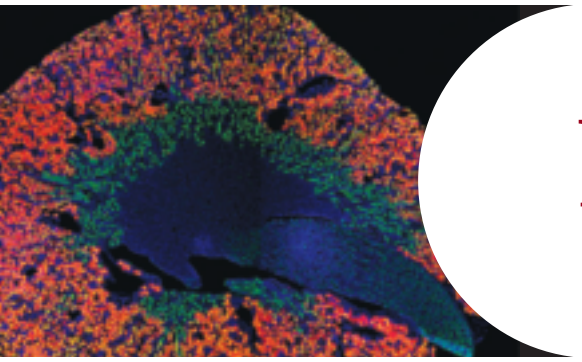

WASHINGTON UNIVERSITY ALUMNI NEWSLETTER
Fall 2021

NEPHROLOGY UPDATE

Confronting Health Inequalities

At the Chromalloy American Kidney Center at Barnes-Jewish Hospital, an estimated five to ten percent of patients each day fail to make their regular dialysis appointment. Drill down and the reasons are varied, but the reality is that many of the absences strongly point to problems with health inequalities within the community.

"We may see 10 patients every day who can't get to the center due to transportation or family life issues," says nephrologist Frank O'Brien, MBBCh, MRCPI, associate program director for curriculum development for the Nephrology Fellowship Training Program. "It's not that they don't want to comply with their dialysis protocols, it's that they are hampered by socio-economic issues that we, as nephrologists, need to better understand."

This year, fellows in the Division of Nephrology are participating in a new curriculum focus designed to increase awareness of health inequalities and promote an inter-professional team approach to medicine that is needed to address these issues. "We have to understand what the factors are first," explains nephrologist Patricia Kao, MD. "We can have guidelines and best practices for kidney disease, but if we don't understand that some patients cannot afford their medications or have small children that may make it difficult for them to come to a center for dialysis, we are not treating the whole person."

Toward that end, the divisions of nephrology, rheumatology, and infectious diseases within Washington University's Department of Medicine have joined together to create the Health Inequalities Conference Series for current and incoming fellows. The year-long series introduces fellows to how health inequalities impact the development of a wide range of diseases, including kidney disease. Says O'Brien, "The three divisions share a similar core group of patients. Health inequities are taught in medical school, but it's rare to continue that focus in fellowship programs. We are changing that because these issues directly affect the health outcomes of our patients."

Frank Obrien, MBBCh, MRCPI; Patricia Kao, MD; Missy Rocco, MSW, LCSW; and nephrology co-chief fellow Maryam Saleem, MBBS, discuss the recent kick-off of the Health Inequality Conference Series for fellows and faculty in the divisions of nephrology, infectious diseases, and rheumatology.

In the first session, held this past July, fellows were introduced to common socio-economic barriers that may influence a patient's compliance. The group also participated in a role-playing exercise during which each fellow portrayed a different type of patient — from a single mother who can't always make appointments due to a lack of childcare, to a well-paid lawyer with good health benefits, to an unemployed architect who can't afford the cost of medical care or doesn't have a car. "We want to create more than just empathy," emphasizes Kao,

The first of several conferences on health inequalities got under way this summer.

who along with O'Brien is among faculty leading the conference series. "We need to highlight the importance of the multidisciplinary aspect of medicine needed to treat our patients."

"It was mind-changing for me," says Maryam Saleem, MBBS, nephrology co-chief fellow. "In residency, I did not see a diverse patient population. But becoming more aware of this will definitely impact more of my medical decisions and practice going forward."

The team approach includes physicians, nurses, patient health care technicians, social

continued on page 2

Message from the Chief

What's often eye-opening for new fellows and faculty who come to St. Louis and Washington University School of Medicine, is the often-visible impact of health inequities. Historically, St. Louis has been racially divided. A recent study of primary health problems in the region finds that the majority of cases of kidney disease, but also heart disease and infectious diseases, can be linked to zip codes in traditionally low-income areas with higher proportions of Black/African American residents north of St. Louis city.

At Barnes-Jewish Hospital, we serve as the safety net hospital for the City of St. Louis. As such, a significant percentage of the patients we see have poor health literacy and limited access to healthcare services. This is in striking contrast to patients who come to the academic medical center from the suburbs.

Within the last five years, our fellows have been requesting more information about the root causes of health inequalities in the St. Louis area. For them, training here gives them the opportunity to not only see the depth and breadth of care we provide; it's also a chance to better understand how health inequalities can affect the ability of patients to afford transportation to our clinics, pay for medications, return for regular follow-up visits or even sign up for Covid vaccines when the registration requires internet access.

This year, the divisions of Nephrology, Rheumatology, and Infectious Diseases have partnered to educate fellows — and faculty — about health inequalities. As our lead story highlights, the Health Inequalities Conference Series takes place over the entire academic year.

Offering such a program during fellowship training is unusual, but I believe it should become commonplace. Trainees often are exposed to the issue during medical school, but continued training is not often available in residency or fellowships. We have incorporated this into a core facet of our curriculum.

Understanding health inequalities puts us in the shoes of our patients. All of us — whether we are in an academic medical center or in private or group practice — need to understand the challenges our patients may face in carrying out treatment regimens we prescribe for them – whether expensive medicine copays, unnecessarily complex written instructions, difficulty in making dialysis appointments due to transportation or childcare challenges. By understanding these issues, we can be proactive in finding and offering needed resources. Doing so improves patient outcomes and the quality of their lives.

Ben

Benjamin D. Humphreys, MD, PhD
Joseph P. Friedman Professor and Chief
Division of Nephrology
Washington University School of Medicine

Thank You!

The Division of Nephrology thanks the following individuals who have generously donated to our division from March 15, 2021 to September 30, 2021:

Mr. Joshua B. Reichman
Mr. Andrew Wasson
Mrs. Tiffany M. Dulaney
Dr. John E. Buerkert
Dr. Jose Rueda
Ms. Shawna M. McMichael
Dr. Eduardo Slatopolsky

Health Inequalities

continued from page 1

workers, and dieticians. All believe the key to addressing health inequalities is keeping the patient at the forefront.

"We know we have to educate our patients and their families so that they are aware of, and learn to access, community resources that can help them address some of the health inequities that they face," says renal inpatient social worker Missy Rocco, MSW, LCSW, who also is part of the conference series. "Sometimes that takes a whole team to figure it all out, but these issues must be addressed to improve not only health outcomes but also quality of life."

Support the Division of Nephrology

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:

Washington University in St. Louis
Office of Medical Alumni and Development
Attn: Rachel A. Hartmann
7425 Forsyth Blvd.
Campus Box 1247
St. Louis, MO 63105

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.

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Fellowship Notes

By Steven Cheng, MD
Program Director

The Division of Nephrology has always felt like family, and this is a sentiment we've worked hard to foster in the fellowship program as well. Training in a top-tier institution can be daunting, and we have always wanted fellows to feel at home, seeking advice from faculty and forging deep bonds with their colleagues. Like all families, our interactions were thrown for a loop during the pandemic. In-person reunions and team lunches gave way to Zoom conferences and lectures, reducing meaningful interactions and opportunities that are simply lost when communication moves from the personal to the virtual.

Our training program is adapting to these obstacles. We have cautiously transitioned back to in-person case conferences, while still respecting masking and distancing precautions. Our senior fellows, who began training during the pandemic, had never been together for face-to-face case conference, and they reveled in the improved dynamic. Likewise, we've instituted a monthly check-in with the fellows, attended by just the program leadership and the fellows, where we can hear, in person, about some of the challenges and concerns that they're experiencing.

The biggest benefit to the program has been the creation of the chief fellow role. There are times in which fellows want to talk through their experiences with someone who, quite literally, knows what it's like to be in their shoes during this time, and to share with someone of the same generation the same experiences and interests. We particularly wanted to create a resource amongst peers to allow not only for this sharing, but to empower it with the ability to affect change. This year, we invited Gaurav Rajashekar and Maryam Saleem to be our inaugural chief fellows. We are so excited for the fellowship to have two great senior fellows to serve as a touchstone for their colleagues and as their liaison with the training program leadership. We look forward to working with them, and all of our fellows, to continue making this a home – even in the middle of a pandemic.

Learning the "Business" of Nephrology

Advancing clinical care and research in nephrology are the driving dynamics of fellowship training. With complex training and fast-paced environments, it's difficult for fellows and their advisors to focus on the long-term issues such as practice management and the "business" side of nephrology.

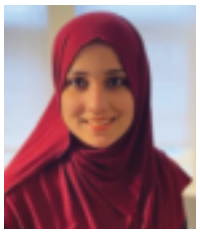
For the past four years, a group of specialists in nephrology have been trying to change that. Nephrology Business Leadership University (NBLU), developed by dialysis provider U.S. Renal Care along with the UC San Diego School of Medicine and the Dallas Renal Group, is a two-week immersion program for second-year nephrology fellows. The program focuses on the economics and business aspects of private practice, with topics such as financial planning, marketing, and growth strategies for a nephrology practice.

This year, four second-year fellows from the Division of Nephrology attended the 2021 NBLU hybrid in-person and virtual event, held in Plano, TX.

Gaurav Rajashekar, MBBS, attended in person. "From academic medicine to private practice, from VISA issues to job contract signing, from billing to medical directorship in dialysis units, each and every aspect of nephrology was covered," he says.

Another participant, Hassaan Iftikhar, MBBS, agreed, noting, "It was an excellent event which lived up to its name. It helps you understand the financial aspect of nephrology practices and keeps you updated with upcoming changes and innovations being brought onto the field by the government and major dialysis organizations and how to tackle those challenges. I would recommend this to every fellow."

Also participating in 2021 NBLU was Maryam Saleem, MBBS, and Bharat Neela, Raju, MD.



Maryam Saleem, MBBS

Gaurav Rajashekar, MBBS

Bharat Neelam Raju, MD

Hassaan Iftikhar, MBBS

Alumni Connections

Judy Jang, MD

Assistant Dean of Medicine
Program in Liberal Medical Education
Warren Alpert School of Medicine,
Brown University
WU Nephrology Fellow, 2010-2012
WU Faculty, Division of Nephrology
2012-2016

Judy Jang, MD, has returned to her alma mater that put her on an early path to a career in academic medicine. Jang is now the assistant dean of medicine for the Program in Liberal Medical Education (PLME) at Brown University and the Warren Alpert School of Medicine. She graduated from the program in 2007.

"PLME is an eight-year program that accepts high school seniors into both the undergraduate College at Brown and then the Warren Alpert Medical School," says Jang. "I love being able to advocate for and support the growth of students who are going through the same program I did."

In her role overseeing the PLME program, Jang facilitates the academic, personal, and professional development advising for students who are moving from high school to undergraduate college and then medical school. Since 2017, she has guided more than 275 students. Outside of the PLME program, Jang also serves as a Mary B. Arnold Mentor for 40 additional students enrolled at Warren Alpert School of Medicine.

She was drawn to nephrology during residency at Washington University School of Medicine.

"Dave Windus and Stan Misler, both excellent teachers with completely different teaching styles, showed me the breadth and depth of nephrology," she recalls. "A follow-up rotation on the renal transplant service cemented that nephrology was the right field for me."

She has fond memories of her time as a fellow in the Division of Nephrology. She was a member of "Team Vijayan," led by Anitha Vijayan, MD, and notes that her interest and passion for student advising and mentoring stems from interactions with her own mentors, including several at Washington University.

"I was fortunate to have clinical mentors in Brent Miller and Anitha Vijayan, whose longitudinal support through the years served as an anchor throughout my time as both a fellow and then as faculty in the WU Division of Nephrology from 2012 to 2016," she says. "It was particularly inspiring to work alongside the amazing women in the division, as Anitha and also Tingting Li were strong role models for me."

Prior to moving back to Rhode Island, one of her memories as a fellow at WU was learning about home dialysis. She looked forward to monthly peritoneal dialysis clinics with Daniel Coyne and said the home modalities nurses all had a "wealth of experience and knowledge."

She adds, "Brent Miller was (and still is) an amazing mentor to me. He encouraged me to gain more experience and involved me in both clinical activities and research related to home dialysis."

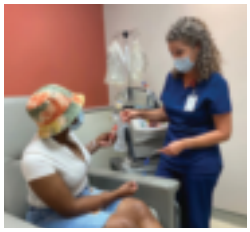
In addition to her time with the PLME program, Jang also is a clinician in private practice in Fall River, Massachusetts. She and her husband, Albert, who is chief of pediatric plastic surgery at Hasbro Children's Hospital and director of its Cleft and Craniofacial Center, have two children. To relax, the family spends weekends exploring the local beaches in Rhode Island and, as she says with a laugh, "searching for the best lobster rolls in the area!"

Judy Jang, MD, with her husband, Albert Woo, MD, who is chief of pediatric plastic surgery and director of the Cleft and Craniofacial Center at Hasbro Children's Hospital in Providence, RI.

Dr. Jang, with her husband and children, Nathan, 12, and Emi, 8.

Program Spotlight

Transitional Dialysis Program for Incident Hemodialysis Patients



Patients with end-stage kidney disease are at two times higher risk of hospitalizations and at three times higher risk of mortality within the first few weeks of initiating dialysis. Catheter-related infections or cardiovascular complications are the leading causes of hospitalization and mortality.

To better transition patients into dialysis, Manasa Metireddy, MD, medical director of the Home Modalities Program, received a three-year, $419,377 grant from the Foundation for Barnes-Jewish Hospital earlier this year to determine if a new Transitional Dialysis Program improves outcomes. She, along with Anubha Mutneja, MD, and Marcos Rothstein, MD, have recognized that a lack of patient education about kidney disease and available treatment options is the biggest barrier to improving outcomes. The new program focuses on patients during the first four weeks after the start of hemodialysis, as that is a period of high morbidity and mortality. It is designed to take incident dialysis patients through a step-by-step process to initiate gentle and more frequent dialysis while also providing information and education about kidney failure, different dialysis modalities, diet, dialysis access and transplantation.

"We believe the Transitional Dialysis Program will lead to improved outcomes in terms of hospitalizations, readmissions and mortality, along with a higher uptake of home dialysis," says Metireddy. "So far, three out of the first four patients have chosen home dialysis. This is a success, as we believe that a lack of exposure and education about dialysis modalities are the main reasons for people not choosing a home dialysis option."

Metireddy oversees one of the largest home modalities programs in the Midwest. While an estimated 11 percent of all dialysis patients in the United States currently are on home dialysis, Washington University is consistently above the national average, with more than 20 percent of patients on home dialysis.

ASMB 2021

The latest advancements in extracellular matrix biology research were front and center at the 2021 biennial meeting of the American Society for Matrix Biology (ASMB), which was held in St. Louis in mid-September. **Jeffrey Miner, PhD, FASN**, the Eduardo & Judith Slatopolsky Professor of Medicine in Nephrology and director of basic research for the Division of Nephrology, served as Program Chair.

"In addition to novel research presented in plenary and poster sessions, we had a particular emphasis on supporting the career development of junior faculty and trainees and enhancing diversity within the matrix biology research community," Miner said. "Toward that end, junior scientists co-chaired the 17 concurrent sessions, and we offered several mentoring and networking opportunities. We also established a new award, the Iozzo Trainee Award, for graduate students and postdoctoral fellows who demonstrate outstanding contributions to the field."

Miner, who becomes president of the ASMB from January 2022-December 2023, is an internationally regarded researcher investigating diseases of the kidney glomerular basement, including Alport syndrome. Genetic defects in the extracellular matrix can cause the syndrome. Almost 300 biologists from North America, Europe, and Asia attended the meeting, in person or virtually.

In-person attendees at ASMB 2021.

New Dialysis Unit Opens

Washington University Nephrology, The Rehabilitation Institute of St. Louis (TRISL), and Fresenius Kidney Care recently celebrated the opening of a new dialysis unit based at TRISL in the Central West End. TRISL, a 96-bed inpatient rehabilitation hospital, previously offered hemodialysis services only at the bedside. Now, a dedicated space allows for dialysis treatments for 12 or more patients a day.

"This was a great collaborative effort," said Charbel Khoury, MD, medical director of the unit. "We can now better coordinate the patient's dialysis schedule with the rehabilitation teams and dialysis nurses, allowing more time for the patient to focus on their physical and occupational therapy."

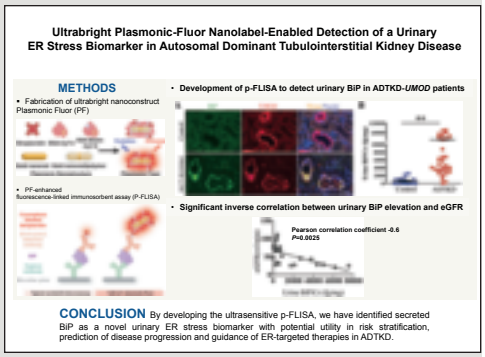
Khourby notes that many end-stage kidney disease (ESKD) and acute kidney injury (AKI) patients require inpatient rehabilitation after a life-changing illness or injury. WU Nephrology had been supervising dialysis services at TRISL for several years before this new unit opened.

New TRISL dialysis unit is now open!

Research Highlights

New Nano Technique monitors ER Stress Biomarker for ADTKD

Division researchers have used a superbright nanosensor called plasmonic fluor (PF) nanoconstruct to discover that secreted BiP is an early urinary ER stress marker (US. Patent number 10,156,564) in autosomal dominant tubule-interstitial kidney disease (ADTKD), which is associated with a slow and unpredictable loss of kidney function. **Yeawon Kim**, the lab supervisor of the Y. Maggie Chen Lab, is first author of an "Innovative Methodology" study published in the AJP titled "Ultrabright Plasmonic-Fluor Nanolabel-Enabled Detection of a Urinary ER Stress Biomarker in Autosomal Dominant Tubulointerstitial Kidney Disease (ADTKD)." Co-authors include Srikanth Singamaneni, PhD, the Lilyan & E. Lisle Hughes Professor in the WU McKelvey School of Engineering, who invented plasmonic fluor nanoconstruct and Jeremiah Morrissey, PhD, Professor at the Department of Anesthesiology.



Researching the Connection Between Complement System and Severe Preeclampsia

Anuja Java, MD, has received a $50,000 renewable grant from the Longer Life Foundation to study why some patients develop severe preeclampsia during pregnancy and if that could be related to a defective complement system. Java is nationally recognized for her research on complement-mediated kidney diseases, which include atypical hemolytic uremic syndrome (aHUS). "There seems to be a similarity in pathophysiology of preeclampsia and aHUS," says Java. "I have noticed in my practice that patients with severe preeclampsia and/or those who developed kidney failure during pregnancy had an underlying defect in the complement system when we tested for it." Java notes that increasing evidence suggests that an excessive maternal systemic inflammatory response due to overactivation of the complement system may be involved in preeclampsia. The excess activation can occur due to genetic mutations in complement proteins that lead to too much complement at the wrong time in gestation. Java's research will focus on identifying mutations in complement proteins in both mother and the fetus in order to obtain a clearer understanding of the role of the complement system in preeclampsia. Her studies could help identify patients who would benefit from anticomplement therapy, thereby improving short-and long-term outcomes for both mother and child.

Chen Receives UAB-UCSD O'Brien Center Pilot Award

Ying Maggie Chen, MD, PhD, has been awarded a one-year, renewable Pilot and Feasibility Grant from the George M. O'Brien Kidney Research Center affiliated with the University of Alabama-Birmingham and the University of California-San Diego (UAB-UCSD). The George M. O'Brien centers are NIH-funded interdisciplinary research centers focused on kidney and urological diseases. Seven such centers across the country conduct research and offer seed monies for research elsewhere related to AKI. The goal of Chen's research is to develop a novel therapeutic agent to protect against tubular endoplasmic reticulum (ER) stress-triggered, mitochondria-dependent apoptosis and promote cell survival in ischemic AKI. Evidence shows that tubular ER stress plays a causative role in linking ischemic insult to tubular injury.

Kefalogianni Awarded ASN Gottschalk Grant

Eirini Kefalogianni, PhD, is the recipient of a Carl W. Gottschalk Research Scholar Grant from KidneyCure, the American Society of Nephrology's Foundation. The prestigious grant helps young investigators achieve independent research careers with funding of up to $100,000 per year for two years. Kefalogianni, who previously was a researcher in the laboratory of Andreas Herrlich, MD, PhD, recently opened her own independent laboratory in the WU

Division of Rheumatology. She is studying immunomodulatory roles of circulating tumor-necrosis-factor receptors 1 and 2 (cTNFR1/2) in diabetic nephropathy.

Faculty News and Awards

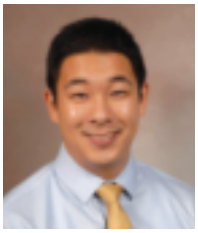
New Faculty

We welcome four new faculty to our Division:


Leslie Gewin, MD


Reena Gurung, MBBS


Kelli King-Morris, MD, MSCI


Gonzala Matzumura Umemoto, MD

Leslie Gewin, MD
Associate Professor
Dr. Gewin comes to WU from Vanderbilt University. Her basic science research laboratory focuses on proximal tubule responses to injury and how these responses affect fibrosis and chronic kidney disease progression. She is a dedicated mentor and advocate for women in medicine and science and will have a 5/8 appointment at the St. Louis VA Medical Center.

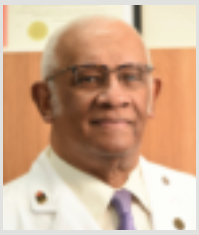
Reena Gurung, MBBS
Assistant Professor
Dr. Gurung earned her medical degree from the School of Medical Sciences, Kathmandu University, in Nepal. She completed her nephrology fellowship at Washington University and joins the Division's community-based nephrology practice group.

Kelli King-Morris, MD, MSCI
Associate Professor
Dr. King-Morris earned her medical degree from the University of South Florida College of Medicine and completed her nephrology fellowship at Vanderbilt University. She also earned a master's degree in clinical investigation. Outpatient focus will be in two specialty clinics: kidney disease in pregnancy and diabetic nephropathy. One-quarter of her time will be attending at the St. Louis VA Medical Center.

Gonzala Matzumura Umemoto, MD
Assistant Professor
Dr. Matzumura earned his medical degree from Universidad Peruana Cayetano Heredia in Peru and completed his nephrology fellowship in our Division. He leads our In-house Renal Biopsy Program.

Morrison Receives RCSI Distinguished Graduate Medal

Aubrey Morrison, MBBS, MACP, FASN, professor emeritus, was honored with the 2021 Distinguished Graduate Award by the Association of Medical and Dental Graduates of the Royal College of Surgeons in Ireland (RCSI). Morrison, a physician-scientist, is a pioneer in the study of inflammatory processes in the body. He graduated from the RCSI in 1970 before coming to Washington University School of Medicine for his internal medicine residency. He subsequently completed fellowships in nephrology and pharmacology here. In 1982, he was the first black physician elected to the American Society of Clinical Investigation. He was on the faculty of the Division for more than 45 years before retiring in late 2020.


Aubrey Morrison, MBBS

Three Receive Teaching Awards

Seth Goldberg, MD, is honored as the Division's 2021 Nathan Hellman Memorial Teacher of the Year. The award is given to a faculty member in recognition of outstanding clinical nephrology teaching. The School of Medicine's 2021 graduating class also recognized Timothy Yau, MD, as Pre-clinical Teacher of the Year. Internal Medicine residents also honored Steven Cheng, MD, as the 2021 Nephrology Teacher of the Year. All three faculty have received multiple awards for excellence in teaching.


Seth Goldberg, MD


Timothy Yau, MD (center)


Steven Cheng, MD

Koester-Wiedeman Honored with Dean's Distinguished Service Award

Lisa Koester-Wiedeman, ANP, CNN-NP, received the Dean's Distinguished Service Award, the highest honor for staff recognition at the School of Medicine. Koester-Wiedemann educates patients about current dialysis modality options and is responsible for clinical coverage of in-center hemodialysis, home dialysis, and the chronic kidney disease patient population.


Lisa Koester-Wiedeman, ANP

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Challenge Accepted!

What's it like to be in some of our patients' shoes? The Nephrology Consult 1 team had the chance to find out recently when it decided to complete a Ure Na taste test challenge. The product is used for the management of hyponatremia and the team had prescribed it for one patient to correct a low sodium level. Some patients had previously told us that, well, it was unpalatable. We decided to find out.

"As Ure Na is not toxic and safe for consumption, we thought it would be important for each of us to know what our patients were going through, and thus shared a packed of Ure Na," said Steven Cheng, MD.

According to the manufacturer, Ure Na is a pharmaceutical grade urea with a proprietary flavor and taste masking formula, which makes it palatable.

However, after the taste test, Cheng noted, "I think the best description was that it tastes something like a wonky Sierra Mist with a week-old lemon rind aftertaste!"

Give it a try and let us know what you think, too!