



Letter from the Chief

Dear Colleagues and Friends:

Inside this issue:

Letter from the Chief	1
Research Spotlight	2
Clinical Highlights	3
Education	5
Fellowship	6
Events	7
Conferences	8
Vision	9



It is a pleasure to update you on some of the exciting developments within the UC San Diego Division of Nephrology-Hypertension. You will find updates on a number of recent activities in the pages that follow.

Since our last update in January, there have been exciting changes in the clinical program. With the opening of the Jacobs Medical Center in late 2016, the general nephrology clinical service volume has been substantially higher than before. As such, we plan to split this service into two services managed by separate faculty which will facilitate continued growth while maintaining our focus on high quality, patient-centered care. In addition, two new clinical programs have been launched. Dr. Bethany Karl is spearheading an Urgent Start Peritoneal Dialysis program. The driver for this program was the perceived challenges in transitioning from hemodialysis to peritoneal dialysis after patients initiate dialysis with hemodialysis. We hope that this will facilitate patient choice about how to best receive dialysis care even in patients initiating dialysis acutely in the in-patient setting, and will diminish the barrier to transitioning to peritoneal dialysis for patients that favor it. Second, at the request of colleagues in our Division and Endocrinology, Dr. Garimella and I have initiated a bone biopsy program. This same-day surgical procedure allows us to obtain cortical and trabecular bone to define the primary underlying form of bone disease in our patients, by which we can guide therapy.

The training and educational activities within the Division are changing as well. We're excited for the new opportunities for our 5 graduating fellows, and are about to welcome 4 new first-year fellows in early July. Under Dr. Miracle's leadership, the "Nephrology Business Leadership University" experience has grown into an opportunity available to trainees from across the nation; 32 fellows from 15 programs will be participating this year. Dr. Ginsberg, a second year fellow in the Division, received the Ben Lipps fellowship award from the ASN, and several abstract presentations from our Division were chosen as finalists by the NKF.

In regards to our mission to shape public policy and advocacy, Dr. Dianne McKay, Medical Director of the UC San Diego Kidney Transplantation, has been selected as the President Elect for the American Society of Transplantation. In this role, she will be in a unique position to shape legislative and regulatory policy to improve access and care for transplant patients and live donors, and set the direction and focus of many of the AST initiatives.

For those of you that are living and working close to us in San Diego, or who may be considering trips to visit, we remind you that the Division has Renal Grand Rounds each Tuesday evening from 4-5PM from September through June. We are also actively planning the annual "Nephrology for the Consultant" and "Essentials and Advances in Apheresis Therapies" conferences. We welcome you to attend any or all of these. We're eager to reconnect.

Warm wishes,

Joachim H. Ix, MD
Professor of Medicine
Chief, Division of Nephrology-Hypertension



Research Spotlight

Volker Vallon, MD,

Professor of Medicine and Pharmacology
Division of Nephrology-Hypertension
Departments of Medicine and Pharmacology, UC San Diego
Research Scientist, VA San Diego Healthcare System



Dr. Volker Vallon is a pharmacologist, physiologist, and experimental investigator in the field of nephrology. He received his M.D. and research training at the University of Tübingen, (Germany), UC San Diego, and the National Institutes of Health (Bethesda). Following his habilitation and board certification in Pharmacology and Toxicology, he joined the faculty at the University of Tübingen as a Lecturer in 1998, and in 2003 he was recruited to the Division of Nephrology & Hypertension at UC San Diego.

Dr. Vallon's research characterizes the roles of ion channels, transporters, and receptors in the cell membrane as well as intracellular signaling pathways in the kidney. His work offers new insights into the metabolic control of kidney function, the role of the kidney in the regulation of blood pressure, and the pathophysiology of the early diabetic kidney, acute kidney injury, and chronic kidney disease. He aims to integrate aspects of vascular and tubular function to gain a more integrated understanding of the heterogeneous structures and regions forming the basis for kidney function. The Vallon lab uses mouse models to dissect contributions of specific genes and is one of few that is experienced with performing in vivo renal micropuncture at the single nephron level of the rat and mouse. This includes application of drugs on the single nephron level and analysis of various ions and organic compounds in nanoliter volume of tubular fluid. His work discovered the salt paradox of the diabetic kidney and led to the tubular hypothesis of glomerular filtration and nephropathy of the diabetic kidney, a concept that puts tubular growth and hyperreabsorption, including sodium-glucose cotransport (SGLT), at the center of the early pathophysiology of the diabetic kidney. He aims to link the unique molecular signature of diabetic tubular growth to the progression of diabetic kidney disease. Dr. Vallon also collaborates with mathematicians to develop and use a mathematical model of the kidney in order to generate new concepts of nephron protection that can subsequently be tested in the intact organism.

Dr. Vallon has published his work in >170 peer-reviewed publications. The Vallon lab has been continuously funded by the NIH and investigator-initiated projects supported by the industry. He serves as the director of the Renal Physiology Core of the NIH-funded UAB-UCSD O'Brien Core Center for Acute Kidney Injury Research. On a national level, he has been engaged in the Renal Section of the American Physiological Society, and he is a member of the editorial board of Renal Physiology section as well as the Regulatory, Integrative and Comparative Physiology section of the American Journal of Physiology, and Associate Editor of Nephron. For his scientific work Dr. Vallon has been awarded the New Investigator Award in Regulatory and Integrative Physiology and the Young Investigator Award for Excellence in Renal Physiology of the American Physiological Society. He regularly serves on national and international grant review study sections.

At UC San Diego, he is an active and engaged mentor and his lab continuously hosts young national and international researchers and research fellows. He is a member of the School of Medicine Recruitment and Admissions Committee, and an active teacher in undergraduate and graduate studies at the Department of Pharmacology, the Skaggs School of Pharmacy and Pharmaceutical Sciences, and the Department of Medicine, where he serves as the co-director of the Renal Physiology course.

Clinical Highlights



Dianne B. McKay, MD
 Professor of Medicine
 Director of Transplant Nephrology
 President Elect of American Society of Transplantation (AST)

Dr. Dianne McKay was recently elected to the position of President-elect of the American Society of Transplantation (AST).

The AST is the largest organization of transplant professionals, and the premier society for transplantation, representing more than 3,500 professionals dedicated to improving patient care by promoting research, education, advocacy, and organ donation. Other transplant organizations, policy makers, regulatory agencies, payors, academic institutions, and the general public look to the AST for guidance, research, and resources related to transplantation.

In her new role Dr. McKay will be at the forefront of AST strategic efforts designed to improve care for our transplant patients and live donors, and to shape legislative and regulatory landscapes within Congress, Federal Agencies and the broader healthcare community



Bethany Karl, DO
 Assistant Professor of Medicine
 Medical Director,
 Urgent Start Peritoneal Dialysis Program

Launch of UC San Diego Urgent Start Peritoneal Dialysis Program

UCSD Nephrology is excited to announce a new program for our newly diagnosed end-stage renal disease inpatients at both the Hillcrest and La Jolla campuses. The Division has partnered with Home Dialysis Therapies of San Diego (HDT) to offer an Urgent Start Dialysis program which has 2 sites in San Diego County, Chula Vista and Scripps Ranch. The proposed protocol will have the UC San Diego nephrologist contact HDT with a potential candidate who will then be evaluated and educated by a HDT RN while in the hospital. If the patient is deemed a good candidate, Dr. Jennifer Berumen of Abdominal Transplant Surgery will be contacted for peritoneal dialysis catheter placement and then patient discharged to HDT for dialysis initiation and ongoing peritoneal dialysis training.

UC San Diego Nephrology feels this program will greatly benefit a patient's choice in modality when it comes to end-stage renal disease, help patient independence and foster preservation of residual renal function. Success of this program will translate to growing the UC San Diego peritoneal dialysis population, allow more avenues for fellow training in this modality and research opportunities.

Dr. Bethany Karl will be the UC San Diego Nephrology contact to lead the program with guidance from the HDT team. Please feel free to contact her with any questions or to refer a patients.



Danuta Trzebinska, MD
 Associate Professor of Medicine
 Medical Director, UC San Diego
 Chronic Dialysis Unit
 Medical Director,
 Chronic Kidney Disease Program

UC Outpatient Hemodialysis Unit

5 Star Story

UC San Diego Outpatient Hemodialysis Unit was granted 5 stars for its performance in year 2016. In January 2015, the Centers for Medicare & Medicaid Services rolled out a one to five star rating system on its website Dialysis Facility Compare (DFC) <https://www.medicare.gov/dialysisfacilitycompare/>, to score federally reimbursed dialysis centers on seven quality measures. The star ratings was developed to will help consumers quickly identify differences in quality and make use of the reporting information when selecting a facility. Quality measures incorporated into star rating include patient mortality, rate of hospitalizations, blood transfusions, adequacy of dialysis, prevalence of arteriovenous fistulas (AVF) and tunneled catheters and hypercalcemia in dialysis patients. Each facility is graded on a curve and ranked against one another. With improvement from 3 to 5 stars over the past 3 years, the Division is extremely proud of the high quality of care delivered to our patients.

Clinical Highlights cont'd

UC Renal Pathology Biopsy

"None of us is as smart as all of us." --Ken Blanchard

In Nephrology at UC San Diego and the VA San Diego Health System we try to take an integrated approach to our cases and this involves us spending significant time with our renal pathologists. UC San Diego has a new renal pathologist, Dr. Vighnesh Walavalkar who joined the department of Pathology in June 2016 and Dr. Walavalkar completed his residency at UC Irvine followed by fellowships at UMASS and UCSF where he was trained in renal and transplant pathology. He has quickly become an invaluable member of our team. He and the pathology staff rapidly process our biopsies and provide expedited reads of our AKI, RPGN and transplant biopsy cases with same day preliminary results. His accessibility has been phenomenal and our Fellows and Faculty are able to review cases with him the same day of the biopsy, including on weekends. During our Renal Grand Rounds which are held on Tuesday afternoons; we hold quarterly clinical-pathological conferences run by Drs. Cunard and Walavalkar, which focus on both rare and common renal diseases. Recent conferences have included cases of Anti-glomerular basement membrane disease, Fabry disease, Proliferative glomerulonephritis with monoclonal IgG3-kappa deposits, Membranoproliferative glomerulonephritis with masked IgG deposits, C3 glomerulopathy and Staphylococcus associated IgA-dominant infectious glomerulonephritis, amongst others. As a tertiary referral program we are sent interesting cases from the community and these cases provide excellent teaching opportunities. Renal pathologists from the community often join our conferences like Drs. John Lee and Dr. Shane Meehan from Sharp Hospital and Dr. Mike Quigley from Scripps which help add a new dimension to our cases. We continue to learn by correlating the clinical and pathological findings on all cases which helps determine the appropriate treatment and follow-up strategies for our patients.



Dr. Robyn Cunard



Dr. Vighnesh Walavalkar

Bone Biopsies

Diagnostic Bone Biopsies for Mineral Bone Disorders at UC San Diego

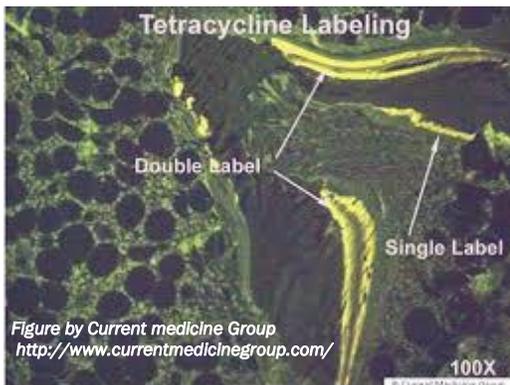
Bone disease remains a major clinical problem in patients with kidney disease. There has been an increasing prevalence of adynamic bone disease, and new therapies including parathyroid hormone infusions (teriparatide) have provided new therapeutic options to treat patients with adynamic bone disease. While serum PTH provides a rough guide to the underlying etiology of bone disease, its relationship with distinct bone pathology is sufficiently weak where it cannot accurately identify the etiology of bone disease in individual patients. A bone biopsy remains the gold standard for diagnosis. In complicated patients, such as patients with CKD among whom bisphosphonates are being considered, or in patients with low bone mineral density of unclear etiology, a bone biopsy can meaningfully influence patient management.



Dr. Joachim Ix



Dr. Pranav Garimella



The UC San Diego Division of Nephrology-Hypertension is now one of less than 10 centers across the US that provides bone biopsies for the diagnosis of complex CKD-MBD cases. The program is led by Drs. Joachim Ix and Pranav Garimella.

A same-day procedure, the bone biopsies are performed in the operating room with patients receiving conscious sedation. Following a pre-biopsy clinic visit, a three-week run in period prior to the procedure is required to allow for two short courses of oral tetracycline for the purposes of bone labeling (Figure). Patients will have a 1cm incision near the anterior superior iliac crest and will have 2-3 sutures in place after the procedure. Pain is minimal; most patients are require only oral Tylenol for pain control. Large case series demonstrate safety with complication rates < 0.5%. Results of the histomorphometric analysis including recommendations for therapy are released to referring providers 4-5 weeks after the biopsy. For more information and to refer patients for bone biopsies at UC San Diego, please contact Dr. Joachim Ix directly.

Education

Cynthia M. Miracle, MD

Fellowship Program Director
Associate Professor of Clinical Medicine
Division of Nephrology and Hypertension



We recently celebrated our 2017 graduates: Drs. Janice Park, Karo Torosian, Sasha Novikov, Anh Nguyen and Rodrigo Caero. We have been honored to have them train with us and we are fortunate that most of them will be staying in Southern California. Dr. Torosian will be joining Balboa Nephrology in private practice. Dr. Nguyen will be journeying north to UCLA. Drs. Park and Novikov will be staying with us at UC San Diego. Dr. Caero, who completed his Transplant Fellowship, will be joining a private practice group in Oklahoma. Congratulations to all of them! They have been a wonderful group and we know they will make a significant impact in the world of Nephrology.

Our fellows have continued to have much research success. Drs. Ginsberg and Bullen will be continuing their research during their third year of fellowship. Dr. Ginsberg, in addition to being a recipient of the competitive *NIH Loan Repayment Award*, has been chosen as the recipient of the *Ben J. Lipps Research Fellowship Award*. His research focuses on vitamin D catabolism and bone and vascular disease in CKD patients. Dr. Bullen was chosen as a finalist in the *NKF 2017 Western Young Investigators Forum – Basic Science Division* and was invited to present his work at NKF. He was also a finalist in the *ASN Innovation in Kidney Education Contest* and presented at ASN Kidney Week. His primary research focus is renal physiology, specifically renal oxygenation and kidney injury, though he has several active clinical projects as well. Dr. Novikov was also a finalist in the *NKF 2017 Western Young Investigators Forum – Basic Science Division*. In addition, she was invited to present at the Annual Clinical Conference on Diabetes and at ASN Kidney Week. Her work focuses on the role of SGLT2 in renal uric acid excretion. Dr. Nguyen, whose work focuses on depression and quality of life in the CKD population, has published several articles this year as well as presenting her work at ASN Kidney Week. All of our research fellows participated in the *Renal and Cardiovascular Combined T32 Scholar Symposium*. This was the inaugural year for this event which is sponsored by our division and brought together faculty and fellows from Renal, Cardiology, Endocrine, Pulmonary, and Public Health to discuss their research and share ideas on future directions.

Drs. Hadi Fattah, Alison Potok, Mark Sievert and Manny Rodriguez have completed a successful clinical year. Drs. Fattah and Potok will begin their research years under the T32 training grant. Dr. Fattah will be focusing on renal physiology under the direction of Dr. Volker Vallon while Dr. Potok will be focusing on clinical research with Dr. Dena Rifkin. Drs. Rodriguez and Sievert will continue in their second year of clinical training. The fellows have continued to provide education to the residents and the medical students both in the clinical setting and through participation with lectures, small groups and simulation exercises. Further examples of recent research projects by the current fellows are summarized in the Fellowship Scholarly Activity section of this newsletter.

In July, we will be welcoming our next group of fellows. Drs. Annie Hong, Kiomars (Kew) Bolourian Kashi, and Moussa Jabbour will be training in our two-year clinical track, and Dr. Ujjala Kumar will be pursuing our three-year research track funded by our T32 training grant. We look forward to them joining our UC San Diego family.

This August we will hold the second Nephrology Business Leadership University (NBLU), which is a joint venture with UC San Diego Division of Nephrology & Hypertension, Dallas Renal Group and US Renal Care to educate fellows on the business aspects of Nephrology. This year we invited fellows from across the country and I am happy to say that 32 fellows from over 15 different nephrology-training programs will be attending. We are very excited about this unique program and we hope to offer the opportunity to even more fellows in the future. To learn more about the program please visit the website NBLUniv.com.

We continue to be fortunate to have such a tremendous group of fellows. I am looking forward to another successful and wonderful year!

Fellowship Scholarly Activity

Alexander Bullen, MD (Mentor: Prabhleen Singh, MD)

Dr. Bullen and Dr. Rifkin, created a game where the user is a nephrologist who has just been appointed as the new Health Commissioner of a city in Louisiana. The Health Commissioner's main duty is to achieve better control of hypertension in this stroke-belt city by implementing different nonpharmacological interventions such as management of obesity, decreasing sodium intake, adding pharmacists to the care of patients, among others. You'll have fun while being while being challenged with a limited budget and constant pressure from the unmerciful media and the Governor of Louisiana. You can learn more by watching our video at

<https://youtu.be/Z2nkIFIE5IM>.

The game can be downloaded from

<https://drive.google.com/open?id=0BwiHIyLyzrkScGJIWk1IUXNfZFE>

Bullen A, Liu ZZ, Hepokoski M, Li Y, Singh P. Renal Oxygenation and Hemodynamics in Kidney Injury Nephron. 2017 Jun 15. [Epub ahead of print] PMID: 28614837

Charles Ginsberg, MD (Mentor: Joachim Ix, MD)

Congratulations to Charles Ginsberg for being the recipient of the Ben J. Lipps Research Fellowship Program Award. The goal of the Ben J. Lipps Research Fellowship award is to fund fellows to conduct original, meritorious research project. The program fosters the training fellow to make contributions to the understanding of kidney biology and disease

Mark Hepokoski, MD (Mentor: Prabhleen Singh, MD)

Hepokoski M, Englert JA, Baron RM, Crotty-Alexander LE, Fuster MM, Beitler JR, Malhotra A, Singh P. Ventilator-induced lung injury increases expression of endothelial inflammatory mediators in the kidney. Am J Physiol Renal Physiol. 2017 Apr 1;312(4):F654-F660. Epub 2016 Nov 9. PMID: 28365585

Hoang Anh Nguyen, MD (Mentor: Dena Rifkin, MD)

Nguyen HA, Anderson CAM, Miracle CM, & Rifkin DE. The association of depression and perceived current health status among individuals with chronic kidney disease: An analysis of the National Health and Nutrition Examination Survey 2011-2012. Nephron 2017;-136(2): 127-135

Gina Woods, MD (Mentor Deborah Kado, MD)

Rutledge T, Skoyen JA, Wiese JA, Ober KM, **Woods GN**. A comparison of MOVE! versus TeleMOVE programs for weight loss in Veterans with obesity. Obes Res Clin Pract. 2017 May - Jun;11(3):344-351. PMID: 27931766

Woods GN, Huang MH, Cawthon PM, Laughlin GA, Schousboe JT, McDaniels-Davidson C, Cauley JA, Orwoll E, Barrett-Connor E, Kado DM; SHBG, Sex Steroids, and Kyphosis in Older Men: The MrOS Study. Osteoporotic Fractures in Men (MrOS) Study Research Group. J Bone Miner Res. 2016 Dec;31(12):2123-2128. PMID: 27355438

Congratulations to Dr. Alex Bullen and Dr. Sasha Novikov for being the finalist at the NKF 2017 Western Young Investigators Forum—Basic Science Division

Congratulations to our Fellows



Both Dr. Park and Dr. Novikov
have joined UC San Diego

Dr. Nguyen will join
UC Los Angeles

Dr. Torosian will be going into
private practice in San Diego

Dr. Caero will enter private
practice in Transplant
Nephrology



*Congratulations to
Dr. Dena Rifkin
Dr. Dianne McKay
Dr. David Ward
Dr. Trzebinska (not
pictured)
for being named
"Faculty of the Year"
by our Fellows*



Conferences



The UC San Diego School of Medicine, Division of Nephrology-Hypertension, would like to invite you to attend the **37th Annual Advanced Nephrology: Nephrology for the Consultant** conference to be held January 25—27 in San Diego California. This course has been designed with the practicing nephrologist in mind and should prove valuable in the day to day practices of nephrology.

The **15th Annual Nephrology Young Investigators Forum (YIF)** will be held on Wednesday, January 26, 2018, and will feature research presentations by nephrology fellows training in the Western United States. We encourage attendees of the *Nephrology for the Consultant* conference to attend this free, accredited, bonus session and get a glimpse into the research of these energetic future nephrologists.



The **6th Annual UC San Diego Essentials and Advances in Apheresis** will build on the great success of the first four conferences. The 2½-day multidisciplinary program is designed to appeal to first time attendees and to returning participants. Expert reviews of the essentials will be augmented with selected new topics and discussions of advances and innovations.

Vision Statement



Vision Statement:

Patient Care:

To be recognized as an international center of excellence in nephrology, hypertension, and kidney transplantation clinical care.

Research:

Through collaboration and innovation, to advance basic scientific discovery and translational medicine, resulting in the delivery of cutting-edge treatment for our patients and for others around the world.

Education:

To train future national and international leaders in nephrology through providing outstanding, comprehensive training in all aspects of Nephrology, Hypertension, and Transplantation.

Public Policy:

To develop regional, national, and international leaders in shaping public policy to advance health, professionalism, and investigative policy in nephrology and hypertension.

Nephrology Division Office

200 W. Arbor Dr. M/C 8409
San Diego, CA 92103
P: 619-471-0753 | F: 619-471-0754

Nephrology Division at VA Medical Center

Nephrology Section (111H)
3350 La Jolla Village Drive
San Diego, CA 92161
P: 858-552-7528

UC San Diego Nephrology Clinic Referral

Nephrology 619- KIDNEYS
(543-6397)