees during their rotation on the Nephrology service. The division is actively engaged
in furthering its endeavors in the area of technology through the development of learning
management systems for nephrology faculty, fellows, medical students and residents.

The Division of Nephrology continues to coordinate the Renal and Urinary Tract Organ-
Based Module as part of the Phase II Curriculum for the second year medical students. The
students have consistently ranked this course as the finest in the medical school across a
broad range of quality standards, such as course organization, quality of teaching,
appropriateness of teaching methods, incorporation of clinically relevant material,
motivation for learning, feedback, and helpfulness in preparing the students for clerkships
and USMLE exams. The Division is particularly proud of these accomplishments.
DIVISION OF NEPHROLOGY

Honors and Recognition

2012 Best Doctors, St. Louis Magazine
Bahar Bastani, M.D.
John Edwards, M.D.
Krista Lentine, M.D.
Kevin J. Martin, M.B., B.Ch.
Marie Philipneri, M.D.
Paul G. Schmitz, M.D.
Alexandra Voinescu, M.D.
Nadia Wasi-Iqbal, M.D.

Krista Lentine, MD, MS

John C. Edwards, MD, PhD
Elected to Fellowship in the American College of Physicians

Michael I. Rauchman, MD
Review Editor for Frontiers in Genomic Assay Technology

Grant Reviewer: NIH UKGD Study Section; NIH Special Emphasis Panel, Centers of Excellence in Pediatric Nephrology; Washington U. Institute of Clinical and Translational Sciences Funding Program; and Cornelia de Lange Foundation Fellowship Awards

Grants and Contracts Held By Each Faculty Member

Kevin J. Martin, MB, BCh
- National Heart, Lung and Blood Institute & the Medical University of Ohio at Toledo, "Cardiovascular Outcomes in Renal Atherosclerotic Lesions Study (C.O.R.A.L.)," 2006–2012 (co-investigator).

John C. Edwards, MD, PhD.

Michael I. Rauchman, MD
- Department of Veterans Affairs Merit Award, “Sall1 and pax2 in renal epithelial cell regeneration in acute kidney injury,” 2007–2011 (PI).

Rajalakshmi Gopalakrishnan, MD
Tarek El-Achkar, MD

Zhiwei Zhang, MD

Krista Lentine, MD

Marie Philipneri, MD
- “Effect of bio-impedence on dry weight assessment on control of blood pressure in hemodialysis patients with refractory hypertension,” 2011–2012 (PI; investigator initiated study).

Alexandra Voinescu, MD
- “Fluoroscopically guided peritoneal dialysis catheter placement: long-term results from a single center,” 2009–2012 (PI; investigator initiated study)

Susan Kiefer, PhD

Faculty

Professor and Director
Kevin J. Martin, M.B., B.Ch.

Professor
Paul G. Schmitz, M.D.
Bahar Bastani, M.D.
John C. Edwards, M.D., Ph.D.

Associate Professor
Marie Philipneri, M.D.
Michael Rauchman, M.D.
Krista Lentine, M.D., M.S.

Assistant Professor
Nadia Wasi Iqbal, M.D.
Alexandra Voinescu, M.D.
Iasmina Craici, M.D.
Rajalakshmi Gopalakrishnan, M.D.
Zhiwei Zhang, M.D.
Tarek El Achkar, M.D.
Zhiwei Zhang, M.D.

Associate Research Professor
Susan Kiefer, Ph.D.

Office Manager
Ms. Diane Goebel