

A collaboration between Northwest Kidney Centers and UW Medicine



LEFT: Kidney Research Institute investigator Dr. Nisha Bansal, who focuses a large part of her research on the relationship between cardiovascular disease and chronic kidney disease, leads Nancy Spaeth and Patricia Gaillard on a tour of the KRI Oct. 2, 2014 as part of Northwest Kidney Centers' President's Society event.

RIGHT: Northwest Kidney Centers supporters Bill and Pam Ayer take a look at the wearable artificial kidney. The KRI is now testing the safety of the 10-pound device in the first human study of it in the United States.

New advisors guide investigators on patient-centered research projects

A message from the director

DR. JONATHAN HIMMELFARB

2014 has continued to be a year of immense productivity at the Kidney Research Institute. We held our 6th annual Scientific Advisory Committee meeting in mid-September, welcoming two new members, Ronald J. Falk, M.D. from the University of North Carolina and Adeera Levin, M.D., F.R.C.P.C from the University of British Columbia. Both are internationally regarded nephrologists and we are fortunate to have their guidance as well as leadership from other members of the committee.

The committee remains supportive of the KRI's work on complex clinical problems with a public health focus using a truly multidisciplinary approach. Scientific Advisory Committee members told us they are excited to see how we continue to stay on course with our mission as we expand our administration and infrastructure.

In early October, we were honored to have members of Northwest Kidney Centers' President's Society, financial supporters of the nonprofit organization, meet our investigators and tour the KRI lab. Our research wouldn't be possible without the support of these generous individuals. Donors learned more about current research projects, including the testing of the wearable artificial kidney, a trial taking place right now. Attendees also heard an update on the kidney-on-a-chip, an in vitro three-dimensional system that mimics critical functions of a living human kidney. The kidney-on-a-chip project, designed to improve drug safety testing, was just awarded additional funding from the National Institutes of Health.

Northwest Kidney Centers will hold its Discovery Gala this November, an annual event in support of kidney research. The fundraising event will focus on celebrating breakthrough innovations in kidney disease research. It is this remarkable level of involvement and engagement from the greater Seattle community and beyond that allows the Kidney Research Institute and its partners to continue our work to improve the lives of people with kidney disease.

We appreciate your continued support of the Kidney Research Institute.

ON THE HORIZON

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**TRANSFORMING LIVES THROUGH
INNOVATION AND DISCOVERY**

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Northwest Kidney Centers’ CEO Joyce Jackson, a longtime supporter of research, takes part in Kidney Research Institute study

Joyce F. Jackson, president and CEO of Northwest Kidney Centers, has made research a top priority since she joined the nonprofit organization in 1998.

“Patient care, education and research are our focus at Northwest Kidney Centers,” says Jackson. “We really need innovations in research to create better treatment options for our patients.”

Last spring, Jackson replied to an announcement about the need for control subjects in the Seattle Kidney Study, a study that looks at the impact kidney disease has on people over time. Control subjects, people who don’t have kidney disease and meet other criteria, are needed to provide baseline data for comparison with data from subjects with kidney disease.

“I’ve been aware of the study since it started 10 years ago,” says Jackson, who helped secure a major grant for the study in the



Joyce Jackson, president and CEO of Northwest Kidney Centers.

beginning stages. “I was really interested to see how it felt to be on that side of research, to sit in one of the study rooms I’d walked by many times before.”

Jackson met with study coordinator Nicole Robinson who took demographic and health information, height and weight measurements, and blood and urine samples. The appointment took an hour.

“I really believe in research,” says Jackson, who was instrumental in launching the Kidney Research Institute in 2008. “Here was an opportunity to connect with the KRI even further, and it was easy and painless.

“What really struck me is that I was patient 170 – and they’re looking for 1,300. Being a control subject is a good way for people who don’t believe they have kidney disease to be involved with research.”

This wasn’t Jackson’s first time being part of a research study.

“Thirty years ago, I was part of a diabetes study. Last year, I was involved with a hospice study. It feels good to be involved with research both personally and professionally. And yes, I’d definitely volunteer for another Kidney Research Institute study in the future.”

Recent University of Washington Ph.D looks at secretion as a way to measure kidney health



Dr. Astrid Suchy-Dicey.

For Astrid Suchy-Dicey, a career in research felt like a natural fit.

“I loved the puzzle of trying to piece together the origins of disease and using various animal, tissue and cell models,” says Suchy-Dicey about her time working in a lab after undergrad school. “But I also realized I wanted to work with whole-person models. Epidemiology seemed like the obvious choice.”

Suchy-Dicey completed a Master’s in Epidemiology in 2010 and a doctorate in the same in 2014, both from the University of Washington. In her doctoral dissertation, she examined the fundamental assumptions behind the assessment of kidney function in clinical and research settings.

“Filtration, the de facto standard factor for measuring kidney health, is only one of several critical renal functions. I wanted to better

understand what a different function – secretion – might tell us about patients and their risk of long-term health outcomes.”

Since kidney disease is often not recognizable until late in the course of the disease, it’s possible that other factors like secretion could help identify at-risk patients earlier.

“Additionally, secretion is how kidneys clear drugs, metabolites and many potentially toxic small molecules from the blood, in a manner that is both faster and more efficient than filtration. If secretion dysfunction is a major and independent determinant to the build up of toxic molecules, then evaluating it separately from filtration could have substantial implications for the evaluation and treatment of uremia.”

To complete her dissertation, Suchy-Dicey worked with the KRI’s Dr. Bryan Kestenbaum and Dr. Jonathan Himmelfarb, among others.

“I hope to collaborate with them again in the future as I continue to study secretion function. I believe this work is part of a larger push field wide to broaden and deepen understanding of individual functions within the kidney, as well as of kidneys within the greater context of the human biological system.”

New funding allows Kidney Research Institute investigator Dr. Rajnish Mehrotra to study treatment of depression in hemodialysis patients



Dr. Rajnish Mehrotra.

With support from the Patient-Centered Outcomes Research Institute (PCORI), Dr. Rajnish Mehrotra will conduct a clinical trial to examine current methods of treating depression in people with end-stage renal disease undergoing hemodialysis.

“The prevalence of depression is four-fold higher in patients undergoing hemodialysis than in the general population – yet, depression is often not diagnosed and

when diagnosed, not treated,” says Mehrotra, professor of medicine at University of Washington and division of nephrology section chief at Harborview Medical Center. “Specifically, the ASCEND clinical trial will test the comparative efficacy of cognitive behavioral therapy, or psychotherapy, delivered in the dialysis facility to drug therapy for the treatment of depression in this population.”

In addition to improving depressive symptoms, the three-year study will examine how the two interventions – psychotherapy and drug

therapy – improve other patient-reported outcomes such as fatigue, perceived social support and sleep. One unique aspect of this study is that cognitive behavioral therapy will be delivered in the dialysis facility – currently, patients must see therapists outside dialysis.

“Many patients are reluctant to accept treatment for depression since it adds to the overall burden of treatment,” says Mehrotra. “Adding an anti-depressant drug further increases the total daily pill burden and there is potential for adverse events. Cognitive behavioral therapy, as available currently, requires patients to make additional visits to therapists over and above the thrice-weekly dialysis regimen. Moreover, there is no high-level evidence that any of these treatments are even effective in patients undergoing hemodialysis.”

The study will also test whether an engagement interview increases the acceptability of treatment and will measure the severity of depressive symptoms in patients who refuse to accept any form of treatment.

“This study will allow us to generate evidence for two vastly different approaches for the treatment of a common comorbid condition in patients undergoing hemodialysis. It will allow patients, caregivers and healthcare providers to make a more informed decision and since cognitive behavioral therapy will be delivered in dialysis facilities, it has the potential to incorporate this type of treatment in the routine care of patients with end-stage renal disease.”

Dr. Ann O’Hare receives major grant to study palliative and end-of-life care



Dr. Ann O’Hare.

A prestigious grant from the United States Renal Data System (USRDS) will allow Kidney Research Institute investigator Dr. Ann O’Hare and her colleagues to conduct research on palliative and end-of-life care for patients with kidney disease.

USRDS sponsors special studies of this type once every five years, but this is the first time they’ve chosen a project explicitly focused on end-of-life care of this population.

“This is a first for USRDS,” says O’Hare, “and very necessary. There are major deficiencies in how we currently care for many of these patients at the end of life. Not infrequently patients are broadsided by what happens to them and the kinds of treatment decisions they face as their illness progresses. This needs to change.”

The five-year grant will allow O’Hare and her colleagues to create a study center where researchers gather and analyze data related to palliative and end-of-life care for patients with kidney disease.

Specifically, researchers will survey patients about end-of-life care

preferences, whether or not they’ve engaged in advanced care planning, and what they consider when they think about the care they would like to receive if they were too sick to make their own decisions. Investigators will also survey patients’ family members to better understand their role and to learn how families perceive the quality of the patient’s end-of-life care.

“Through these surveys and analysis of existing USRDS data, we’ll be able to paint a clearer picture of what happens to members of this population towards the end of life,” says O’Hare.

How did O’Hare get interested in end-of-life care? Simple. She sees it everyday.

“I’m first and foremost a clinician,” says O’Hare, who practices in the Veterans Health Administration system and primarily treats older veterans with advanced kidney disease. “I focus my research on areas of importance to my patients, on topics that I hope will have a positive impact on their lives. There is lots of room for improvement in how we care for these patients at the end of life, and I’m hopeful this research project will help us identify opportunities to do this.”

O’Hare and Dr. Manjula Kurella Tamura, of Stanford University, will serve as co-principal investigators on the study.

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Bringing the patient's voice and
what's important to them
into research is key.

Research fellow Dr. Matthew Rivara pursues career as physician scientist, focuses research on dialysis population

For Dr. Matthew Rivara, a clinical research fellowship at the Kidney Research Institute was enough to bring the Seattle native back home in 2012.

"The KRI provides an incredible opportunity to learn from researchers with a wide variety of interests, and has a wealth of resources in terms of biostatisticians and clinical research coordinators," says Rivara, who grew up in Seattle before attending Yale as an undergraduate and Harvard for medical school. "It's a great environment that allows me to continually refine my own research ideas."

Rivara is currently evaluating the association between calcium levels and mortality in the end-stage renal disease population, and is also interested in the connection between oxidative stress and cardiovascular

disease in dialysis patients.

"It was in residency when I became incredibly interested in dialysis and the fact that it allows people with kidney failure to continue living their lives for many years," says Rivara, who's also currently working on completing a Master's in Epidemiology at the University of Washington School of Public Health. "That's very unique in all of medicine."

In the future, Rivara plans to use patient-reported outcomes to investigate the appropriate timing of the initiation of chronic dialysis.

"Analyzing patient feedback could give us a better understanding of certain aspects of treatment, including when to initiate dialysis. Bringing the patient's voice and what's important to them into research is key."