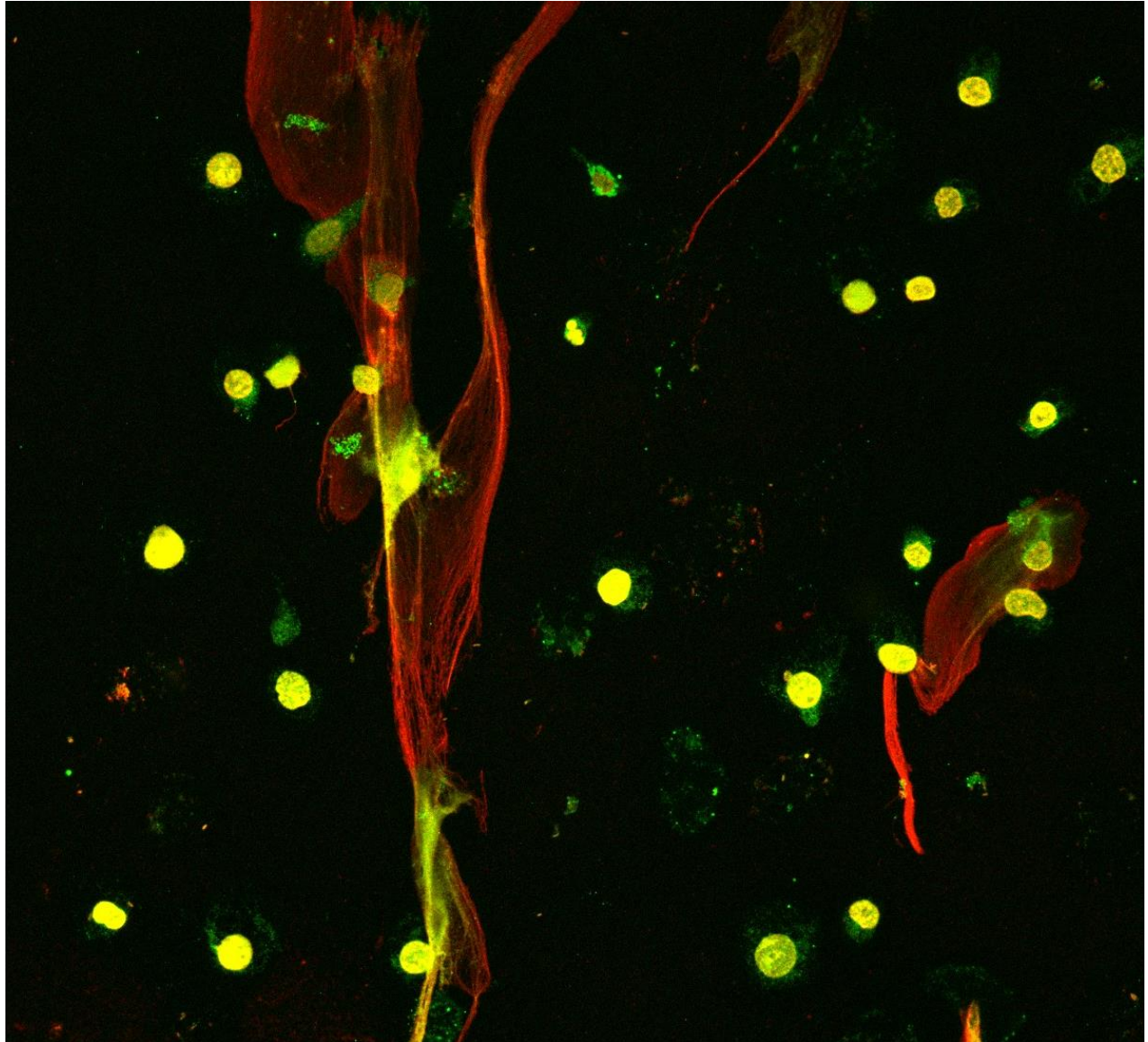


KIDNEY RESEARCH CENTRE



Annual Report 2022-2023

OHRI, University of Ottawa

About the KRC

The Kidney Research Centre (KRC) was established in 2000 at The Ottawa Hospital Research Institute, University of Ottawa, and is the first centre of its kind in Canada devoted exclusively to the prevention, diagnosis and treatment of kidney disease.



The Kidney Research Centre—Ottawa Hospital Research Institute Centre de recherche sur les maladies du rein—Institut de recherche de l’Hôpital d’Ottawa University of Ottawa / Université d’Ottawa 2518-451 chemin Smyth Road, Ottawa, Ontario K1H 8M5
<http://www.ohri.ca/centres/KRC/default.asp>

Cover image: Formation of Neutrophil Extracellular Traps (NETs). NETs (seen in red) are tiny webs of DNA that are released by immune cells (seen in yellow). NETs play a role in normal immune responses but Chloé Landry, a PhD student in the Burger Laboratory, is studying how they may play a role in kidney disease.

2023 Agostino Monteduro Scholarship Winners

The Agostino Monteduro Scholarships are awarded annually to trainee scientists at the Kidney Research Centre. The award supports their training and provides an opportunity to present their work at major international symposia. The awards are granted on merit based on the trainees' academic track record and the quality of their research.



Agafe Bless Reyes

Project Title: The impact of gestational diabetes on maternal kidney and cardiovascular health. (Supervisor: Dr. Dylan Burger)



Dr. Sumaiya Ahmed

Project Titles: Cardiovascular and Kidney Outcomes in Live Kidney Donors with Hypertension.

The Association Between Subclinical Primary Aldosteronism and Kidney Disease Risk.

(Supervisors: Dr. Ann Bugeja, Dr. Greg Hundemer)

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Director's Message

The KRC Annual Report features the major highlights of research conducted between July 1, 2022 and June 30, 2023. Kidney research is conducted in Ottawa on multiple levels: Biomedical studies at the KRC lab facility explore how kidneys function in health and disease states, and identify opportunities for novel diagnostic or treatment approaches. Clinical research involving people affected by kidney disease is based at the Riverside Campus and encompasses a variety of topics, including prevention and management of acute and chronic kidney disease, and ways to improve outcomes in dialysis and kidney transplantation. Health administrative databases are explored to collect population-level information on the factors associated with development of kidney disease, its progression, and its complications. Finally, many of our researchers are recognized as international experts, and they regularly contribute review manuscripts on kidney disease topics, or are invited to provide commentaries and editorials on recent research advances. In the past year, our research resulted in **136 published manuscripts**, listed within this report. **Plain-language summaries** are provided for those manuscripts where the first or senior (last) author is a member of the KRC. For those affected by kidney disease, we especially hope this feature makes the research findings more accessible and relevant.

Without funding, there can be no research. Once again, the KRC Annual Report provides information on the peer reviewed funding that supports all investigations. We are proud to report that principal investigators (PIs) at KRC obtained > \$1.9 M in the past year from the Canadian Institutes of Health Research (CIHR), representing a whopping 69.4% of our total peer reviewed funding. This figure is particularly impressive considering the current historically low levels of funding from CIHR (only ~ 14-16% of applicants are successful in securing grant funds).

The past year has resulted in significant awards and recognitions. Two KRC trainees, Agafe Reye (Dr. Dylan Burger's lab) and Dr. Sumaiya Ahmed (a nephrology fellow supervised by Dr. Greg Hundemer and Dr. Ann Bugeja) received KRC Agostino Monteduro Scholarships from the Kidney Foundation of Canada, on behalf of the Annual Italian Night Gala event. Dr. Ted Clark was awarded the Jindal Research Chair for the Prevention of Kidney Disease, following Dr. Manish Sood who completed 2 very productive terms as Chair. Dr. Clark's research program focuses on critical care nephrology, and improving outcomes for patients requiring hemodialysis treatment after acute kidney injury. He has obtained initial funding to support a multi-centre clinical trial that will determine if intravenous albumin infusion can prevent low blood pressure in critically ill patients during hemodialysis, thereby promoting more rapid recovery of kidney function, and/or enhancing survival.

Congratulations go out to Dr. Sood, who was promoted to Full Professor at the University of Ottawa in 2023, and to Dr. Ayub Akbari and Dr. Deb Zimmerman, who were appointed to Associate Scientist, and Scientist, respectively, at the Ottawa Hospital Research Institute (OHRI).

Once again, the KRC Seminar Series was held weekly on Thursdays at noon and featured basic science presentations from local and international experts, as well as talks from students at all levels on their research-in-progress (**see the list of seminars on p. 68-69**). We thank the members of the labs of Dr. Baptiste Lacoste and Dr. Suresh Gadde for contributing excellent presentations to this series, and special thanks to Dr. Chris Kennedy for organizing the seminars and leading discussions around the various topics. Our Division of Nephrology Grand Rounds (Thursday mornings at 8:00) were truly outstanding in the past year, featuring numerous international experts on a variety of kidney research topics (**see list of national/international speakers, p. 67-68**). Kudos to Dr. Swapnil Hiremath for organizing these rounds, which have been very well attended and serve as a forum for discussion and debate about the latest advances in kidney disease management.

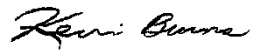
We are extremely grateful for our community supporters. Dr. Shiv Jindal, his wife Sarita, and their family created an endowment fund for the Jindal Research Chair (see above), which will support investigators studying the prevention of kidney disease for many years to come. This year, the CLV Group donated \$15,000 from its annual Charity Golf tournament to the KRC, in memory and recognition of the late Mike McCann, a long-time KRC supporter. Critical funding support is also provided annually to the KRC from the Italian community in Ottawa, via their superb Gala dinner event. The “Serata Italiana” attracts hundreds of participants annually, and held its 39th event in support of local kidney research last March. Thanks to Ana Monteduro and her incredible team for their energy and commitment to research!

We are thankful for the endowment fund established by the late Lorna J. Wood, which supports in perpetuity a Chair for Kidney Research at OHRI, currently held by Dr. Greg Hundemer. The family of the late Dr. Peter J. Swedko has established an endowment fund to support kidney researchers early in their training, with a focus on informatics technology. The Jones Family Foundation at TOH Foundation has provided significant funding for both basic and clinical research at KRC, as well as infrastructure support for the new hospital Campus on Carling Ave. I am personally grateful to Dr. Jolanta Karpinski and the Division of Nephrology for establishing the “Kevin D. Burns Nephrology Academic Fund” at the University of Ottawa in 2023, which will support kidney research and educational activities within the Division going forward.

In 2024, Gaby Cherton-Horvat will be stepping down from her role as KRC Lab Manager. Gaby has been with us since June 2007, and has demonstrated outstanding professionalism, dedication, and a relentless commitment to excellence. She has assisted with on-boarding/training of more than 150 lab trainees in the past 16 years. It goes without saying that she will be greatly missed, and I am pleased that we were able to hold a celebration in her honor on Dec. 13 at KRC. On the clinical research side, we are fortunate to have an outstanding team of research coordinators and staff at the Riverside Campus, under the direction of Dr. Deb Zimmerman. The team has been responsible for launching and completing many important studies over the years, involving hundreds of patients.

After more than 23 years, I have decided to step away from my role as Director of the KRC, starting in January 2024. Dr. Dylan Burger will assume the Director position— Dr. Burger is an internationally recognized expert in extracellular vesicle (EV) biology and the role of EVs as biomarkers or mediators of kidney disease. As you will see within this report, Dr. Burger is a highly productive investigator, and he

collaborates extensively with other researchers at KRC, and around the globe. He is also well connected to our local community, currently serving on the organizing committee for the Italian Night Gala. It has been a distinct honor to serve at the helm of the KRC, and I know that the best years are still ahead of us.



Dr. Kevin D. Burns

Professor of Medicine, Division of Nephrology, Dept. of Medicine

Senior Scientist, Chronic Disease Program

Director, KRC

OHRI, University of Ottawa

KRC STAFF AND TRAINEES

Members of the Division of Nephrology / KRC

<u>Name</u>	<u>Title</u>	<u>Scientific Rank</u>
Dr. Rima Abou Arkoub	Staff Nephrologist Division of Nephrology	
Dr. Ayub Akbari	Full Professor Division of Nephrology	Associate Scientist, OHRI
Dr. Robert Bell	Associate Professor Division of Nephrology	
Dr. Mohan Biyani	Assistant Professor Division of Nephrology	Clinician Investigator, OHRI
Dr. Pierre Antoine Brown	Associate Professor Division of Nephrology	Clinician Investigator, OHRI
Dr. Ann Bugeja	Associate Professor Division of Nephrology	Clinician Investigator, OHRI
Dr. Dylan Burger	Associate Professor Dept. of Cellular and Molecular Medicine	Senior Scientist, OHRI
Dr. Kevin D. Burns	Dept of Medicine (Nephrology) Full Professor Division of Nephrology	Senior Scientist, OHRI
Dr. Mark Canney	Director of KRC Assistant Professor Division of Nephrology	Associate Scientist, OHRI
Dr. Edward Clark	Associate Professor Division of Nephrology Jindal Research Chair for Prevention of Kidney Disease	Associate Scientist, OHRI
Dr. Janet Davis	Assistant Professor Division of Nephrology	Clinician Investigator, OHRI
Dr. Cedric Edwards	Assistant Professor Division of Nephrology	Clinician Investigator, OHRI
Dr. Todd Fairhead	Assistant Professor Division of Nephrology	Clinician Investigator, OHRI
Dr. Tamara Glavinovic	Assistant Professor Division of Nephrology	
Dr. Richard L. Hébert	Full Professor Dept. of Cellular & Molecular Medicine	
Dr. Caitlin Hesketh	Staff Nephrologist Division of Nephrology Residency Training Program Director	
Dr. Swapnil Hiremath	Associate Professor	Associate Scientist, OHRI

Dr. Stephanie Hoar	Division of Nephrology Assistant Professor	
Dr. Greg Hundemer	Division of Nephrology, Medical Director, Renal Transplant Program, TOH Lorna Jocelyn Wood Chair in Kidney Research	Clinician Investigator, OHRI
Dr. Januvi Jegatheswaran	Assistant Professor Division of Nephrology	
Dr. Jolanta Karpinski	Associate Professor and Head, Division of Nephrology	
Dr. Chris Kennedy	Full Professor Dept. of Cellular and Molecular Medicine	Senior Scientist, OHRI
Dr. Greg Knoll	Full Professor Division of Nephrology Chair and Chief, Dept. of Medicine, University of Ottawa Distinguished Chair in Clinical Transplantation Research	Senior Scientist, OHRI
Dr. Peter Magner	Associate Professor Division of Nephrology	Clinician Investigator, OHRI
Dr. David Massicotte- Azarniouch	Assistant Professor Division of Nephrology	
Dr. Brendan McCormick	Associate Professor Division of Nephrology	Clinician Investigator, OHRI
Dr. Soraya Moghadam	Staff Nephrologist Division of Nephrology	
Dr. Rinu Pazhekattu	Assistant Professor Division of Nephrology	
Dr. Marcel Ruzicka	Full Professor Division of Nephrology	Clinician Investigator, OHRI
Dr. Manish Sood	Full Professor Division of Nephrology	Senior Scientist, OHRI
Dr. Deborah Zimmerman	Full Professor Division of Nephrology Director, Clinical Research, KRC	Scientist, OHRI

Clinical Fellows

<u>Name</u>	<u>Title</u>
Dr. Sumaiya Ahmed	Clinical Fellow (RCPSC)
Dr. Abdullah Bawazir	Clinical Fellow

Dr. Gabrielle Bourque	Clinical Fellow (RCPSC)
Dr. Ryan Chan	Clinical Fellow (RCPSC)
Dr. Michael Che	Clinical Fellow (RCPSC)
Dr. Anisha Dhalla	Clinical Fellow (RCPSC)
Dr. Adrianna Douvris	Clinical Fellow (RCPSC), Clinical Investigator Program (CIP)
Dr. Vijay Joshi	Clinical Fellow
Dr. Nawaf Alyahya	Clinical Fellow
Dr. Matthew Kunthara	Clinical Fellow
Dr. Shreepriya Mangalgi	Clinical Fellow
Dr. Danielle Moorman	Clinical Fellow
Dr. Ana Naidas	Clinical Fellow
Dr. Ariana Noel	Clinical Fellow (RCPSC), Clinical Investigator Program (CIP)
Dr. Namrata Parikh	Clinical Fellow, Transplantation
Dr. Ankita Patil	Clinical Fellow
Dr. Arun Kumar Pinna	Clinical Fellow, Hypertension

Clinical Fellows - Basic Research

<u>Name</u>	<u>Supervisor</u>
Dr. Robert Myette	Dr. D. Burger
Dr. Adrianna Douvris	Dr. K. Burns

Research Associates

<u>Name</u>	<u>Supervisor</u>
Dr. Alexey Gutsol	Dr. K. Burns
Dr. Chet Holterman	Dr. C. Kennedy
Dr. Jose Vinas	Dr. K. Burns
Dr. Mayra Trentin Sonoda	Dr. R. L. Hébert / Dr. C. Kennedy / Liminal BioSciences
Dr. Fengxia Xiao	Dr. D. Burger

Graduate Students - Basic Research

<u>Name</u>	<u>Project Title</u>	<u>Supervisor</u>
Akram Abolbaghaei	Extracellular vesicles in diabetes and pregnancy.	Dr. D. Burger

Amelie Blais	Role of GPR84 in kidney injury in a surrogate COVID-19 mouse model.	Dr. C. Kennedy
Véronique Cheff	Investigating the role of sodium-glucose transporter 2 modulation in metabolic syndrome- induced chronic kidney disease.	Dr. R. L. Hébert
Dr. Adrianna Douvris	The role of miR-486-5p in renal endothelium in ischemic acute kidney injury.	Dr. K. Burns/Dr. D. Burger
Chloé Landry	The role of peptidylarginine deiminase 4 and neutrophil extracellular traps in vascular damage in hypertension and diabetes.	Dr. D. Burger
Dr. Robert Myette	Role of oxidative stress in extracellular vesicle formation in the progression of idiopathic nephrotic syndrome in children.	Dr. C. Kennedy/Dr. D. Burger
Agafe Reyes	Maternal endothelial mitochondrial dysfunction in gestational diabetes mellitus.	Dr. D. Burger
Raquel Silva Neres dos Santos	Extracellular vesicles in cardiorenal syndrome	Dr. D. Burger

Honours Students - Basic Research

<u>Name</u>	<u>Project Title</u>	<u>Supervisor</u>
Sarah Khatib	Effect of Neutrophil Extracellular Traps (NETs) on podocyte function.	Dr. D. Burger
Agafe Reyes	Maternal endothelial mitochondrial dysfunction in gestational diabetes mellitus.	Dr. D. Burger
Milena Djordjevic	Mechanisms of neutrophil extracellular trap formation.	Dr. D. Burger
Emma Dorfman	Nox5 – role in the proximal tubule	Dr. C. Kennedy

Summer and COOP Students - Basic Research

<u>Name</u>	<u>Project Title</u>	<u>Supervisor</u>
Regan Aubrey	Developmental origins of renal tubular acidosis	Dr. D. Burger
Amanda Richardson	Measurements of urinary extracellular vesicles in models of kidney disease	Dr. C. Kennedy
Tony Lin	Assessment of podocyte mitochondrial function in nephrotic syndrome	Drs. C. Kennedy/D. Burger

Technical Staff

<u>Name</u>	<u>Title</u>	<u>Supervisor</u>
Véronique Cheff	Research Technician	Dr. R. L. Hébert / Dr. C. Kennedy / Liminal BioSciences

Gabriele Cherton-Horvat
Meghan Heer

Laboratory Manager
Research Technician

Dr. K. Burns
Dr. R. L. Hébert / Dr. C. Kennedy /
Liminal BioSciences
Dr. D. Burger / Dr. C. Kennedy
Dr. K. Burns

Lihua Zhu
Joseph Zimpelmann

Laboratory Technician
Senior Laboratory Technician

Clinical Research Staff

Name

Jennifer Biggs
Justine Davis
Lauren Elliott
Erin Thomas
Jessica Wagner
Jennifer Kong

Title

Clinical Research Coordinator
Research Administrative Assistant
Clinical Research Coordinator
Research Assistant
Clinical Research Coordinator
Research Assistant (KRC Trials)

SUPERVISION/MENTORING OF TRAINEES

Dr. Ayub Akbari

Project Title: *“Difference between spot urine osmolality and 24 hour urine osmolality in patients with PKD”*. **Trainees:** Dr. Sriram Sriperumbuduri, Dr. Shreepriya Mangalgi (Nephrology Fellows).

Project Title: *“Performance of eGFR equations for drug dosing in kidney transplant recipients”*. **Trainee:** Hajar Elwadia: RN at Montfort Hospital and MSc student at University of Ottawa.

Project Title: *“Nocturnal Hypertension in Patients with Controlled Daytime Blood Pressure”*. **Trainee:** Maria Salman, Medical student, University of Ottawa, and Nandini Biyani, undergraduate student University of Ottawa.

Project Title: *“Comparison of the impact of 2009 CKD-EPI and 2021 race-free CKD-EPI equations on the 2-year KFRE and 5-year KFRE to determine ESKD.”* **Trainee:** Ridoy Opal, Undergraduate student, University of Ottawa.

Project Title: *“Pregnancy and Kidney disease. Systematic Review”*. **Trainee:** Dr. Ana Farfan Ruiz (Nephrology Fellow).

Project Title: *“Systematic Review. GFR in Obesity”*. **Trainee:** Dr. Sriram Sriperumbuduri (Nephrology Fellow).

Project Title: *“Renal Tubular Acidosis in pregnancy secondary to Sjogren syndrome: A case report”*. **Trainee:** Dr. Sumaiya Ahmed (Nephrology Fellow).

Project Title: *“Weight trajectories in severe CKD”*. **Trainee:** Anuj Patel (Medical student).

Project Title: *“Artificial Intelligence for the Prevention of Unplanned Dialysis”*. **Trainee:** Martin Klamrowski (Masters student, Carleton University).

Dr. Ann Bugeja

Project Title: *“Patient and Health System Outcomes of a One Day Living Kidney Donor Evaluation Process”*. **Trainees:** Dr. Shreepriya Mangalgi (Nephrology Fellow), Lindsay Reid (Medical student).

Project Title: *“Kidney function, cardiovascular outcomes, and survival after living kidney donation from donors with hypertension: a systematic review”*. **Trainees:** Dr. Sumaiya Ahmed (Internal medicine Resident during project- now Nephrology Fellow), Dr. Mariam Eldaba (Internal Medicine Resident).

Project Title: *“Female Leadership and Participation in Nephrology Clinical Trials: A Systematic Review”*. **Trainees:** Sumiya Lodhi (Medical student), Dr. Shreepriya Mangalgi (Nephrology Fellow), Lindsay Reid (Medical student).

Dr. Dylan Burger

Project Title: *“Molecular mechanisms of childhood idiopathic nephrotic syndrome”* **Trainee:** Dr. Robert Myette (PhD Student, University of Ottawa, KRESCENT Recipient).

Project Title: *“The role of peptidylarginine deiminase 4 and neutrophil extracellular traps in vascular damage in hypertension and diabetes.”* **Trainee:** Chloé Landry (PhD Student, University of Ottawa, Vanier Scholarship recipient).

Project Title: *“Extracellular vesicles in diabetes and pregnancy”.* **Trainee:** Akram Abolbaghaei (PhD student, University of Ottawa).

Project Title: *“Effect of Neutrophil Extracellular Traps (NETs) on podocyte function”.* **Trainee:** Sarah Khatib (4th year student, University of Ottawa).

Project Title: *“Maternal endothelial mitochondrial dysfunction in gestational diabetes mellitus”.* **Trainee:** Agafe Reyes (graduate student, University of Ottawa).

Project Title: *“Sex differences in extracellular vesicles in individuals with chronic kidney disease”.* **Trainee:** Fengxia Xiao (Research Associate, OHRI).

Project Title: *“Assessment of podocyte mitochondrial function in nephrotic syndrome”.* **Trainee:** Tony Lin (Summer student, University of Ottawa).

Project Title: *“Mechanisms of neutrophil extracellular trap formation”.* **Trainee:** Milena Djordjevic (4th year student, University of Ottawa).

Project Title: *“Extracellular vesicles in cardiorenal syndrome”.* **Trainee:** Raquel Silva Neres dos Santos (Visiting PhD student, Universidade Federal do ABC- Brazil).

Dr. Kevin D. Burns

Project Title: *“Effects of Soluble ACE2-Fc Variants in Vitro and in Mice with Angiotensin II-induced Hypertension”.* **Trainee:** Dr. Mayra Trentin Sonoda (Post-Doctoral Fellow).

Project Title: *“Effect of miR-486-5p in a rat model of kidney ischemia-reperfusion injury”.* **Trainee:** Dr. Jose Vinas (Research Associate).

Project Title: *“The role of miR-486-5p on renal vascular endothelium in ischemic acute kidney injury”.* **Trainee:** Dr. Adrianna Douvris (Nephrology Fellow and PhD candidate, University of Ottawa).

Dr. Edward Clark

Project Title: *“Review on the Use of Intermittent Hemodialysis in Critically Ill Patients”.* **Trainees:** Dr. Ryan Chan (Nephrology Fellow) and Dr. Wryan Helmeczi (Internal Medicine Resident).

Project Title: *“Survey on the Use of Intravenous Albumin in Critically Ill Patients on Renal Replacement Therapy”*. **Trainee:** Dr. Ryan Chan (Nephrology Fellow).

Project Title: *“Teaching Case Involving Unexplained Anion Gap Metabolic Acidoses in Critically Ill Patients”*. **Trainee:** Dr. Ana Farfan Ruiz (Nephrology Fellow).

Richard L. Hébert PhD

Project Title: *“Investigating the role of sodium-glucose cotransporter 2 modulation in macrophage dynamics of metabolic syndrome induced-chronic kidney disease”*. **Trainee:** Véronique Cheff, M.Sc., (2019 - 2021), Dept. of Cellular and Molecular Medicine.

Dr. Swapnil Hiremath

Project Title: *“Systematic Review of the Prevalence of Adherence in Resistant Hypertension”*. **Trainees:** Dr. Gabrielle Bourque (Internal Medicine Resident, University of Ottawa), Julius Vladmir (Medical student, University of Ottawa).

Dr. Chris Kennedy

Project Title: *“Role of oxidative stress in extracellular vesicle formation in the progression of idiopathic nephrotic syndrome in children”*. **Trainee:** Dr. Rob Myette, PhD student (co-supervised by Dr. D. Burger).

Project Title: *“Role of GPR84 in kidney injury in a surrogate COVID-19 mouse model”*. **Trainee:** Amelie Blais, MSc student.

Project Title: *“Nox5 – role in the proximal tubule”*. **Trainee:** Emma Dorfman, TMM student, University of Ottawa.

Dr. Manish Sood

Project Title: *“Summer systematic review program: 2023”*. **Trainees:** Kathryn Lee, Rachel Kang, Ben Milone, Rohan Kiska, Maria Salman, Mekaylah Scott.

Project Title: *MSc thesis. “eGFR reductions in young adults and adverse events”*. **Trainee:** Junayd Hussian. 2021-23.

Project Title: *“A systematic review of PTSD in physicians after COVID-19”*. **Trainee:** Mihir Karma, 2022. Undergraduate Student, McMaster University.

Ongoing MSc students

Ida Olaye. 2022-2024. Thesis supervisor. M.Sc. (Epidemiology), University of Ottawa.

Ann Bugeja, 2022-2025. Thesis co-supervisor. M.Sc.(Epidemiology), University of Ottawa.

Sarah Syed, 2022-2025. Thesis supervisor. M.Sc.(Epidemiology), University of Ottawa.

Nicolas Beaugard. 2022-2025. Thesis Supervisor. M.Sc.(Epidemiology), University of Ottawa

Janet Ariana Noel. 2022-2025. Thesis Supervisor. M.Sc.(Epidemiology), University of Ottawa.

Shan Dhaliwal. 2020-2023. Thesis Co-Supervisor. M.Sc. (Epidemiology), University of Ottawa.

Dr. Deborah Zimmerman

Project Title: *“De-Prescribing Proton Pump Inhibitors in Patients with End Stage Kidney Disease: A Quality Improvement Project”*. **Trainees:** Daniel Czikk (Medical student, University of Ottawa), Gaurv Kumar (Medical student, University of Ottawa), DC Vu (GI fellow), Yasin Parpia (Nephrology Fellow).

Project Title: *“Predictors of Serum Vancomycin Levels in Peritoneal Dialysis-Associated Peritonitis.”*
Trainee: Erin Deacon (Medical student, University of Ottawa. Kidney Stars Recipient, ASN).

Project Title: *“Peritonitis Outcomes by Serum Vancomycin Level”*. **Trainee:** Erin Deacon (Medical student, University of Ottawa).

Project Title: *“Surgical Management of Hyperparathyroidism in ESKD”*. **Trainee:** Malvika Agarwal.
Faculty of Medicine Award Summer Studentship Award: \$5,500.

Project Title: *“Risk of Bleeding in Patients with ESKD Treated with Dialysis”*. **Trainees:** Dr. Ryan Chan, Dr. Michael Che, Dr. Sumaiya Ahmed (Nephrology Fellows).

Project Title: *“Sleep in Patients with ESKD; Fitbit Versus PSQI”*. **Trainee:** Alex Johnson (Medical student, University of Ottawa).

PUBLICATIONS (July 1, 2022 to June 30, 2023)

(Plain-Language Summaries are provided below for those publications where KRC staff appeared as first or senior authors)

1. **Burger D**, Abdelrasoul A, Alexander RT, Ballermann B, Bridgewater D, Chan JSD, Cunanan J, Cybulsky AV, Gerarduzzi C, Gunaratnam L, Hartwig S, Kapus A, **Kennedy CRJ**, Lamarche C, **Myette RL**, Nmecha IK, Stalker L, Szaszi K, Torban E, Zhang SL, Takano T. Advancing Discovery Research in Nephrology in Canada: A Conference Report From the 2021 Molecules and Mechanisms Mediating Kidney Health and Disease (M3K) Scientific Meeting and Investigator Summit. *Can J Kidney Health Dis.* 2022 Dec 17;9:20543581221144824. doi: 10.1177/20543581221144824. PMID: 36545249; PMCID: PMC9761209.

Plain-Language Summary: *This manuscript reviews the proceedings of the first meeting of the “M3K” group of basic scientists. This group of Canadian kidney researchers met in Montreal on Dec. 3-4, 2021 to present their research findings and to discuss collaborations for the future. Dr. Burger was instrumental in organizing this important meeting.*

2. **Myette RL, Xiao F**, Geier P, Feber J, **Burger D, Kennedy CRJ**. Urinary podocyte-derived large extracellular vesicles are increased in pediatric idiopathic nephrotic syndrome. *Nephrol Dial Transplant.* 2023 Apr 29;gfa086. doi: 10.1093/ndt/gfad086. Epub ahead of print. PMID: 37120731.

Plain-Language Summary: *This research study demonstrated that children with idiopathic nephrotic syndrome (characterized by urinary excretion of large amounts of protein, leading to generalized swelling and risk of infections and blood clotting) have increased levels of large extracellular vesicles in the urine (“EVs”). The large EVs decrease when the children are in clinical remission, suggesting that their presence may be a marker of disease activity.*

3. **Abolbaghaei A, Turner M, Thibodeau JF, Holterman CE, Kennedy CRJ, Burger D**. The Proteome of Circulating Large Extracellular Vesicles in Diabetes and Hypertension. *Int J Mol Sci.* 2023 Mar 3;24(5):4930. doi: 10.3390/ijms24054930. PMID: 36902363; PMCID: PMC10003702.

Plain-Language Summary: *Large extracellular vesicles (EVs) are released from injured blood cells, and are present in the circulation. This study examined the content of large EVs isolated from the blood of mice with hypertension or diabetes, compared to healthy mice. The results show that large EVs contain distinct protein “signatures” depending on*

the disease. This information could improve our understanding of the basis for blood vessel injury in hypertension and diabetes.

4. Clase CM, Dicks E, Holden R, **Sood MM**, Levin A, Kalantar-Zadeh K, Moore LW, Bartlett SJ, Bello AK, Bohm C, Bridgewater D, Bouchard J, **Burger D**, Carrero JJ, Donald M, Elliott M, Goldenberg MJ, Jardine M, Lam NN, Maddigan WJ, Madore F, Mavrakanas TA, Molnar AO, Prasad GVR, Rigatto C, Tennankore KK, Torban E, Trainor L, White CA, Hartwig S. Can Peer Review Be Kinder? Supportive Peer Review: A Re-Commitment to Kindness and a Call to Action. *Can J Kidney Health Dis.* 2022 May 1;9:20543581221080327. doi: 10.1177/20543581221080327. PMID: 35514878; PMCID: PMC9067031.
5. Blijdorp CJ, **Burger D**, Llorente A, Martens-Uzunova ES, Erdbrügger U. Extracellular Vesicles as Novel Players in Kidney Disease. *J Am Soc Nephrol.* 2022 Mar;33(3):467-471. doi: 10.1681/ASN.2021091232. Epub 2022 Feb 7. PMID: 35131841; PMCID: PMC8975061.
6. Erdbrügger U, Hoorn EJ, Le TH, Blijdorp CJ, **Burger D**. Extracellular Vesicles in Kidney Diseases: Moving Forward. *Kidney360.* 2023 Feb 1;4(2):245-257. doi: 10.34067/KID.0001892022. Epub 2022 Dec 18. PMID: 36821616.

Plain Language-Summary: *This manuscript reviews the state of research on extracellular vesicles (EVs)- the types, challenges in measuring them, and their role in kidney disease. EVs have potential to identify early kidney injury, but may also have a role in the treatment of certain kidney diseases, because they carry cargo that can be transferred to affected cells.*

7. Abbasian N, Bevington A, **Burger D**. Phosphate and Endothelial Function: How Sensing of Elevated Inorganic Phosphate Concentration Generates Signals in Endothelial Cells. *Adv Exp Med Biol.* 2022;1362:85-98. doi: 10.1007/978-3-030-91623-7_9. PMID: 35288875.

Plain-Language Summary: *Blood levels of phosphate may become elevated in advanced chronic kidney disease. This review gives a brief overview of the adverse effects of elevated extracellular phosphate concentration on mammalian cells and tissues, particularly blood vessels.*

8. Reyes AB, **Burger D**. Small extracellular vesicles: a new player in GDM pathogenesis. *Clin Sci (Lond).* 2022 Dec 22;136(24):1873-1875. doi: 10.1042/CS20220658. PMID: 36545930.
Plain-Language Summary: *A recent article published in Clinical Science examined the effect of small extracellular vesicles (EVs) on diabetes in pregnancy. This editorial*

commentary summarizes major findings from this study and discusses the impact on our understanding of the role of EVs in pregnancy.

9. Semenchuk J, Sullivan K, Moineddin R, Mahmud F, Dart A, Wicklow B, **Xiao F**, Medeiros T, Scholey J, **Burger D**. Urinary interleukin-9 in youth with type 1 diabetes mellitus. *Acta Diabetol*. 2022 Jul;59(7):939-947. doi: 10.1007/s00592-022-01873-4. Epub 2022 Apr 20. PMID: 35445345; PMCID: PMC9156513.
Plain-Language Summary: *The cytokine interleukin-9 (IL-9) reduces injury to the glomerular cell “podocyte” in experimental kidney disease. Here, Dr. Burger and colleagues analysed urine samples and clinical data from youth with type 1 diabetes, and found that urinary levels of IL-9 were inversely related to levels of podocyte extracellular vesicles (EVs). The results suggest that IL-9 may decrease podocyte injury in early type 1 diabetes in humans.*
10. Lugo-Gavidia LM, **Burger D**, Nolde JM, Carnagarin R, Chan J, Bosio E, Matthews VB, Schlaich MP. Platelet-derived extracellular vesicles correlate with therapy-induced nocturnal blood pressure changes. *J Hypertens*. 2022 Nov 1;40(11):2210-2218. doi: 10.1097/HJH.0000000000003248. Epub 2022 Aug 8. PMID: 35950995.
11. Jung RG, Duchez AC, Simard T, Dhaliwal S, Gillmore T, Di Santo P, Labinaz A, Ramirez FD, Rasheed A, Robichaud S, Ouimet M, Short S, Clifford C, **Xiao F**, Lordkipanidzé M, **Burger D**, Gadde S, Rayner KJ, Hibbert B. Plasminogen Activator Inhibitor-1-Positive Platelet-Derived Extracellular Vesicles Predicts MACE and the Proinflammatory SMC Phenotype. *JACC Basic Transl Sci*. 2022 Sep 21;7(10):985-997. doi: 10.1016/j.jacbts.2022.05.002. PMID: 36337926; PMCID: PMC9626902.
12. Lugo-Gavidia LM, **Burger D**, Nolde JM, Matthews VB, Schlaich MP. Evaluation of Circulating Platelet Extracellular Vesicles and Hypertension Mediated Organ Damage. *Int J Mol Sci*. 2022 Dec 2;23(23):15150. doi: 10.3390/ijms232315150. PMID: 36499475; PMCID: PMC9741224.
13. Rousseau M, Denhez B, Spino C, Lizotte F, Guay A, Côté AM, **Burger D**, Geraldès P. Reduction of DUSP4 contributes to podocytes oxidative stress, insulin resistance and diabetic nephropathy. *Biochem Biophys Res Commun*. 2022 Oct 8;624:127-133. doi: 10.1016/j.bbrc.2022.07.067. Epub 2022 Jul 30. PMID: 35940125.
14. Lugo-Gavidia LM, Nolde JM, Carnagarin R, **Burger D**, Chan J, Robinson S, Bosio E, Matthews VB, Schlaich MP. Association of Circulating Platelet Extracellular Vesicles and Pulse Wave Velocity with Cardiovascular Risk Estimation. *Int J Mol Sci*. 2022 Sep 10;23(18):10524. doi: 10.3390/ijms231810524. PMID: 36142436; PMCID: PMC9505165.
15. Medeiros T, Alves LS, Cabral-Castro MJ, Silva ARO, Xavier AR, **Burger D**, Almeida JR, Silva AA. Exploring Urinary Extracellular Vesicles and Immune Mediators as Biomarkers of

Kidney Injury in COVID-19 Hospitalized Patients. *Diagnostics (Basel)*. 2022 Oct 27;12(11):2600. doi: 10.3390/diagnostics12112600. PMID: 36359444; PMCID: PMC9689919.

16. Duong A, Parmar G, Kirkham AM, **Burger D**, Allan DS. Registered clinical trials investigating treatment with cell-derived extracellular vesicles: a scoping review. *Cytotherapy*. 2023 May 13:S1465-3249(23)00102-0. doi: 10.1016/j.jcyt.2023.04.007. Epub ahead of print. PMID: 37191614.
17. **Abolbaghaei A**, Mohammad S, da Silva DF, Hutchinson KA, **Myette RL**, Adamo KB, **Burger D**. Impact of acute moderate-intensity aerobic exercise on circulating extracellular vesicles in pregnant and non-pregnant women. *Appl Physiol Nutr Metab*. 2023 Feb 1;48(2):198-208. doi: 10.1139/apnm-2022-0288. Epub 2022 Nov 18. PMID: 36661228.
Plain-Language Summary: *This study assessed the effect of aerobic exercise on blood levels of large extracellular vesicles (EVs) in pregnant versus non-pregnant women. Interestingly, non-pregnant women demonstrated a decrease in blood vessel-derived EV level after acute exercise, but this effect was not seen in pregnant women. The reasons for this difference remain unclear and require further research.*
18. Schutte AE, Jafar TH, Poulter NR, Damasceno A, Khan NA, Nilsson PM, Alsaïd J, Neupane D, Kario K, Beheiry H, Brouwers S, **Burger D**, Charchar FJ, Cho MC, Guzik TJ, Haji Al-Saedi GF, Ishaq M, Itoh H, Jones ESW, Khan T, Kokubo Y, Kotruchin P, Muxfeldt E, Odili A, Patil M, Ralapanawa U, Romero CA, Schlaich MP, Shehab A, Mooi CS, Steckelings UM, Stergiou G, Touyz RM, Unger T, Wainford RD, Wang JG, Williams B, Wynne BM, Tomaszewski M. Addressing global disparities in blood pressure control: perspectives of the International Society of Hypertension. *Cardiovasc Res*. 2023 Mar 31;119(2):381-409. doi: 10.1093/cvr/cvac130. PMID: 36219457; PMCID: PMC9619669.
19. Mohammad S, Bhattacharjee J, Tzaneva V, Hutchinson KA, Shaikh M, Fernandes da Silva D, **Burger D**, Adamo KB. The Influence of Exercise-Associated Small Extracellular Vesicles on Trophoblasts *In Vitro*. *Biomedicines*. 2023 Mar 11;11(3):857. doi: 10.3390/biomedicines11030857. PMID: 36979835; PMCID: PMC10045992.
20. van Royen ME, Soekmadji C, Grange C, Webber JP, Tertel T, Droste M, Buescher A, Giebel B, Jenster GW, Llorente A, Blijdorp CJ, **Burger D**, Erdbrügger U, Martens-Uzunova ES. The quick reference card "Storage of urinary EVs" - A practical guideline tool for research and clinical laboratories. *J Extracell Vesicles*. 2023 Mar;12(3):e12286. doi: 10.1002/jev2.12286. PMID: 36916183; PMCID: PMC10011888.
21. Gerber E, Asare-Werehene M, Reunov A, **Burger D**, Le T, Carmona E, Mes-Masson AM, Tsang BK. Predicting chemoresponsiveness in epithelial ovarian cancer patients using

- circulating small extracellular vesicle-derived plasma gelsolin. *J Ovarian Res.* 2023 Jan 16;16(1):14. doi: 10.1186/s13048-022-01086-x. PMID: 36642715; PMCID: PMC9841140.
- 22.** Asare-Werehene M, Hunter RA, Gerber E, Reunov A, Brine I, Chang CY, Chang CC, Shieh DB, **Burger D**, Anis H, Tsang BK. The Application of an Extracellular Vesicle-Based Biosensor in Early Diagnosis and Prediction of Chemoresponsiveness in Ovarian Cancer. *Cancers (Basel).* 2023 Apr 30;15(9):2566. doi: 10.3390/cancers15092566. PMID: 37174032; PMCID: PMC10177169.
- 23.** Tschirhart BJ, Lu X, Gomes J, Chandrabalan A, Bell G, Hess DA, Xing G, Ling H, **Burger D**, Feng Q. Annexin A5 Inhibits Endothelial Inflammation Induced by Lipopolysaccharide-Activated Platelets and Microvesicles via Phosphatidylserine Binding. *Pharmaceuticals (Basel).* 2023 Jun 3;16(6):837. doi: 10.3390/ph16060837. PMID: 37375784; PMCID: PMC10303431.
- 24. Burns KD, Douvris A.** Protecting the kidney in sepsis: resident macrophages to the rescue. *Kidney Int.* 2023 Mar;103(3):461-463. doi: 10.1016/j.kint.2022.11.012. PMID: 36822750.
- Plain-Language Summary:*** *This editorial commentary reviews how distinct classes of inflammatory cells (“macrophages”) infiltrate the kidney during severe infection, leading to either protective or damaging effects. Also reviewed is a recent novel study that showed macrophages can directly influence the function of cells lining blood vessels (endothelial cells) during acute kidney injury.*
- 25.** Rocheleau GLY, Lee T, Mohammed Y, Goodlett D, **Burns K**, Cheng MP, Tran K, Sweet D, Marshall J, Slutsky AS, Murthy S, Singer J, Patrick DM, Du B, Peng Z, Lee TC, Boyd JH, Walley KR, Lamontagne F, Fowler R, Winston BW, Haljan G, Vinh DC, McGeer A, Maslove D, Patrigeon SP, Mann P, Donohoe K, Hernandez G, Russell JA; for ARBs CORONA I Investigators. Renin-Angiotensin System Pathway Therapeutics Associated With Improved Outcomes in Males Hospitalized With COVID-19. *Crit Care Med.* 2022 Sep 1;50(9):1306-1317. doi: 10.1097/CCM.0000000000005589. Epub 2022 May 18. PMID: 35607951; PMCID: PMC9380153.
- 26.** Fowler EA, Bell K, **Burns K**, Chiazzese A, DeSerres SA, Foster BJ, Hartwig S, Herrington G, James MT, Jensen V, Jones N, Kidston S, Lemay S, Levin A, MacPhee A, McCutcheon S, Ravani P, Samuel S, Scholey J, Takano T, Tangri N, Verdin N, Alexander RT, Clase CM. Involving Patient Partners in the KRESCENT Peer Review: Intent, Process, Challenges, and Opportunities. *Can J Kidney Health Dis.* 2022 Nov 15;9:20543581221136402. doi: 10.1177/20543581221136402. PMID: 36406869; PMCID: PMC9669682.
- 27. Gutsol AA, Blanco P, Hale TM, Thibodeau JF, Holterman CE, Nasrallah R, Correa JWN, Afanasiev SA, Touyz RM, Kennedy CRJ, Burger D, Hébert RL, Burns KD.** Comparative analysis of hypertensive nephrosclerosis in animal models of hypertension and its

relevance to human pathology. Glomerulopathy. *PLoS One*. 2022 Feb 17;17(2):e0264136. doi: 10.1371/journal.pone.0264136. eCollection 2022. PMID: 35176122

Plain-Language Summary: *Current research on hypertension involves more than fifty animal models that rely mainly on stable increases in systolic blood pressure. Here, Dr. Gutsol and colleagues provide a critical appraisal of experimental hypertensive glomerulopathy with the same approach used to assess hypertensive glomerulopathy in humans. Using 4 separate animal models of hypertension, the authors show that glomerular lesions correspond to mild damage when compared to lesions seen in humans. The authors conclude that animal studies should be standardized by employing the criteria and classifications established in human pathology.*

28. Salehi R, Asare-Werehene M, Wyse BA, Abedini A, Pan B, **Gutsol A**, Jahangiri S, Szaraz P, **Burns KD**, Vanderhyden B, Li J, **Burger D**, Librach CL, Tsang BK. Granulosa cell-derived miR-379-5p regulates macrophage polarization in polycystic ovarian syndrome. *Front Immunol*. 2023 Mar 24;14:1104550. doi: 10.3389/fimmu.2023.1104550. PMID: 37033997; PMCID: PMC10081157.

29. Salehi R, Wyse BA, Asare-Werehene M, Esfandiarinezhad F, Abedini A, Pan B, Urata Y, **Gutsol A**, **Vinas JL**, Jahangiri S, Xue K, Xue Y, **Burns KD**, Vanderhyden B, Li J, Osuga Y, **Burger D**, Tan SL, Librach CL, Tsang BK. Androgen-induced exosomal miR-379-5p release determines granulosa cell fate: cellular mechanism involved in polycystic ovaries. *J Ovarian Res*. 2023 Apr 12;16(1):74. doi: 10.1186/s13048-023-01141-1. PMID: 37046285; PMCID: PMC10091561.

30. **Bugeja A**, Eldaba M, Ahmed S, Shorr R, **Clark EG**, **Burns KD**, **Knoll G**, **Hiremath S**. Kidney function, cardiovascular outcomes and survival of living kidney donors with hypertension: a systematic review protocol. *BMJ Open*. 2022 Dec 15;12(12):e064132. doi: 10.1136/bmjopen-2022-064132. PMID: 36521905; PMCID: PMC9756152.

Plain-Language Summary: *Since transplantation from living kidney donors remains the best treatment for kidney failure, there is now an increased acceptance of living kidney donors with high blood pressure (hypertension). However, the safety of this practice for the cardiovascular and kidney health of the donor is unclear. This manuscript describes a protocol for a systematic review to summarise and synthesise the existing medical literature on this topic.*

31. **Madken M**, Gotra A, Qazi S, **Fairhead T**, **Burns KD**. Successful Endovascular Management of Resistant Hypertension Post Kidney Transplant: A Case Report. *Can J Kidney Health Dis*. 2022 Sep 20;9:20543581221119896. doi: 10.1177/20543581221119896. PMID: 36160314; PMCID: PMC9493670.

Plain-Language Summary: *This case report describes a patient with a longstanding kidney transplant, who developed high blood pressure resistant to treatment, along with transplant dysfunction. The patient was discovered to have a serious blockage of the iliac artery on the side of the transplant that led to retrograde perfusion of the transplant kidney from the artery on the opposite side, causing hypertension and kidney dysfunction. The patient was treated with balloon dilatation of the iliac artery and stent insertion, and this resulted in normalization of blood pressure and return to normal kidney transplant function.*

- 32. Cheff V, Trentin-Sonoda M, Blais A, Thibodeau JF, Holterman CE, Gutsol A, Kennedy CRJ, Hébert RL.** High fat diet is protective against kidney injury in hypertensive-diabetic mice, but leads to liver injury. *PLoS One*. 2023 Feb 2;18(2):e0281123. doi: 10.1371/journal.pone.0281123. PMID: 36730247; PMCID: PMC9894391.

Plain-Language Summary: *In this study from Dr. Hebert's lab, mice with hypertension and type 1 diabetes that were fed a high fat diet were actually protected against further kidney injury, although they showed signs of liver damage. More studies are necessary to understand the kidney protective mechanisms of high fat diets when superimposed on hypertension and type 1 diabetes.*

- 33. Bugeja A, Akbari A, Hiremath S.** Twenty-four-hour ambulatory blood pressure monitoring. *CMAJ*. 2022 Dec 5;194(47):E1615. doi: 10.1503/cmaj.220990. PMID: 36507791; PMCID: PMC9828969.

Plain-Language Summary: *24 hour-ambulatory blood pressure monitoring (ABPM) is recommended when there is concern for white-coat hypertension (i.e., when blood pressure is higher in clinic versus out of the clinic), masked hypertension (i.e., when blood pressure is higher outside clinic versus in the clinic), or when blood pressure remains above target thresholds despite appropriate therapy. This paper provides an overview of ABPM.*

- 34. Hundemer GL, Clarke A, Akbari A, Bugeja A, Massicotte-Azarniouch D, Knoll G, Myran DT, Tanuseputro P, Sood MM.** Analysis of Electrolyte Abnormalities in Adolescents and Adults and Subsequent Diagnosis of an Eating Disorder. *JAMA Netw Open*. 2022 Nov 1;5(11):e2240809. doi: 10.1001/jamanetworkopen.2022.40809. PMID: 36346630; PMCID: PMC9644262.

Plain-Language Summary: *Eating disorders such as anorexia nervosa lead to increased mortality and reduced quality of life. In this study, individuals with an eating disorder (a review of 6,970 Ontario residents) were found to have a preceding outpatient electrolyte abnormality (e.g. low potassium- hypokalemia) compared with matched control*

subjects. Otherwise unexplained electrolyte abnormalities may serve to identify individuals who may benefit from screening for an underlying eating disorder.

- 35.** Harel Z, Jeyakumar N, Luo B, Silver SA, **Akbari A**, Molnar AO, **Sood MM**. The Safety of Direct Oral Anticoagulants Versus Warfarin Among Older Individuals With Acute Venous Thromboembolism and CKD: A Population-Based Cohort Study. *Kidney Med.* 2022 Jul 3;4(9):1005-16. doi: 10.1016/j.xkme.2022.100516. PMID: 36147201; PMCID: PMC9485588.

Plain-Language Summary: *In this letter to the Editor, the authors conducted a retrospective analysis of healthcare databases in Ontario to study the risk of bleeding associated with use of direct oral anticoagulants (DOACs). The data suggests that the use of DOACs in individuals with chronic kidney disease (CKD) is not associated with an increased risk of bleeding, compared to patients without CKD. Further study is needed into the safety and efficacy of these drugs in individuals with lower kidney function (i.e. CKD stages 4 and 5, with eGFRs <30 mL/min).*

- 36.** Hundemer GL, White CA, Norman PA, **Knoll GA**, Tangri N, **Sood MM**, Hiremath S, Burns KD, McCudden C, **Akbari A**. Performance of the 2021 Race-Free CKD-EPI Creatinine- and Cystatin C-Based Estimated GFR Equations Among Kidney Transplant Recipients. *Am J Kidney Dis.* 2022 Oct;80(4):462-472.e1. doi: 10.1053/j.ajkd.2022.03.014. Epub 2022 May

Plain-Language Summary: *Previous estimates of kidney function (estimated glomerular filtration rate, eGFR) have been based on mathematical equations that include correction factors based on race. In 2021, “race-free” equations incorporating creatinine with and without cystatin C were developed and recommended for routine use. Whether these equations apply to kidney transplant recipients is unclear. In this important study of 415 kidney transplant recipients from Canada and New Zealand, Drs. Hundemer, Akbari and colleagues show that the 2021 race-free eGFR equations perform similarly to the previous equations that included race correction terms.*

- 37.** Tangren J, Bathini L, Jeyakumar N, Dixon SN, Ray J, Wald R, Harel Z, **Akbari A**, Mathew A, Huang S, Garg AX, Hladunewich MA. Pre-Pregnancy eGFR and the Risk of Adverse Maternal and Fetal Outcomes: A Population-Based Study. *J Am Soc Nephrol.* 2023 Apr 1;34(4):656-667. doi: 10.1681/ASN.0000000000000053. Epub 2023 Jan 30. PMID: 36735377.

- 38.** **Gupta A, Biyani M.** Bilateral Calcification of the Vas Deferens and the Seminal Vesicles in a Patient with End-stage Renal Disease. *J Assoc Physicians India.* 2022 Sep;70(9):11-12. PMID: 36082893.

Plain-Language Summary: *Calcification of blood vessels and other organs may occur in people with kidney failure. This case report describes a kidney failure patient with calcification affecting the male reproductive tract.*

- 39. Hiremath S,** McGuinty M, Argyropoulos C, Brimble KS, **Brown PA,** Chagla Z, Cooper R, **Hoar S,** Juurlink D, Treleaven D, Walsh M, Yeung A, Blake P. Prescribing Nirmatrelvir/Ritonavir for COVID-19 in Advanced CKD. *Clin J Am Soc Nephrol.* 2022 Aug;17(8):1247-1250. doi: 10.2215/CJN.05270522. Epub 2022 Jun 9. PMID: 35680135; PMCID: PMC9435977.

Plain-Language Summary: *The antiviral drugs nirmatrelvir/ritonavir are particularly effective in treating COVID-19 infection, especially in high-risk populations such as people with advanced chronic kidney disease (CKD) or those with kidney transplants. This important manuscript provides recommendations for use and dosing of these medications in these patient populations, including those on dialysis.*

- 40. Cosmatos A, McCormick B, Brown PA.** Neobladder creation is still a conduit to peritoneal dialysis - Successful use of peritoneal dialysis after invasive bladder cancer. *Perit Dial Int.* 2022 Jul;42(4):425-427. doi: 10.1177/08968608211065882.

Plain-Language Summary: *Peritoneal dialysis (PD) is as safe and more cost-effective than hemodialysis (HD). It also allows patients to undergo renal replacement therapy from home. PD remains underutilised around the world, in part because of perceived contraindications, including a history of prior major abdominal surgery. In this manuscript, Drs. Brown and colleagues describe the case of a male in his 70s with a history of surgical removal of the bladder and prostate, which was curative for a cancer 5 years prior to development of kidney failure. After receiving education about dialysis options, the patient favoured PD. The PD catheter was placed despite the surgeon noting abdominal adhesions and the patient successfully underwent 12 months of PD which had a positive impact on his quality of life. Thus, previous major abdominal surgery may not be a contraindication for successful performance of PD.*

- 41. Hiremath S,** Blake PG, Yeung A, McGuinty M, Thomas D, Ip J, **Brown PA,** Pandes M, Burke A, Sohail QZ, To K, Blackwell L, Oliver M, Jain AK, Chagla Z, Cooper R. Early Experience with Modified Dose Nirmatrelvir/Ritonavir in Dialysis Patients with Coronavirus Disease 2019. *Clin J Am Soc Nephrol.* 2023 Apr 1;18(4):485-490. doi: 10.2215/CJN.000000000000107. Epub 2023 Mar 1. PMID: 36723285.

Plain-Language Summary: *In this study, Hiremath and colleagues report their experience with use of a modified dose regimen of antiviral medications for COVID-19 infection in dialysis patients in Ontario. A total of 134 dialysis patients with COVID-19*

received nirmatrelvir/ritonavir during the period of study. Most patients (96%) were able to complete the course of nirmatrelvir/ritonavir, and none of the patients who received nirmatrelvir/ritonavir died of COVID-19 in the 30 days of follow-up. Thus, a modified dose of nirmatrelvir/ritonavir was found to be safe and well tolerated in dialysis patients, with no serious adverse events.

42. Wang C, Hiremath S, Sikora L, Kanji S, Bugeja A, Samaha D, Sood MM, Kong JWY, Clark EG. Kidney outcomes after methanol and ethylene glycol poisoning: a systematic review and meta-analysis. *Clin Toxicol (Phila)*. 2023 May;61(5):326-335. doi: 10.1080/15563650.2023.2200547. PMID: 37293897.

Plain-Language Summary: *Poisonings due to ingestion of methanol or ethylene glycol (antifreeze) are uncommon but life-threatening, and usually require dialysis therapy. This manuscript reviewed 67 reports of toxic alcohol poisonings in the literature, and highlights the need for further research with standardized reporting of baseline kidney function, indications for initiation of dialysis, and short-term and long-term kidney outcomes.*

43. Canney M, Atiquzzaman M, Cunningham AM, Zheng Y, Er L, Hawken S, Zhao Y, Barbour SJ. A Population-Based Analysis of the Risk of Glomerular Disease Relapse after COVID-19 Vaccination. *J Am Soc Nephrol*. 2022 Dec;33(12):2247-2257. doi: 10.1681/ASN.2022030258. Epub 2022 Nov 4. PMID: 36332971; PMCID: PMC9731636.

Plain-Language Summary: *A possible association between reactivation (relapse) of glomerulonephritis after vaccination against COVID-19 has been reported in small case studies. In this study by Dr. Canney and colleagues, a centralized clinical and pathology registry of 1105 adults with glomerulonephritis in British Columbia was used to determine the risk of relapse of glomerular disease after COVID-19 vaccine. A second or third dose of COVID-19 vaccine was associated with a 2-fold higher relative risk of relapse, although the absolute risk of relapse remained low (1%-2% in ANCA-related glomerulonephritis, minimal change disease, membranous nephropathy, or focal and segmental glomerulosclerosis (FSGS), and 3%-5% in IgA nephropathy or lupus nephritis.*

44. Canney M, Gunning HM, Zheng Y, Rose C, Jauhal A, Hur SA, Sahota A, Reich HN, Barbour SJ. The Risk of Cardiovascular Events in Individuals With Primary Glomerular Diseases. *Am J Kidney Dis*. 2022 Dec;80(6):740-750. doi: 10.1053/j.ajkd.2022.04.005. Epub 2022 Jun 1. PMID: 35659570.

Plain-Language Summary: *Patients with chronic kidney disease are known to be at high risk of cardiovascular disease. Cardiovascular risk in patients with primary glomerular diseases is poorly understood because these conditions are rare and require a kidney*

biopsy for diagnosis. In this study of 1,912 Canadian patients with biopsy-proven IgA nephropathy, minimal change disease, focal segmental glomerulosclerosis, and membranous nephropathy, the rate of cardiovascular events was 2.5 times higher than in the general population and was high for each disease type. Consideration of disease type, kidney function, and proteinuria improved the prediction of cardiovascular events.

- 45. Ahmed S, Massicotte-Azarniouch D, Canney M, Booth C, Blanco P, Hundemer GL.** The value of repeat kidney biopsy during an atypical course of membranous nephropathy. *BMC Nephrol.* 2022 Jul 7;23(1):240. doi: 10.1186/s12882-022-02863-y. PMID: 35799179; PMCID: PMC9260970.

Plain-Language Summary: *The clinical trajectory for patients with primary membranous glomerulonephritis (GN) ranges widely from spontaneous remission to a rapid decline in kidney function. This manuscript describes the clinical course of a young patient who initially developed a typical presentation of membranous nephropathy with consistent kidney biopsy findings. A six month observation period was undertaken prior to initiating immunosuppressive medication. During this observation period, the patient developed pneumonia followed by a sudden, rapid decline in kidney function requiring dialysis. A second kidney biopsy revealed “post-infectious glomerulonephritis” superimposed upon membranous GN. Immunosuppressive therapy resulted in a favorable long-term outcome with normalization of kidney function. This case illustrates the value of repeat kidney biopsy during an atypical course of membranous GN.*

- 46. Hundemer GL, Sood MM, Canney M.** Recent updates in kidney risk prediction modeling: novel approaches and earlier outcomes. *Curr Opin Nephrol Hypertens.* 2023 May 1;32(3):257-262. doi: 10.1097/MNH.0000000000000879. Epub 2023 Feb 22. PMID: 36811630.

Plain-Language Summary: *This review summarizes recent advances in the development of kidney risk prediction models. The manuscript highlights the recent advances in machine learning to establish risk prediction, and notes a growing trend toward prediction of earlier kidney outcomes (e.g., incident chronic kidney disease [CKD]) and away from a sole focus on kidney failure. These models may enhance prediction and benefit a broader patient population.*

- 47. Chan RJ, Helmeczi W, Canney M, Clark EG.** Management of Intermittent Hemodialysis in the Critically Ill Patient. *Clin J Am Soc Nephrol.* 2023 Feb 1;18(2):245-255. doi: 10.2215/CJN.04000422. Epub 2023 Jan 26. PMID: 35840348.

Plain-Language Summary: *Intermittent hemodialysis (e.g. 3 times per week) remains a cornerstone of kidney replacement therapy in the intensive care unit for patients with*

acute kidney injury. This manuscript reviews the use of intermittent hemodialysis in critically ill patients and emphasizes the important complication of hemodynamic instability (low blood pressure and tissue perfusion), which is often amplified in these patients due to multi-organ dysfunction. To prevent this complication, evidence exists (albeit weak) for cooling the dialysate and raising the dialysate sodium concentration. Thus, there is an urgent need to test strategies to combat hemodynamic instability during hemodialysis in this vulnerable patient population, in well-designed clinical trials.

- 48. Deacon E, Canney M, McCormick B, Brown P, Biyani M, Zimmerman D.** Predictors of serum vancomycin levels in peritoneal dialysis-associated peritonitis. *Perit Dial Int.* 2023 Jan;43(1):45-52. doi: 10.1177/08968608221134980. Epub 2022 Nov 9. PMID: 36350011.
Plain-Language Summary: *Intraperitoneal (IP) vancomycin is often first-line therapy for peritoneal dialysis (PD) peritonitis; however, optimal dosing remains unclear. This was a study of 58 adult patients with PD peritonitis treated with IP vancomycin. Surprisingly, despite receiving 2-g vancomycin loading dose for suspected PD peritonitis, one-third of the patients had sub-therapeutic levels of vancomycin on day 3. The authors conclude that consideration of residual kidney function and weight-based dosing could improve the likelihood of achieving an early therapeutic level.*
- 49. Canney M, Clark EG.** Risk-Based Thresholds for Hemodialysis Ultrafiltration Rates: A Warning Signal or a Call to Action? *Clin J Am Soc Nephrol.* 2023 Jun 1;18(6):693-695. doi: 10.2215/CJN.000000000000181. Epub 2023 May 10. PMID: 37163611.
Plain-Language Summary: *This Editorial by Drs. Canney and Clark reviewed a research study in the Clinical Journal of the American Society of Nephrology that examined the relationship between ultrafiltration rates (rate of fluid removal), and the risk of mortality in 396,358 adult patients on chronic hemodialysis in the Fresenius Medical Care System between 2015 to 2020.*
- 50. Hundemer GL, Imsirovic H, Visram A, McCurdy A, Knoll G, Biyani M, Canney M, Massicotte-Azarniouch D, Tanuseputro P, McCudden C, Sood MM, Akbari A.** The Association Between the Urine Protein-to-Albumin Gap and the Diagnosis of Multiple Myeloma: A Population-Based Retrospective Cohort Study. *Am J Kidney Dis.* 2023 Jun;81(6):732-734. doi: 10.1053/j.ajkd.2022.11.008. Epub 2022 Dec 28. PMID: 36586559.
Plain-Language Summary: *Multiple myeloma is a form of bone marrow cancer that frequently impacts the kidneys, with up to half of patients presenting with reduced kidney function at diagnosis. The discrepancy between the urinary protein-creatinine ratio (UPCR) and urinary albumin-creatinine ratio (UACR) has been used as a surrogate*

screen for multiple myeloma, since the condition can lead to excretion of light chain protein fragments, rather than albumin. This retrospective study of Ontario residents by Dr. Hundemer and colleagues showed that among individuals with UPCR >50 mg/mmol, the risk for myeloma was significantly higher for urine protein-to-albumin gap greater than ~50 mg/mmol (~4-fold higher risk). These results may guide clinicians who use UPCR-UACR discrepancy as a screen for potential multiple myeloma in cases of kidney dysfunction of unclear cause.

- 51. Canney M, Clark EG, Hiremath S.** Biomarkers in acute kidney injury: On the cusp of a new era? *J Clin Invest.* 2023 Jul 3;133(13):e171431. doi: 10.1172/JCI171431. PMID: 37395275.

Plain-Language Summary: The field of nephrology has been slow in moving beyond the utilization of “creatinine” as a marker of chronic kidney disease and acute kidney injury (AKI). This commentary by Drs. Canney and colleagues in the prestigious “Journal of Clinical Investigation” reviews a novel study (Moledina DG et al.) that established a chemokine called C-X-C motif ligand 9 (CXCL9) as a potential biomarker of acute interstitial nephritis (AIN), a relatively common cause of AKI that sometimes occurs as a result of a drug allergy. Urine proteomics and tissue transcriptomics were used in patients with and without AIN to identify CXCL9 as a promising, noninvasive diagnostic biomarker of AIN.

- 52. Hussain J, Grubic N, Akbari A, Canney M, Elliott MJ, Ravani P, Tanuseputro P, Clark EG, Hundemer GL, Ramsay T, Tangri N, Knoll GA, Sood MM.** Associations between modest reductions in kidney function and adverse outcomes in young adults: retrospective, population based cohort study. *BMJ.* 2023 Jun 22;381:e075062. doi: 10.1136/bmj-2023-075062. PMID: 37353230; PMCID: PMC10286512.

Plain-Language Summary: This large adult population-based retrospective study showed that modest reductions in kidney function (i.e. reduced eGFR) were consistently associated with higher rates of adverse outcomes, including mortality, cardiovascular disease, and kidney failure. Risk was most prominent in younger adults, compared with older groups. The findings suggest a role for more frequent monitoring of kidney function in younger adults to identify individuals at risk to prevent chronic kidney disease and its complications.

- 53. Wald R, Beaubien-Souligny W, Chanchlani R, Clark EG, Neyra JA, Ostermann M, Silver SA, Vaara S, Zarbock A, Bagshaw SM.** Delivering optimal renal replacement therapy to critically ill patients with acute kidney injury. *Intensive Care Med.* 2022 Oct;48(10):1368-1381. doi: 10.1007/s00134-022-06851-6. Epub 2022 Sep 6. PMID: 36066597.

54. Macdonald DB, Hurrell C, Costa AF, McInnes MDF, O'Malley ME, Barrett B, **Brown PA, Clark EG**, Hadjivassiliou A, Kirkpatrick IDC, Rempel JL, Jeon PM, **Hiremath S**. Canadian Association of Radiologists Guidance on Contrast Associated Acute Kidney Injury. *Can Assoc Radiol J*. 2022 Aug;73(3):499-514. doi: 10.1177/08465371221083970. Epub 2022 May 24. PMID: 35608223.

Plain-Language Summary: *Iodinated contrast media (ICM) is one of the most frequently administered pharmaceuticals. Acute kidney injury (AKI) occurring after ICM administration was historically considered a common complication which was managed by screening patients, prophylactic strategies, and follow up evaluation of kidney function. The Canadian Association of Radiologists initially published guidelines on the prevention of contrast induced nephropathy in 2007, with an update in 2012. However, new developments in the field have led to the availability of safer contrast agents and changes in clinical practice. This revised guidance document was developed by a multidisciplinary group of radiologists and nephrologists, and summarizes changes in practice related to contrast administration, screening, and risk stratification. For example, the document does not recommend oral or intravenous hydration for patients with eGFR >30 mL/min/1.73m² (i.e. CKD stage 3 or less), receiving intravenous or intra-arterial ICM. For patients with eGFR ≤30 mL/min/1.73m², receiving intravenous ICM, there is a lack of evidence on benefit of oral or iv hydration. Hence the working group makes no recommendation in this regard; institutions may choose practices best suited to their local environments. For patients with eGFR ≤30 mL/min/1.73m², receiving intra-arterial ICM, some members of the working group endorsed a strategy of hydration and volume expansion using either intravenous hydration (with .9% saline or 1.26% sodium bicarbonate) or oral salt and water. The manuscript is a joint publication in the Canadian Association of Radiologists Journal and Canadian Journal of Kidney Health and Disease, intended to inform both communities of practice.*

55. Magner K, Ilin JV, **Clark EG**, Kong JWY, Davis A, **Hiremath S**. Meta-analytic Techniques to Assess the Association Between N-acetylcysteine and Acute Kidney Injury After Contrast Administration: A Systematic Review and Meta-analysis. *JAMA Netw Open*. 2022 Jul 1;5(7):e2220671. doi: 10.1001/jamanetworkopen.2022.20671. PMID: 35788669; PMCID: PMC9257561.

Plain-Language Summary: *Multiple clinical trials have assessed the use of N-acetylcysteine (NAC, or “mucomyst”) for prevention of contrast-induced acute kidney injury (CI-AKI), with contradictory results. Recent trials suggest a lack of benefit. This “meta-analysis” of 101 clinical trials showed some evidence that NAC use prevented CI-AKI. However, because of substantial biases and variabilities in study methods, a spurious, or factitious association is possible. When the analysis was restricted to trials*

with a large sample size or to trials with clinical outcomes, the protective effect of NAC use appears to be neutral, or insignificant.

- 56. Clark EG, Vijayan A.** Intensive RRT for AKI: Dial Down Your Enthusiasm! *Kidney360*. 2022 Jun 3;3(8):1439-1441. doi: 10.34067/KID.0000972022. PMID: 36176669; PMCID: PMC9416838.

Plain-Language Summary: There is a widely held belief among nephrologists and intensive care physicians that “more is better” as it pertains to dose of dialysis in the management of acute kidney injury (AKI). However, multicenter randomized controlled trials have shown that higher dialysis dosing (e.g. continuous renal replacement (CRRT) effluent rates > 20–25 ml/kg per hour or intermittent hemodialysis (IHD) > than three times per week (single pool Kt/V urea of 1.3 per session) does not improve clinical outcomes. In this perspective, the authors dispel the purported benefits of high intensity dialysis in AKI while highlighting the detrimental consequences, including low phosphate levels and delayed recovery of kidney function.

- 57. Cecilia Farfan Ruiz A, Sriperumbuduri S, Shaw JLV, Clark EG.** High-Anion-Gap Metabolic Acidosis During a Prolonged Hospitalization Following Perforated Diverticulitis: An Educational Case Report. *Can J Kidney Health Dis*. 2022 Oct 28;9:20543581221129753. doi: 10.1177/20543581221129753. PMID: 36325264; PMCID: PMC9619282.

Plain-Language Summary: This case report describes a 56-year-old woman who had a prolonged hospital admission following perforated diverticulitis, sigmoid bowel resection and acute kidney injury. The patient developed a rare form of severe metabolic acidosis due to 5-oxoproline, related to cumulative doses of acetaminophen during her hospital stay. 5-oxoproline may accumulate in patients with depleted stores of glutathione, which may occur with malnutrition, older age, infection, or chronic kidney disease.

- 58. Meraz-Muñoz AY, Jeyakumar N, Luo B, Beaubien-Souligny W, Chanchlani R, Clark EG, Harel Z, Kitchlu A, Neyra JA, Zappitelli M, Chertow GM, Garg AX, Wald R, Silver SA.** Cardiovascular Drug Use After Acute Kidney Injury Among Hospitalized Patients With a History of Myocardial Infarction. *Kidney Int Rep*. 2022 Nov 2;8(2):294-304. doi: 10.1016/j.ekir.2022.10.027. PMID: 36815105; PMCID: PMC9939314.

- 59. Silver SA, Adhikari NK, Jeyakumar N, Luo B, Harel Z, Dixon SN, Brimble KS, Clark EG, Neyra JA, Vijayaraghavan BKT, Garg AX, Bell CM, Wald R.** Association of an Acute Kidney Injury Follow-up Clinic With Patient Outcomes and Care Processes: A Cohort Study. *Am J Kidney Dis*. 2023 May;81(5):554-563.e1. doi: 10.1053/j.ajkd.2022.10.011. Epub 2022 Dec 12. PMID: 36521779.

60. Luczynski P, Holmes T, Romanowski K, Arbiv OA, Cook VJ, **Clark EG**, Johnston JC. Risk of tuberculosis disease in people with chronic kidney disease without kidney failure: A systematic review and meta-analysis. *Clin Infect Dis*. 2023 Jun 13:ciad364. doi: 10.1093/cid/ciad364. Epub ahead of print. PMID: 37309679.

61. **Clark EG**, Vijayan A. How I prescribe prolonged intermittent renal replacement therapy. *Crit Care*. 2023 Mar 8;27(1):88. doi: 10.1186/s13054-023-04389-7. PMID: 36882851; PMCID: PMC9992907.

Plain-Language Summary: *Prolonged Intermittent Renal Replacement Therapy (PIRRT) is the term used to define 'hybrid' forms of renal replacement therapy. PIRRT can be provided using an intermittent hemodialysis machine or a continuous renal replacement therapy (CRRT) machine. Treatments are for a longer duration than typical intermittent hemodialysis treatments (6-12 h vs. 3-4 h, respectively) but not 24 h per day as is done for CRRT. Usually, PIRRT treatments are provided 4 to 7 times per week. PIRRT is a cost-effective and flexible dialysis modality for critically ill patients. Drs. Clark and Vijayan present a brief review on the use of PIRRT in the ICU with a focus on how it is prescribed.*

62. **Clark EG**, Vijayan A. Reply to: "Is Prolonged Intermittent Renal Replacement Therapy actually safe for hemodynamically unstable patients?". *Crit Care*. 2023 Apr 29;27(1):165. doi: 10.1186/s13054-023-04459-w. PMID: 37120551; PMCID: PMC10148414.

Plain-Language Summary: *The authors respond to concerns raised about the potential adverse effects of low-dose acetate accumulation in patients receiving sustained low efficiency dialysis (SLED). Based on the current evidence and their clinical experience, they conclude that prolonged intermittent renal replacement therapy, including SLED, should be considered a safe option for hemodynamically unstable patients.*

63. **Clark EG**, James MT, **Hiremath S**, **Sood MM**, Wald R, Garg AX, Silver SA, Tan Z, van Walraven C. Predictive Models for Kidney Recovery and Death in Patients Continuing Dialysis as Outpatients after Starting in Hospital. *Clin J Am Soc Nephrol*. 2023 Apr 18. doi: 10.2215/CJN.000000000000173. Epub ahead of print. PMID: 37071648.

Plain-Language Summary: *In patients who initiate dialysis during a hospital admission and continue to require dialysis after discharge, the likelihood of recovery to dialysis independence or the risk of death within one year remain unclear. Dr. Clark and colleagues derived and validated models to predict recovery to dialysis independence and death within 1 year of hospital discharge, using a population-based cohort of 7657 patients in Ontario. The models generated accurate expected probabilities of recovery to dialysis independence and death in patients who continued outpatient dialysis after initiating dialysis in hospital. An online tool of the models is available at https://qxmd.com/calculate/calculator_874.*

64. Ledoux-Hutchinson L, Wald R, Malbrain MLNG, Carrier FM, Bagshaw SM, Bellomo R, Adhikari NKJ, Gallagher M, Silver SA, Bouchard J, Connor MJ Jr, **Clark EG**, Côté JM, Neyra JA, Denault A, Beaubien-Souligny W. Fluid Management for Critically Ill Patients with Acute Kidney Injury Receiving Kidney Replacement Therapy: An International Survey. *Clin J Am Soc Nephrol*. 2023 Jun 1;18(6):705-715. doi: 10.2215/CJN.000000000000157. Epub 2023 Mar 28. PMID: 36975194.

65. Giguère P, Deschenes MJ, Loon MV, Hoar S, **Fairhead T, Pazhekattu R, Knoll G, Karpinski J, Parikh N**, McDougall J, McGuinty M, **Hiremath S**. Management and Outcome of COVID-19 Infection Using Nirmatrelvir/Ritonavir in Kidney Transplant Patients. *Clin J Am Soc Nephrol*. 2023 Apr 26;18(7):913–9. doi: 10.2215/CJN.000000000000186. Epub ahead of print. PMID: 37099447; PMCID: PMC10356141.

Plain-Language Summary: *The antiviral drugs nirmatrelvir/ritonavir reduce the risk of COVID-19 related complications in patients at high risk for severe COVID-19. However, there is limited experience with use of nirmatrelvir/ritonavir in kidney transplant recipients, at least partly due to the complex drug interactions with calcineurin inhibitors (e.g. tacrolimus). This study describes 51 kidney transplant recipients who received nirmatrelvir/ritonavir between April and June 2022 at The Ottawa Hospital, and who were followed up 30 days after completion of treatment. Withholding tacrolimus starting the day before nirmatrelvir/ritonavir, with resumption 3 days after completion of therapy resulted in a low incidence of supratherapeutic levels but a short period of subtherapeutic levels for many patients. Acute kidney injury (AKI) was infrequent, and there were no episodes of acute rejection, or other complications.*

66. **Glavinovic T**, Thanassoulis G, de Graaf J, Couture P, Hegele RA, Sniderman AD. Physiological Bases for the Superiority of Apolipoprotein B Over Low-Density Lipoprotein Cholesterol and Non-High-Density Lipoprotein Cholesterol as a Marker of Cardiovascular Risk. *J Am Heart Assoc*. 2022 Oct 18;11(20):e025858. doi: 10.1161/JAHA.122.025858. Epub 2022 Oct 10. PMID: 36216435; PMCID: PMC9673669.

Plain-Language Summary: *This comprehensive review provides a framework for health care providers to understand why apolipoprotein B (apoB) is a more accurate marker of cardiovascular risk than low-density lipoprotein cholesterol (LDL-C) or non-high-density lipoprotein cholesterol.*

67. Matthews N, **Glavinovic T**, David E, Auguste B. A case of severe bleeding and deep inferior epigastric pseudoaneurysm after peritoneal dialysis catheter removal. *Perit Dial Int*. 2023 Jan;43(1):104-107. doi: 10.1177/08968608221075106. Epub 2022 Mar 4. PMID: 35240878.

68. Tsao CW, Aday AW, Almarzooq ZI, Anderson CAM, Arora P, Avery CL, Baker-Smith CM, Beaton AZ, Boehme AK, Buxton AE, Commodore-Mensah Y, Elkind MSV, Evenson KR, Eze-Nliam C, Fugar S, Generoso G, Heard DG, **Hiremath S**, Ho JE, Kalani R, Kazi DS, Ko D, Levine DA, Liu J, Ma J, Magnani JW, Michos ED, Mussolino ME, Navaneethan SD, Parikh NI, Poudel R, Rezk-Hanna M, Roth GA, Shah NS, St-Onge MP, Thacker EL, Virani SS, Voeks JH, Wang NY, Wong ND, Wong SS, Yaffe K, Martin SS; American Heart Association Council on Epidemiology and Prevention Statistics Committee and Stroke Statistics Subcommittee. Heart Disease and Stroke Statistics-2023 Update: A Report From the American Heart Association. *Circulation*. 2023 Feb 21;147(8):e93-e621. doi: 10.1161/CIR.0000000000001123. Epub 2023 Jan 25. Erratum in: *Circulation*. 2023 Feb 21;147(8):e622. PMID: 36695182.

69. **Hiremath S**. Renalism. *CMAJ*. 2022 Aug 2;194(29):E1040. doi: 10.1503/cmaj.146430-l. PMID: 35918093; PMCID: PMC9481255.

Plain-Language Summary: “Renalism” is the term used to describe why patients with kidney disease often wait longer for effective treatments to reach them –i.e. many clinical trials evaluating drugs or interventions exclude patients with kidney disease because of drug dosing concerns. Here, Dr. Hiremath notes that a recent CMAJ article regarding nirmatrelvir–ritonavir for COVID-19 inaccurately stated that this treatment is contraindicated for people with an estimated glomerular filtration rate (eGFR) of less than 30, based on data. Rather, there is a lack of data on this subject. Many nephrologists are using nirmatrelvir–ritonavir in patients with chronic kidney disease, without adverse effects. He notes that “more careful language would help to minimize delayed access to this therapy for patients who are at high risk of COVID-19 and who have a high case fatality rate.”

70. Chellappan A, Kermond R, Caza T, Teakell J, **Hiremath S**. Steroids for IgA Nephropathy: A #NephJC Editorial on the TESTING trial. *Kidney Med*. 2022 Nov 1;4(12):100565. doi: 10.1016/j.xkme.2022.100565. PMID: 36438023; PMCID: PMC9681628.

Plain-Language Summary: This NephJC editorial highlights the results of The Therapeutic Evaluation of Steroids in IgA Nephropathy Global (TESTING) trial, which examined the effect of oral methylprednisolone compared to placebo in high-risk IgA nephropathy patients (with ≥ 1 g proteinuria), and summarizes key points from the NephJC TweetChat. The trial found that fewer patients treated with corticosteroids reached the composite endpoint of a 40% decrease in estimated glomerular filtration rate (eGFR) or kidney failure. Firm conclusions regarding efficacy could not be made as the trial was halted early, due to an increase in serious adverse events including infections and deaths in the steroid-treated patients. However, after the tweetchat nearly 60% of participants felt that the final results of the TESTING trial would make

them consider use of 'low-dose' steroids with antibiotic prophylaxis. Of note, the lower dose of steroids used in TESTING would still mean 35-40 mg prednisone/day for an average 70 kg individual.

- 71.** Krishnan A, Popa C, John P, **Hiremath S**, Willows J, Teakell J. Plasma Exchange in Patients With ANCA-Associated Vasculitis: A #NephJC Editorial on a comPLEX Question. *Kidney Med.* 2022 Aug 25;4(10):100541. doi: 10.1016/j.xkme.2022.100541. PMID: 36159167; PMCID: PMC9490195.
- 72.** Bajpai D, Willows JK, Topf JM, **Hiremath S**. User-generated social media content in knowledge dissemination. *Kidney Int.* 2022 Dec;102(6):1428-1429. doi: 10.1016/j.kint.2022.09.019. PMID: 36411022.
- Plain-Language Summary:*** *The authors describe recent innovations in nephrology social media platforms that enhance user engagement and opportunities for medical education (e.g. visual abstracts, memes, blogs, hashtags, newsletters, tweetorials, videos, tweetchats, podcasts). They express the hope that “social media and free open access medical education get incorporated in future models of knowledge translation strategies”.*
- 73.** Obeid W, **Hiremath S**, Topf JM. Protein Restriction for CKD: Time to Move On. *Kidney360.* 2022 Jun 22;3(9):1611-1615. doi: 10.34067/KID.0001002022. PMID: 36245656; PMCID: PMC9528378.
- 74.** Billa V, Noronha S, Bichu S, Kothari J, Kumar R, Mehta K, Jamale T, Bhasin N, Thakare S, Sinha S, Sheth G, Rangaraj N, Pai V, Venugopal A, Toraskar A, Virani Z, Trivedi M, Bajpai D, Khot S, Sirsat R, Almeida A, Hase N, Sundaram, Hariharan, **Hiremath S**, Chahal IS; 'Project Victory' consortium. A Unified Citywide Dashboard for Allocation and Scheduling Dialysis for COVID-19 Patients on Maintenance Hemodialysis. *Indian J Nephrol.* 2022 May-Jun;32(3):197-205. doi: 10.4103/ijn.IJN_48_21. Epub 2022 Jan 5. PMID: 35814318; PMCID: PMC9267080.
- 75.** Elliott MJ, Ravani P, Quinn RR, Oliver MJ, Love S, MacRae J, **Hiremath S**, Friesen S, James MT, King-Shier KM. Patient and Clinician Perspectives on Shared Decision Making in Vascular Access Selection: A Qualitative Study. *Am J Kidney Dis.* 2023 Jan;81(1):48-58.e1. doi: 10.1053/j.ajkd.2022.05.016. Epub 2022 Jul 20. PMID: 35870570.
- 76.** Thanabalasingam S, Popa C, Arora N, **Hiremath S**, Teakell J. Renin-Angiotensin System Inhibitors in Advanced CKD: a #NephJC Editorial on STOP-ACEi. *Kidney Med.* 2023 Mar 25;5(5):100633. doi: 10.1016/j.xkme.2023.100633. PMID: 37229445; PMCID: PMC10202771.
- 77.** Nissaisorakarn V, Ormseth G, Earle W, Morales-Alvarez MC, **Hiremath S**, Juraschek SP. Less sodium, more potassium, or both: population-wide strategies to prevent

hypertension. *Am J Physiol Renal Physiol*. 2023 Jul 1;325(1):F99-F104. doi: 10.1152/ajprenal.00007.2023. Epub 2023 Jun 1. PMID: 37262087.

- 78. Hiremath S, Hundemer GL.** Evidence and Uncertainties Surrounding Renin-Guided Medical Therapy for Primary Aldosteronism. *Am J Hypertens*. 2023 Apr 15;hpad034. doi: 10.1093/ajh/hpad034. Epub ahead of print. PMID: 37061828.

Plain-Language Summary: *Primary aldosteronism (PA) is a common, yet vastly underdiagnosed cause of hypertension. PA can be treated by prescription of mineralocorticoid receptor antagonists (MRA), which are readily available, safe, and yet underutilized. Drs. Hiremath and Hundemer review a research study by Mansur et al. in the Am J Hypertension, which suggests that targeting a rise in plasma renin level can be used as a marker of effectiveness of MRA treatment in PA. Several studies have now shown consistent benefit to this approach. The authors suggest that future PA guidelines should consider including renin, along with the traditional measures of blood pressure and potassium, as simple targets to guide optimal medical management of PA.*

- 79.** Cowan AC, Clemens KK, Sontrop JM, Dixon SN, Killin L, Anderson S, Acedillo RR, Bagga A, Bohm C, **Brown PA**, Cote B, Dev V, Harris C, **Hiremath S**, Kiaii M, Lacson E Jr, Molnar AO, Oliver MJ, Parmar MS, McRae JM, Nathoo B, Quinn K, Shah N, Silver SA, Tascona DJ, Thompson S, Ting RH, Tonelli M, Vorster H, Wadehra DB, Wald R, Wolf M, Garg AX. Magnesium and Fracture Risk in the General Population and Patients Receiving Dialysis: A Narrative Review. *Can J Kidney Health Dis*. 2023 Feb 17;10:20543581231154183. doi: 10.1177/20543581231154183. PMID: 36814964; PMCID: PMC9940170.

- 80. Hiremath S,** Blake PG, Yeung A, McGuinty M, Thomas D, Ip J, **Brown PA**, Pandes M, Burke A, Sohail QZ, To K, Blackwell L, Oliver M, Jain AK, Chagla Z, Cooper R. Early Experience with Modified Dose Nirmatrelvir/Ritonavir in Dialysis Patients with Coronavirus Disease 2019. *Clin J Am Soc Nephrol*. 2023 Apr 1;18(4):485-490. doi: 10.2215/CJN.000000000000107. Epub 2023 Mar 1. PMID: 36723285.

Plain-Language Summary: *Dr. Hiremath and colleagues developed a modified low-dose regimen of nirmatrelvir/ritonavir and treated 134 dialysis patients who developed COVID-19 with the modified dose regimen during a 60-day period between April 1 and May 31, 2022. Most patients (128, 96%) were able to complete the course of nirmatrelvir/ritonavir, and none of the patients who received nirmatrelvir/ritonavir died of COVID-19 in the 30 days of follow-up. Thus, a modified dose of nirmatrelvir/ritonavir was found to be safe and well tolerated in chronic hemodialysis patients, with no serious adverse events.*

81. Bourque G, Ilin JV, Ruzicka M, Hundemer GL, Shorr R, Hiremath S. Nonadherence Is Common in Patients With Apparent Resistant Hypertension: A Systematic Review and Meta-analysis. *Am J Hypertens.* 2023 Jun 15;36(7):394-403. doi: 10.1093/ajh/hpad013. PMID: 36715101.

Plain-Language Summary: *The prevalence of medication nonadherence in patients with resistant hypertension (RH) (i.e. uncontrolled high blood pressure despite concurrent prescription of 3 medicines at maximally tolerated doses) ranges from 5% to 80% in the published literature. This manuscript by Dr. Bourque and colleagues reviewed all the medical literature on medication nonadherence in resistant hypertension, encompassing a total of 42 studies and 71,353 patients. The pooled prevalence of nonadherence was 37% of patients. Indirect methods (such as pill counts or questionnaires) were found to be insufficient for diagnosis of nonadherence, whereas direct methods (such as direct observed therapy or urine assays) significantly increased detection. Thus, the prevalence of nonadherence to medication is very high in patients with resistant hypertension.*

82. Klamrowski MM, Klein R, McCudden C, Green JR, Ramsay T, Rashidi B, White CA, Oliver MJ, Akbari A, Hundemer GL. Short Timeframe Prediction of Kidney Failure among Patients with Advanced Chronic Kidney Disease. *Clin Chem.* 2023 Oct 3;69(10):1163-1173. doi: 10.1093/clinchem/hvad112. PMID: 37522430.

Plain-Language Summary: *Development of kidney failure risk prediction model that applies over a short time frame (6-12 months) may improve transitions of patients from advanced chronic kidney disease (CKD) to kidney failure. Drs. Akbari, Hundemer and colleagues used machine learning and time-updated data to develop a model to predict risk of kidney failure in 1757 patients with advanced CKD (average eGFR 18 ml/min/1.73 m²). The model demonstrated improved accuracy compared to traditional models that do not incorporate time-dependent variables. Unplanned dialysis occurs at a very high rate (approximately half of all dialysis starts). Thus, improved short timeframe kidney failure risk prediction will likely benefit patients and the health care system by reducing the frequency of unplanned dialysis.*

83. Hundemer GL, Ravani P, Sood MM, Zimmerman D, Molnar AO, Moorman D, Oliver MJ, White C, Hiremath S, Akbari A. Social determinants of health and the transition from advanced chronic kidney disease to kidney failure. *Nephrol Dial Transplant.* 2023 Jun 30;38(7):1682-1690. doi: 10.1093/ndt/gfac302. PMID: 36316015; PMCID: PMC10310519.

Plain-Language Summary: *The transition from chronic kidney disease (CKD) to kidney failure is a vulnerable time for patients, with suboptimal transitions associated with increased morbidity and mortality. Whether social determinants of health such as*

education level, employment status, and marital status affect the transition from CKD to kidney failure is not clear. Dr. Hundemer and colleagues addressed this question by reviewing 1070 patients with advanced CKD who were referred to The Ottawa Hospital Multi-Care Kidney Clinic and who developed kidney failure (dialysis or kidney transplantation) between 2010 and 2021. The results showed that not having a high school degree was associated with higher chance for an inpatient dialysis start (i.e. an “urgent” or “unplanned” start) compared with having a college degree. Unemployment was associated with higher chance for an inpatient dialysis start, lower odds for pre-emptive dialysis access creation and lower odds for pre-emptive kidney transplantation compared with active employment. Being single was associated with higher odds for an inpatient dialysis start and lower odds for pre-emptive dialysis access creation compared with being married. Thus, social determinants of health, including education, employment and marital status, are associated with suboptimal transitions from CKD to kidney failure.

84. Chen ZF, Zhang L, Carrington AM, Thornhill R, Miguel O, Auriat AM, Omid-Fard N, **Hiremath S**, Tshemeister Abitbul V, Dowlatshahi D, Demchuk A, Gladstone D, Morotti A, Casetta I, Fainardi E, Huynh T, Elkabouli M, Talbot Z, Melkus G, Aviv RI. Clinical Features, Non-Contrast CT Radiomic and Radiological Signs in Models for the Prediction of Hematoma Expansion in Intracerebral Hemorrhage. *Can Assoc Radiol J*. 2023 Apr 18;8465371231168383. doi: 10.1177/08465371231168383. Epub ahead of print. PMID: 37070854.
85. Vaidya A, **Hundemer GL**, Nanba K, Parksook WW, Brown JM. Primary Aldosteronism: State-of-the-Art Review. *Am J Hypertens*. 2022 Dec 8;35(12):967-988. doi: 10.1093/ajh/hpac079. PMID: 35767459; PMCID: PMC9729786.
86. Leung AA, Symonds CJ, **Hundemer GL**, Ronksley PE, Lorenzetti DL, Pasiaka JL, Harvey A, Kline GA. Performance of Confirmatory Tests for Diagnosing Primary Aldosteronism: a Systematic Review and Meta-Analysis. *Hypertension*. 2022 Aug;79(8):1835-1844. doi: 10.1161/HYPERTENSIONAHA.122.19377. Epub 2022 Jun 2. PMID: 35652330; PMCID: PMC9278709.
87. Dubrofsky L, **Hundemer GL**. Screening for primary aldosteronism in primary care. *CMAJ*. 2023 Mar 20;195(11):E410. doi: 10.1503/cmaj.221466. PMID: 37072231; PMCID: PMC10120582.

Plain-Language Summary: The authors provide recommendations for the screening of primary aldosteronism by measurement of plasma renin and aldosterone levels. Primary aldosteronism is an increasingly recognized cause of hypertension, and one that is associated with an increased risk of cardiovascular and kidney disease.

- 88. Noel AJ**, Eddeen AB, Manuel DG, Rhodes E, Tangri N, **Hundemer GL**, Tanuseputro P, **Knoll GA**, Mallick R, **Sood MM**. A Health Survey-Based Prediction Equation for Incident CKD. *Clin J Am Soc Nephrol*. 2023 Jan 1;18(1):28-35. doi: 10.2215/CJN.0000000000000035. PMID: 36720027.
- Plain-Language Summary:*** Prediction tools that incorporate self-reported health information could increase chronic kidney disease (CKD) awareness. In this study, the authors developed and validated a prediction equation to identify individuals at risk for incident CKD (eGFR <60 ml/min per 1.73 m²). Among Ontario individuals (mean age, 55 years; 58% women) with normal kidney function, new-onset CKD occurred in 9% during a median follow-up time of 4.2 years. The final models included lifestyle factors (smoking, alcohol use, physical activity) and illnesses (diabetes, hypertension, cancer). Self-reported lifestyle and health behavior information may aid in predicting development of CKD.
- 89. Hundemer GL**, Imsirovic H, Kendzerska T, Vaidya A, Leung AA, Kline GA, Goupil R, Madore F, Agharazii M, **Knoll G**, **Sood MM**. Screening for Primary Aldosteronism Among Hypertensive Adults with Obstructive Sleep Apnea: A Retrospective Population-Based Study. *Am J Hypertens*. 2023 Jun 15;36(7):363-371. doi: 10.1093/ajh/hpad022. PMID: 36827468; PMCID: PMC10267649.
- Plain-Language Summary:*** The presence of hypertension plus obstructive sleep apnea (OSA) is generally considered as an indication to screen for the condition “primary aldosteronism” (PA), which is increasingly common. However, it remains unknown if this screening recommendation is being implemented in clinical practice. This study identified 53,130 adults with both hypertension and OSA in Ontario from 2009 to 2020, of which only 634 (1.2%) underwent PA screening. Further education of primary care providers and specialists is required to improve the very low uptake of this screening recommendation.
- 90. Goupil R**, Nadeau-Fredette AC, Prasad B, **Hundemer GL**, Suri RS, Beaubien-Souligny W, Agharazii M. CENTral blood pressure Targeting: a pragmatic RAndomized trial in advanced Chronic Kidney Disease (CENTRAL-CKD): A Clinical Research Protocol. *Can J Kidney Health Dis*. 2023 May 6;10:20543581231172407. doi: 10.1177/20543581231172407. PMID: 37168686; PMCID: PMC10164859.
- 91. Farfan Ruiz AC**, Mallick R, Rhodes E, **Clark E**, **Hundemer G**, Karaboyas A, Robinson B, Pecoits R, **Sood MM**. Adverse Gastrointestinal Events With Sodium Polystyrene Sulfonate Use in Patients on Maintenance Hemodialysis: An International Cohort Study. *Can J Kidney Health Dis*. 2023 Jun 21;10:20543581231172405. doi: 10.1177/20543581231172405. PMID: 37359984; PMCID: PMC10288443.

Plain-Language Summary: *There are concerns regarding the gastrointestinal (GI) safety of sodium polystyrene sulfonate (SPS, “kayexalate”), a medication commonly used in the management of hyperkalemia. This study reviewed the use of SPS in an international cohort of 50,147 adults on chronic hemodialysis. 13.4% of patients had a prescription for SPS, and its use was not associated with a higher risk of an adverse GI event. The findings suggest that SPS use is safe in an international cohort of maintenance hemodialysis patients.*

- 92.** Wang TF, Grubic N, Carrier M, Canney M, Delluc A, **Hundemer GL, Knoll G**, Lazo-Langner A, **Massicotte-Azarniouch D**, Tanuseputro P, **Sood MM**. Risk of venous thromboembolism or hemorrhage among individuals with chronic kidney disease on prophylactic anticoagulant after hip or knee arthroplasty. *Am J Hematol*. 2023 Jun 21. doi: 10.1002/ajh.26994. Epub ahead of print. PMID: 37340812.

Plain-Language Summary: *Chronic kidney disease (CKD) carries an increased risk of both thrombosis (clotting) and bleeding, compared to people without CKD. However, the optimal choice of postoperative medications to prevent thrombosis in patients with CKD is unknown. Here, the authors conducted a retrospective study of adults ≥66 years old with CKD undergoing hip or knee arthroplasty surgery who had filled an outpatient prophylactic anticoagulant prescription between 2010 and 2020 in Ontario. Among patients with CKD, use of direct oral anticoagulants (DOACs) was associated with a lower risk of venous thromboembolism, but a higher risk of bleeding complications, compared to use of low molecular weight heparin (LMWH) following hip or knee arthroplasty.*

- 93.** **Madken M**, Mallick R, Rhodes E, Mahdavi R, Bader Eddeen A, **Hundemer GL**, Kelly DM, Karaboyas A, Robinson B, Bieber B, Molnar AO, Badve SV, Tanuseputro P, **Knoll G, Sood MM**. Development and Validation of a Predictive Risk Algorithm for Bleeding in Individuals on Long-term Hemodialysis: An International Prospective Cohort Study (BLEED-HD). *Can J Kidney Health Dis*. 2023 Jun 22;10:20543581231169610. doi: 10.1177/20543581231169610. PMID: 37377481; PMCID: PMC10291537.

Plain-Language Summary: *In this study using data from > 50,000 patients in 15 countries, the authors developed and validated a prediction equation to identify patients on chronic hemodialysis at high risk of bleeding. The equation included 6 variables: age, sex, country, previous gastrointestinal bleeding, prosthetic heart valve, and vitamin K antagonist use (e.g. warfarin, or coumadin). This simple risk equation may help identify patients on hemodialysis who are at highest risk of bleeding complications.*

- 94.** Probyn L, Bentley H, Taylor J, **Karpinski J**. Transforming Postgraduate Diagnostic Radiology Training in Canada: Launching Competence by Design. *Can Assoc Radiol J*.

2023 Feb;74(1):217-218. doi: 10.1177/08465371221115254. Epub 2022 Aug 4. PMID: 35926136.

Plain-Language Summary: *The Royal College of Physicians and Surgeons of Canada (RCPSC) has initiated “Competence by Design” (CBD), which integrates Competency-Based Medical Education by assessment of with traditional time-based postgraduate medical education (PGME) training. The purpose is to achieve new standards of medical education in Canada through performance-based outcomes of training. This report describes the launch of CBD in Diagnostic Radiology, which began in July 2022 for incoming first-year residents in the 16 Diagnostic Radiology programs in Canada.*

95. Ngamvichchukorn T, Ruengorn C, Noppakun K, Thavorn K, Hutton B, **Sood MM, Knoll GA**, Nochaiwong S. Association Between Pretransplant Dialysis Modality and Kidney Transplant Outcomes: A Systematic Review and Meta-analysis. *JAMA Netw Open.* 2022 Oct 3;5(10):e2237580. doi: 10.1001/jamanetworkopen.2022.37580. PMID: 36264575; PMCID: PMC9585427.

96. Massicotte-Azarniouch D, Sood MM, Fergusson DA, Chassé M, Tinmouth A, **Knoll GA**. The association of venous thromboembolism with blood transfusion in kidney transplant patients. *Transfusion.* 2022 Dec;62(12):2480-2489. doi: 10.1111/trf.17154. Epub 2022 Nov 3. PMID: 36325656.

Plain-Language Summary: *In this retrospective study of 1258 kidney transplant recipients between 2002 and 2018, Dr. Massicotte-Azarniouch and colleagues found that the risks for developing deep vein thrombosis or pulmonary embolism were significantly increased in patients receiving red blood cell transfusions after transplant. Receipt of transfusions after transplant should prompt judicious monitoring and assessment for thrombosis.*

97. Garg AX, Arnold JB, Cuerden M, Dipchand C, Feldman LS, Gill JS, Karpinski M, Klarenbach S, **Knoll GA**, Lok C, Miller M, Monroy-Cuadros M, Nguan C, Prasad GVR, Sontrop JM, Storsley L, Boudville N. The Living Kidney Donor Safety Study: Protocol of a Prospective Cohort Study. *Can J Kidney Health Dis.* 2022 Oct 28;9:20543581221129442. doi: 10.1177/20543581221129442. PMID: 36325263; PMCID: PMC9619271.

98. Muanda FT, **Sood MM**, Weir MA, Sontrop JM, Ahmadi F, Yoo E, Kim RB, Silverman MS, **Knoll GA**, Garg AX. Association of Higher-Dose Fluoroquinolone Therapy With Serious Adverse Events in Older Adults With Advanced Chronic Kidney Disease. *JAMA Netw Open.* 2022 Aug 1;5(8):e2224892. doi: 10.1001/jamanetworkopen.2022.24892. PMID: 35917124; PMCID: PMC9346548.

99. Naylor KL, Kim SJ, Smith G, McArthur E, Kwong JC, Dixon SN, Treleaven D, **Knoll GA**. Effectiveness of first, second, and third COVID-19 vaccine doses in solid organ transplant

recipients: A population-based cohort study from Canada. *Am J Transplant*. 2022 Sep;22(9):2228-2236. doi: 10.1111/ajt.17095. Epub 2022 Jun 1. PMID: 35578576; PMC ID: PMC9347443.

Plain-Language Summary: *Dr. Knoll and colleagues conducted a population-based cohort study using linked healthcare databases from Ontario to determine the effectiveness of a third COVID-19 vaccine dose in 12,842 solid organ transplant recipients from December 2020 to November 2021. Vaccine effectiveness against infection was 31%, 46%, and 72% for one, two, and three doses, respectively. Thus, vaccine effectiveness in solid organ transplant recipients is lower than the general population but improves following a third dose.*

100. Yohanna S, Naylor KL, Luo B, Dixon SN, Bota SE, Kim SJ, Blake PG, Elliott L, Cooper R, **Knoll GA**, Treleaven D, Wang C, Garg AX. Variation in Kidney Transplant Referral Across Chronic Kidney Disease Programs in Ontario, Canada. *Can J Kidney Health Dis*. 2023 Jun 14;10:20543581231169608. doi: 10.1177/20543581231169608. PMID: 37359986; PMCID: PMC10286544.

101. Karnabi P, **Massicotte-Azarniouch D**, Ritchie LJ, Marshall S, **Knoll GA**. Physical Frailty and Functional Status in Patients With Advanced Chronic Kidney Disease: A Systematic Review. *Can J Kidney Health Dis*. 2023 Jun 22;10:20543581231181026. doi: 10.1177/20543581231181026. PMID: 37377480; PMCID: PMC10291542.

Plain-Language Summary: *Frailty is a common finding in patient with chronic kidney disease (CKD) and may result in adverse health outcomes. With an aging population and growing number of patients with CKD, integrating the latest risk factors when deciding on a treatment plan can result in better patient care. This manuscript reviewed 140 studies that involved assessment/measures of frailty, with most studies performed in patients on dialysis treatments. Frailty and lower functional status were associated with an increased risk for adverse clinical outcomes such as mortality and hospitalization. The authors conclude that frailty and functional status measures should be integrated to help guide clinical care decision making.*

102. Lam NN, Quinn RR, Clarke A, Al-Wahsh H, **Knoll GA**, Tibbles LA, Kamar F, Jeong R, Kiberd J, Ravani P. Progression of Kidney Disease in Kidney Transplant Recipients With a Failing Graft: A Matched Cohort Study. *Can J Kidney Health Dis*. 2023 Jun 1;10:20543581231177203. doi: 10.1177/20543581231177203. PMID: 37313362; PMCID: PMC10259097.

103. Neves Briard J, Nitulescu R, Lemoine É, Titova P, McIntyre L, English SW, **Knoll G**, Shemie SD, Martin C, Turgeon AF, Lauzier F, Fergusson DA, Chassé M. Diagnostic accuracy of ancillary tests for death by neurologic criteria: a systematic review and meta-analysis. *Can J Anaesth*. 2023 Apr;70(4):736-748. doi: 10.1007/s12630-023-02426-1. Epub 2023 May 8. PMID: 37155120; PMCID: PMC10202988.

104. Horton A, Loban K, Nugus P, Fortin MC, Gunaratnam L, **Knoll G**, Mucsi I, Chaudhury P, Landsberg D, Paquet M, Cantarovich M, Sandal S. Health System-Level Barriers to Living Donor Kidney Transplantation: Protocol for a Comparative Case Study Analysis. *JMIR Res Protoc*. 2023 Mar 7;12:e44172. doi: 10.2196/44172. PMID: 36881454; PMCID: PMC10031444.

105. Saha MK, **Massicotte-Azarniouch D**, Reynolds ML, Mottl AK, Falk RJ, Jennette JC, Derebail VK. Glomerular Hematuria and the Utility of Urine Microscopy: A Review. *Am J Kidney Dis*. 2022 Sep;80(3):383-392. doi: 10.1053/j.ajkd.2022.02.022. Epub 2022 Jun 29. PMID: 35777984.

106. **Massicotte-Azarniouch D**, Kotzen E, Todd S, Hu Y, Hogan SL, Jain K. Kidney thrombotic microangiopathy in lupus nephritis: Impact on treatment and prognosis. *Lupus*. 2022 Sep;31(10):1175-1185. doi: 10.1177/09612033221106301. Epub 2022 Jun 1. PMID: 35650019; PMCID: PMC9449430.

Plain-Language Summary: Systemic lupus erythematosus (SLE, “lupus”) can affect the kidneys in several ways. One type of glomerular injury seen on kidney biopsy in lupus is called “thrombotic microangiopathy” (TMA), although the impact of this diagnosis is unclear. This study examined the prognostic importance of TMA on kidney biopsy in lupus, including response to therapy and long-term outcomes. In this case-control series, of 45 patients with lupus who had kidney biopsies, 17 had TMA. Patients with lupus nephritis due to TMA responded to therapy similarly to those without TMA, and the risk for kidney failure was not significantly increased compared to lupus patients without TMA on biopsy. However, more studies are needed to determine the impact of proteinuria and baseline kidney function on long-term outcomes in patients with lupus nephritis due to TMA.

107. **Massicotte-Azarniouch D**, Detwiler RK, Hu Y, Falk RJ, Saha MK, Hogan SL, Derebail VK. Malignancy risk in kidney transplant recipients exposed to immunosuppression pre-transplant for the treatment of glomerulonephritis. *Nephrol Dial Transplant*. 2022 Dec 22:gfac337. doi: 10.1093/ndt/gfac337. Epub ahead of print. PMID: 36549661.

Plain-Language Summary: Patients with chronic kidney disease due to glomerulonephritis (GN) may receive significant amounts of pre-transplant immunosuppressive medications, which could increase the risk for development of cancers post-transplant. This study compared patients with GN as their native kidney disease who received immunosuppression for treatment of GN (n = 184) to a control cohort (n = 579) of non-diabetic kidney transplant patients who had not received immunosuppression pre-transplant. The first occurrence of solid or hematologic malignancy, non-melanoma skin cancer, or post-transplant lymphoproliferative disorder

was recorded. The results showed that the use of immunosuppressive medication for treatment of GN, especially cyclophosphamide or even with rituximab, was associated with increased risk for solid tumours or hematologic malignancy post-transplant. These data highlight potential risks with treatment of GN and underscore the importance of post-transplant cancer surveillance in this patient population.

108. Turgeon D, Bakowsky V, Baldwin C, Cabral DA, Clements-Baker M, Clifford A, Cohen Tervaert JW, Dehghan N, Ennis D, Famorca L, Fifi-Mah A, Girard LP, Lefebvre F, Liang P, Makhzoum JP, **Massicotte-Azarniouch D**, Mendel A, Milman N, Reich HN, Robinson DB, Ross C, Rumsey DG, Soowamber M, Towheed TE, Trudeau J, Twilt M, Yacyshyn E, Yardimci GK, Khalidi N, Barra L, Pagnoux C. CanVasc consensus recommendations for the use of avacopan in antineutrophil cytoplasm antibody-associated vasculitis: 2022 addendum. *Rheumatology (Oxford)*. 2023 Feb 21:kead087. doi: 10.1093/rheumatology/kead087. Epub ahead of print. PMID: 36805625.

109. **Chan RJ**, McCudden C, **McCormick B**, **Zimmerman D**. A Diagnostic Dilemma "Cured" by Dialysis: An Educational Case Report. *Can J Kidney Health Dis*. 2023 Jun 1;10:20543581231177841. doi: 10.1177/20543581231177841. PMID: 37313364; PMCID: PMC10259106.

Plain-Language Summary: This is a case report of a 60-year-old man with a history of substance use and kidney failure treated with chronic hemodialysis. He presented to hospital with confusion and hypothermia. He was found to have a severe metabolic acidosis of unclear cause, although he had elevated lactate levels, and an initial toxic screen was negative. His condition rapidly improved with a single hemodialysis treatment. A possible toxic ingestion with metformin was suspected, and this was confirmed by blood analysis, which revealed high levels, even though this medication was never prescribed for the patient. It was presumed that he had taken medications that were prescribed to a roommate. Metformin is readily dialyzable and toxicity should be considered in cases where other causes of high anion gap metabolic acidosis have been ruled out.

110. Cosmatos A, **McCormick B**, Blew B, **Brown PA**. Pre-Peritoneal Dialysis Peritonitis After Saline Infusion Sonohysterogram in a Patient With an Embedded Catheter: A Case Report. *Can J Kidney Health Dis*. 2023 Feb 17;10:20543581231156854. doi: 10.1177/20543581231156854. PMID: 36814965; PMCID: PMC9940227.

Plain-Language Summary: This is a case report of a 48-year old woman with chronic kidney disease, with an embedded peritoneal catheter, in preparation for eventual peritoneal dialysis (PD). She developed peritonitis 2 weeks after saline infusion sonohysterography, even though the PD catheter remained embedded. The case

highlights the possibility of peritonitis in patients with embedded PD catheters. Antibiotic prophylaxis should be used in patients with embedded catheters in the same manner as for PD patients prior to obstetrical, gynecological, or gastrointestinal procedures.

- 111.** Epstein M, Kovesdy CP, Clase CM, **Sood MM**, Pecoits-Filho R. Aldosterone, Mineralocorticoid Receptor Activation, and CKD: A Review of Evolving Treatment Paradigms. *Am J Kidney Dis.* 2022 Nov;80(5):658-666. doi: 10.1053/j.ajkd.2022.04.016. Epub 2022 Sep 1. PMID: 36057467.
- 112.** Grams ME, Brunskill NJ, Ballew SH, Sang Y, Coresh J, Matsushita K, Surapaneni A, Bell S, Carrero JJ, Chodick G, Evans M, Heerspink HJL, Inker LA, Iseki K, Kalra PA, Kirchner HL, Lee BJ, Levin A, Major RW, Medcalf J, Nadkarni GN, Naimark DMJ, Ricardo AC, Sawhney S, **Sood MM**, Staplin N, Stempniewicz N, Stengel B, Sumida K, Traynor JP, van den Brand J, Wen CP, Woodward M, Yang JW, Wang AY, Tangri N; CKD Prognosis Consortium. Development and Validation of Prediction Models of Adverse Kidney Outcomes in the Population With and Without Diabetes. *Diabetes Care.* 2022 Sep 1;45(9):2055-2063. doi: 10.2337/dc22-0698. PMID: 35856507; PMCID: PMC9472501.
- 113.** Nochaiwong S, Ruengorn C, Awiphan R, Chai-Adisaksopha C, Tantraworasin A, Phosuya C, Kanjanarat P, Chongruksut W, **Sood MM**, Thavorn K. Use of serotonin reuptake inhibitor antidepressants and the risk of bleeding complications in patients on anticoagulant or antiplatelet agents: a systematic review and meta-analysis. *Ann Med.* 2022 Dec;54(1):80-97. doi: 10.1080/07853890.2021.2017474. PMID: 34955074; PMCID: PMC8725830.
- 114.** Molnar AO, Bota SE, Naylor K, Nash DM, Smith G, Suri RS, **Sood MM**, Gomes T, Garg AX. Opioid prescribing practices in chronic kidney disease: a population-based cohort study. *Nephrol Dial Transplant.* 2022 Nov 23;37(12):2408-2417. doi: 10.1093/ndt/gfab343. PMID: 34888696.
- 115.** Wilson J, Tanuseputro P, Myran DT, Dhaliwal S, Hussain J, Tang P, Noor S, Roberts RL, Solmi M, **Sood MM**. Characterization of Problematic Alcohol Use Among Physicians: A Systematic Review. *JAMA Netw Open.* 2022 Dec 1;5(12):e2244679. doi: 10.1001/jamanetworkopen.2022.44679. PMID: 36484992; PMCID: PMC9856419.

Plain-Language Summary: *The objective of this review paper by Dr. Sood and colleagues was to determine the extent of problematic alcohol use in physicians and how it differs by physician sex, age, medical specialty, and career stage (eg, residency training vs practicing physician). Thirty-one studies involving 51,680 participants in 17 countries published between January 2006 and March 2020 were included in the analysis. Seven of 19 studies (37%) identified that problematic alcohol use was more common in males than females. However, based on the wide variation of methods for included studies,*

limited conclusions can be made on how problematic alcohol use varies based on physician age, sex, specialty, and career stage.

- 116.** Carrero JJ, Fu EL, Vestergaard SV, Jensen SK, Gasparini A, Mahalingasivam V, Bell S, Birn H, Heide-Jørgensen U, Clase CM, Cleary F, Coresh J, Dekker FW, Gansevoort RT, Hemmelgarn BR, Jager KJ, Jafar TH, Kovesdy CP, **Sood MM**, Stengel B, Christiansen CF, Iwagami M, Nitsch D. Defining measures of kidney function in observational studies using routine health care data: methodological and reporting considerations. *Kidney Int.* 2023 Jan;103(1):53-69. doi: 10.1016/j.kint.2022.09.020. Epub 2022 Oct 22. PMID: 36280224.
- 117.** Burton JO, Coats AJS, Kovesdy CP, Palmer BF, Piña IL, Rosano G, **Sood MM**, Zieroth S. An international Delphi consensus regarding best practice recommendations for hyperkalaemia across the cardiorenal spectrum. *Eur J Heart Fail.* 2022 Sep;24(9):1467-1477. doi: 10.1002/ejhf.2612. Epub 2022 Aug 4. Erratum in: *Eur J Heart Fail.* 2023 Mar;25(3):444. PMID: 35791065; PMCID: PMC9804940.
- 118.** Liu CW, Jeyakumar N, McArthur E, Sontrop JM, Myran DT, Schwartz KL, **Sood MM**, Tanuseputro P, Garg AX. SARS-CoV-2 testing, infection and outcomes among Ontario physicians: a descriptive population-based cohort study. *CMAJ Open.* 2022 Jul 19;10(3):E657-E665. doi: 10.9778/cmajo.20210263. PMID: 35853660; PMCID: PMC9313000.
- 119.** Rhodes E, Kendall C, Talarico R, Muggah E, Gerin-Lajoie C, Simon C, McFadden T, Myran D, **Sood MM**, Tanuseputro P. Primary Care Physician Use and Frequency of Visits Among Physicians in Ontario, Canada. *JAMA Netw Open.* 2022 Aug 1;5(8):e2227662. doi: 10.1001/jamanetworkopen.2022.27662. PMID: 35984659; PMCID: PMC9391953.
- 120.** Fernando SM, Scott M, Talarico R, Fan E, Mclsaac DI, **Sood MM**, Myran DT, Herridge MS, Needham DM, Hodgson CL, Rochweg B, Munshi L, Wilcox ME, Bienvenu OJ, MacLaren G, Fowler RA, Scales DC, Ferguson ND, Combes A, Slutsky AS, Brodie D, Tanuseputro P, Kyeremanteng K. Association of Extracorporeal Membrane Oxygenation With New Mental Health Diagnoses in Adult Survivors of Critical Illness. *JAMA.* 2022 Nov 8;328(18):1827-1836. doi: 10.1001/jama.2022.17714. PMID: 36286084; PMCID: PMC9608013.
- 121.** Seale E, Reaume M, Batista R, Eddeen AB, Roberts R, Rhodes E, Mclsaac DI, Kendall CE, **Sood MM**, Prud'homme D, Tanuseputro P. Patient-physician language concordance and quality and safety outcomes among frail home care recipients admitted to hospital in Ontario, Canada. *CMAJ.* 2022 Jul 11;194(26):E899-E908. doi: 10.1503/cmaj.212155. PMID: 35817434; PMCID: PMC9328476.
- 122.** Sundström J, Bodegard J, Bollmann A, Vervloet MG, Mark PB, Karasik A, Taveira-Gomes T, Botana M, Birkeland KI, Thuresson M, Jäger L, **Sood MM**, VanPottelbergh G, Tangri N; CaReMe CKD Investigators. Prevalence, outcomes, and cost of chronic kidney

disease in a contemporary population of 2.4 million patients from 11 countries: The CaReMe CKD study. *Lancet Reg Health Eur*. 2022 Jun 30;20:100438. doi: 10.1016/j.lanepe.2022.100438. PMID: 36090671; PMCID: PMC9459126.

- 123.** Jun M, Scaria A, Andrade J, Badve SV, Birks P, Bota SE, Campain A, Djurdjev O, Garg AX, Ha J, Harel Z, Hemmelgarn B, Hockham C, James MT, Jardine MJ, Levin A, McArthur E, Ravani P, Shao S, **Sood MM**, Tan Z, Tangri N, Whitlock R, Gallagher M. Kidney function and the comparative effectiveness and safety of direct oral anticoagulants versus warfarin in adults with atrial fibrillation: a multicenter observational study. *Eur Heart J Qual Care Clin Outcomes*. 2022 Oct 27:qcac069. doi: 10.1093/ehjqcco/qcac069. Epub ahead of print. PMID: 36302143.
- 124.** Fernando SM, Pugliese M, Mclsaac DI, Qureshi D, Talarico R, **Sood MM**, Myran DT, Herridge MS, Needham DM, Munshi L, Rochweg B, Fiest KM, Milani C, Kisilewicz M, Bienvenu OJ, Brodie D, Fan E, Fowler RA, Ferguson ND, Scales DC, Wunsch H, Tanuseputro P, Kyeremanteng K. Outpatient Mental Health Follow-up and Recurrent Self-harm and Suicide Among Patients Admitted to the ICU for Self-harm: A Population-based Cohort Study. *Chest*. 2023 Apr;163(4):815-825. doi: 10.1016/j.chest.2022.10.021. Epub 2022. Oct 29. PMID: 36445799.
- 125.** Beckerleg W, Kobewka D, Wijeyesundera DN, **Sood MM**, Mclsaac DI. Association of Preoperative Medical Consultation With Reduction in Adverse Postoperative Outcomes and Use of Processes of Care Among Residents of Ontario, Canada. *JAMA Intern Med*. 2023 May 1;183(5):470-478. doi: 10.1001/jamainternmed.2023.0325. PMID: 36972037; PMCID: PMC10043801.
- 126.** Burton JO, Allum AM, Amin A, Linde C, Lesén E, Mellström C, Eudicone JM, **Sood MM**. Rationale and design of CONTINUITY: a Phase 4 randomized controlled trial of continued post-discharge sodium zirconium cyclosilicate treatment versus standard of care for hyperkalemia in chronic kidney disease. *Clin Kidney J*. 2023 Mar 23;16(7):1160-1169. doi: 10.1093/ckj/sfad053. PMID: 37398685; PMCID: PMC10310508.
Plain-Language Summary: *Individuals with chronic kidney disease (CKD) hospitalized with high blood potassium (hyperkalemia) are at risk of hyperkalemia recurrence and re-hospitalization. Dr. Sood and colleagues present the rationale and design of CONTINUITY, a Phase 4 randomized multicentre clinical trial that will examine the effect of continuing sodium zirconium cyclosilicate -an oral, highly selective potassium binder- compared with standard of care on blood potassium levels, re-hospitalization rates, and resource use among participants with CKD hospitalized with hyperkalemia.*
- 127.** Yau K, Jeyakumar N, Kang Y, Dixon SN, Freeman M, Garg AX, Harel Z, **Sood MM**, Thomas A, Wald R, Silver SA. Association of Primary Versus Rotating Nephrologist Model of Care in Hemodialysis Programs with Patient Outcomes. *J Am Soc Nephrol*. 2023 Jul

1;34(7):1155-1158. doi: 10.1681/ASN.0000000000000133. Epub 2023 Apr 5. PMID: 37022115.

- 128.** Myran DT, Roberts R, McArthur E, Jeyakumar N, Hensel JM, Kendall C, Gerin-Lajoie C, McFadden T, Simon C, Garg AX, **Sood MM**, Tanuseputro P. Mental health and addiction health service use by physicians compared to non-physicians before and during the COVID-19 pandemic: A population-based cohort study in Ontario, Canada. *PLoS Med.* 2023 Apr 18;20(4):e1004187. doi: 10.1371/journal.pmed.1004187. PMID: 37071611; PMCID: PMC10112788.
- 129.** Myran D, Milani C, Pugliese M, Hensel JM, **Sood M**, Kendall CE, Kendzerska T, Tanuseputro P. Physician benzodiazepine self-use prior to and during the COVID-19 pandemic in Ontario, Canada: a population-level cohort study. *BMJ Open.* 2023 Apr 21;13(4):e062742. doi: 10.1136/bmjopen-2022-062742. PMID: 37085307.
- 130.** Grams ME, Brunskill NJ, Ballew SH, Sang Y, Coresh J, Matsushita K, Surapaneni A, Bell S, Carrero JJ, Chodick G, Evans M, Heerspink HJL, Inker LA, Iseki K, Kalra PA, Kirchner HL, Lee BJ, Levin A, Major RW, Medcalf J, Nadkarni GN, Naimark DMJ, Ricardo AC, Sawhney S, **Sood MM**, Staplin N, Stempniewicz N, Stengel B, Sumida K, Traynor JP, van den Brand J, Wen CP, Woodward M, Yang JW, Wang AY, Tangri N. The Kidney Failure Risk Equation: Evaluation of Novel Input Variables including eGFR Estimated Using the CKD-EPI 2021 Equation in 59 Cohorts. *J Am Soc Nephrol.* 2023 Mar 1;34(3):482-494. doi: 10.1681/ASN.0000000000000050. Epub 2023 Jan 26. PMID: 36857500.
- 131.** Harasemiw O, Nayak JG, Grubic N, Ferguson TW, **Sood MM**, Tangri N. A Predictive Model for Kidney Failure After Nephrectomy for Localized Kidney Cancer: The Kidney Cancer Risk Equation. *Am J Kidney Dis.* 2023 Jun 30:S0272-6386(23)00695-9. doi: 10.1053/j.ajkd.2023.06.002. Epub ahead of print. PMID: 37394174.
- 132.** Naveed K, Goldberg N, Shore E, Dhoot A, Gabrielson D, Goodarzi Z, Lin Y, Pai M, Pardy NA, Robinson S, Andreou R, **Sood M**, Price V, Storm S, Verduyn A, Parker ML, Fralick M, Beriault D, Sholzberg M. Defining ferritin clinical decision limits to improve diagnosis and treatment of iron deficiency: A modified Delphi study. *Int J Lab Hematol.* 2023 Jan 5. doi: 10.1111/ijlh.14016.
- 133.** Bennett N, Bohm C, Yee-Moon Wang, A, Kanjanabuch T, Figueiredo A E, Harasemiw O, Brown L, Gabrys I, Jegatheesan D, Lambert K, Lightfoot CJ, MacRae J, Scholes-Robertson N, Stewart K, Tarca B, Verdin N, Warren M, West M, **Zimmerman D**, Funderup J, Thompson S. An International Survey of Peritoneal Dialysis Exercise Practices and Perceptions. *Kidney Int Rep.* May, 2023. <https://doi.org/10.1016/j.ekir.2023.04.024>.
- 134.** Holden RM, Booth SL, **Zimmerman D**, Moist L, Norman P, Day AG, Menard A, Fu X, Shea MK, Babiolkakis CS, Nolan R, Turner ME, Ward E, Kaufmann M, Adams MA, Heyland DK. Inhibit Progression of Coronary Artery Calcification with Vitamin K in

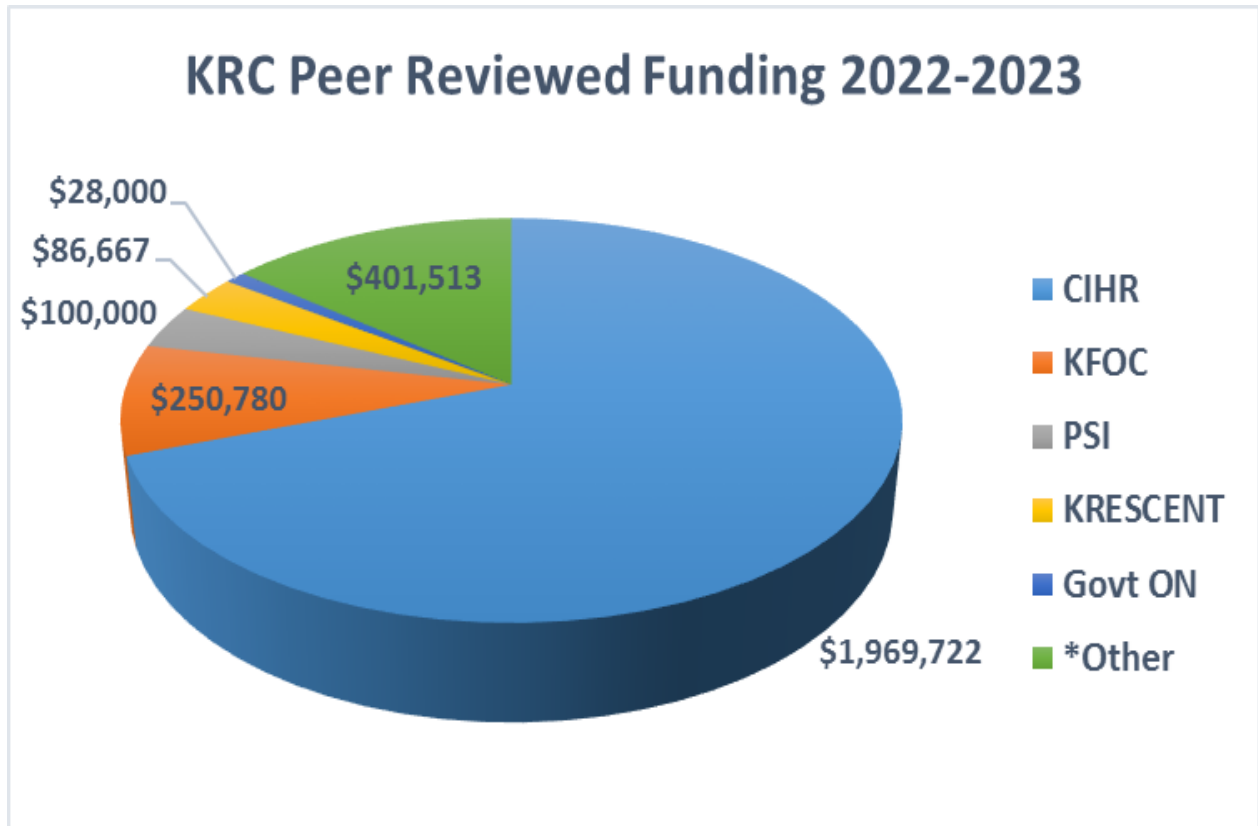
Hemodialysis Patients (The iPACK-HD Study): A randomized, placebo-controlled multi-centre, pilot trial. *Neph Dial Transplant*. 01 Feb, 2023 38(3): 746-756. gfac191. Doi: 10.1093/ndt/gfac191. PMID: 35641194.

- 135.** Mancini GBJ, O’Meara E, Zieroth S, Bernier M, Cheng AYY, Cherney DZI, Connelly KA, Ezekowitz J, Goldenberg RM, Leiter LA, Nesrallah G, Paty BW, Piche ME, Senior P, Sharma A, Verma S, Woo V, Darras P, Gregoire J, Lonn E, Stone JA, Yale JF, Yeung C, **Zimmerman D**. 2022 Canadian Cardiovascular Society Guideline for Use of GLP-1 Receptor Agonists and SGLT2 Inhibitors for Cardiorenal Risk Reduction in Adults. *Can J Cardiol* Aug 2022. 38 (8); 1153-1167. <https://doi.org/10.1016/j.cjca.2022.04.029>.

Plain-Language Summary: *This is a comprehensive guideline manuscript that reviews clinical trial data supporting the role of glucagon-like peptide-1 receptor agonists (e.g. “Ozempic”) and sodium-glucose co-transporter 2 inhibitors (“flozins”) for treatment of heart failure, chronic kidney disease, and for prevention of morbidity and mortality in patients with type 2 diabetes. Practical advice is provided for safe use of these diabetes-associated agents, which have been demonstrated to have profound benefits on heart and kidney function.*

- 136.** Bennett PN, Bohm C, Yee-Moon Wang A, Kanjanabuch T, Figueiredo AE, Harasemiw O, Brown L, Gabrys I, Jegatheesan D, Lambert K, Lightfoot CJ, MacRae J, Scholes-Robertson N, Stewart K, Tarca B, Verdin N, Warren M, West M, **Zimmerman D**, Finderup J, Ford E, Ribeiro HS, Xu Q, Thompson S. An International Survey of Peritoneal Dialysis Exercise Practices and Perceptions. *Kidney Int Rep*. (2023), doi: <https://doi.org/10.1016/j.ekir.2023.04.024>.

KRC GRANT FUNDING



Pie chart depicts peer reviewed research funding to KRC for “Principal Investigators” on grants, for the one-year period from 2022-2023.

CIHR: Canadian Institutes of Health Research: \$1,969,722 (as Principle Investigators [PIs])

KFOC: Kidney Foundation of Canada: \$250,780 (as PIs)

PSI: Physician Services Incorporated: \$100,000 (as PIs)

KRESCENT: Kidney Research Core Education and National Training Program: \$86,667 (as PIs)

Govt. Ont.: Government of Ontario Early Researcher Award (Dr. Burger): \$28,000(as PIs)

***Other:** National Research Council of Canada (NRC), The Ottawa Hospital Academic Medical Organization (TOHAMO), Dept. of Medicine, Canadian Society of Transplantation (CST), Joan Sealey Trust for Cancer Research, Lotte and John Hecht Memorial Foundation: \$401,513 (as PIs)

Total Peer Reviewed Grant Funding as Principle Investigators: \$2,836,682 (for 2022-2023)

RESEARCH GRANTS

BASIC RESEARCH

Dylan Burger, PhD

1. **Title:** *“Role of neutrophil extracellular traps in diabetic kidney disease”*
Agency: Kidney Foundation of Canada (KFOC) (Health Research Grant 2022-2024)
Role: Principal Investigator
Amount: \$100,000
2. **Title:** *“Microparticles in Diabetes”*
Agency: Government of Ontario-Early Researcher Award:(2018-2023)
Role: Principal Investigator
Amount: \$140,000
3. **Title:** *“Assessment of circulating microparticles for prediction of venous thromboembolism in cancer”*
Agency: Joan Sealey Trust for Cancer Research
Role: Co-Principal investigator (with Dr. Phil Wells)
Amount: \$35,000
4. **Title:** *“The maternal endothelium in gestational diabetes mellitus”*
Agency: Canadian Institutes of Health Research
Role: Nominated PI, TOH/OHRI, Baiju Shah (Co-PI, U of Toronto), Vernon Dolinsky (Co-PI, University of Manitoba)
Amount: \$860,000, 5 years, starting April 1, 2023
5. **Title:** **Molecular characterization of extracellular vesicles in Hutchinson-Gilford Progeria Syndrome (HGPS)**
Agency: NRC New Beginnings Initiative Grant
Role: Co-PI (Dr. Dylan Burger and Dr. Arsalan Haqqani (NRC))
Dates: March 2023-September 2024

Dr. Kevin D. Burns

1. **Title:** *“MicroRNA Transfer as Therapy for Acute Kidney Injury”*
Agency: CIHR (Project Grant, 2018-2023)
Role: Principal Investigator
Amount: \$742,050 total

- Title:** *“Host Response Mediators in Coronavirus (COVID-19) Infection - Is There a Protective Effect of ARBs on Outcomes of Coronavirus Infection? (ARBs CORONA II)”*

Agency: CIHR (2022)

Role: Co-investigator (Nominated Principal investigator, Dr. J. A. Russell)

Amount: \$3,456,541

- Title:** *“Kidney Research Scientist Core Education and Training Program: KRESCENT 2.0”*

Agency: CIHR, CSN, KFOC

Amount: \$2,399,987 (2021 to 2027)

Role: Co-principal applicant (Dr. Todd Alexander, University of Alberta, PI)

Unrestricted grants:

- Title:** *MicroRNA transfer in Acute Kidney Injury, and the role of miR-486-5p in endothelial injury*

Agency: The Jones Family Foundation, TOH Foundation

Role: Principal Investigator

Amount: \$200,000 from 2022-2023

Richard L. Hébert, PhD

- Title:** *“The effects of SGLT2 inhibition on renal PGE2 mediated transport in diabetes”*

Agency: Kidney Foundation of Canada (operating grant, 2022-2024)

Role: Principal Investigator

Amount: \$100,000

- Title:** *“PBI-4050 Reduces Renal Injury in a Mouse Model of Aristolochic Acid-Induced Nephropathy”*

Agency: Liminal BioSciences Inc. (2019-2024)

Role: Principal Investigator (Co-Principal Investigator, Dr. C.R.J. Kennedy)

Amount: \$875,000

Dr. Christopher RJ Kennedy

- Title:** *“The role of Nox5 in hypertension-associated renal injury”*

Agency: CIHR (2018-2023)

Role: Principal Investigator

Amount: \$822,375

- Title:** *Molecular “Mechanisms of Childhood Idiopathic Nephrotic Syndrome”*

Agency: Kidney Foundation of Canada
Role: Principal Investigator (with Dr. Dylan Burger)
Amount: \$120,000 (2023-2025)

CLINICAL RESEARCH

Dr. Ayub Akbari

1. **Title:** *“Artificial Intelligence for the Prevention of Unplanned Dialysis”*
Agency: Canadian Institute of Health Research (CIHR)
Role: Principal Applicant
Amount: \$195,000
2. **Title:** *“A Virtual Community Promoting Mental Health, Psychosocial Adjustment and Peer Support (vCHAT) for patients living with increased risk for COVID-19”*
Agency: CIHR
Role: Co-investigator
Amount: \$199,049
3. **Title:** *“The association of anemia with clinical outcomes in dialysis patients in Canada”*
Agency: Astra Zeneca (2020-2022)
Role: Principal Investigator
Amount: \$130,000
4. **Title:** *“Clinical Efficacy and Usability of an Automated Digital Counselling intervention for Patients with Chronic Kidney Disease”*
Agency: Canadian Institute of Health Research (CIHR)
Role: Co-Applicant (Oct. 2022-Oct. 2026)
Amount: \$ 466, 650

Unrestricted Grants

1. **Title:** *“Education and academic research in patients with ANCA vasculitis”.*
Agency: Otsuka
Role: Principal Investigator
Amount: \$74,101 (2024)
2. **Title:** *“Education and research in patients with severe kidney disease”.*
Agency: Otsuka
Role: Principal applicant
Amount: \$33,550 (2023)

Dr. Ann Bugeja

1. **Title:** *“Patient and Health System Outcomes of a One Day Living Kidney Donor Evaluation Process”*

Agency: Canadian Society of Transplantation (CST)/University Health Network (UHN) Amjera Transplant Program

Role: Principal Investigator

Amount: \$25,000

2. **Title:** *“Patient and Health System Outcomes of a One Day Living Kidney Donor Evaluation Process”*

Agency: The Ottawa Hospital Academic Medical Organization (TOHAMO)

Role: Principal Investigator

Amount: \$73,500

Dr. Mark Canney

1. **Title:** *“Improving cardiovascular risk prediction in patients with glomerular disease”*

Agency: CIHR (Project grant, 3 years)

Role: Co-Principal Investigator

Amount: \$235,385

2. **Title:** *“Gender-based barriers to referral for kidney transplantation in Canada”*

Agency: KFOC (Kidney Health Research Grant)

Role: Co-investigator

Amount: \$97,467 over 3 years

3. **Title:** *“Mind the Gap: Addressing Mental Health Care Gaps for Canadians Receiving Facility-Based Hemodialysis Can-SOLVE CKD 2.0”*

Agency: CIHR (SPOR initiative)

Role: Co-investigator

Amount: Pending

4. **Title:** *“Improving Cardiovascular Risk Stratification in Glomerular Disease”*

Agency: CIHR/Canadian Society of Nephrology/KFOC: KRESCENT New Investigator Award

Role: Principal Investigator

Amount: \$260,000 over 3 years (July 2022-2025)

Dr. Edward Clark

1. **Title:** *“Proactive prescription-based fluid management vs usual care in critically ill patients on Kidney Replacement Therapy”*

Agency: CIHR (Project grant 2022-2024)

Role: Co-investigator (Principal Investigators: Dr. W. Beaubien-Souligny, Dr. R. Wald, Dr. S. Bagshaw)

Amount: \$248,626

2. **Title:** *“Filling Knowledge Gaps for the Success of Ontario Renal Plan 3”*

Agency: CIHR (Project grant 2021-2026)

Role: Co-Principal Investigator (Nominated Principal Applicant: Dr. M. Weir)

Amount: \$1,143,676

3. **Title:** *“Albumin to Enhance Recovery from Severe Acute Kidney Injury”*

Agency: Kidney Foundation of Canada (KFOC) (Kidney Health Research Grant 2021-2023)

Role: Principal Investigator

Amount: \$100,000

4. **Title:** *“Albumin to Enhance Recovery from Severe Acute Kidney Injury: A Multi-Centre Pilot Trial (ALTER-AKI)”*

Agency: Physician Services Incorporated (PSI) Foundation (New Investigator Award, 2021-2024)

Role: Principal Investigator

Amount: \$300,000

5. **Title:** *“Development of novel techniques for non-invasive continuous cardiovascular monitoring for early detection and treatment of intradialytic hypotension”*

Agency: New Frontiers in Research Fund: 2022 Exploration (Tri-agency: CIHR/NSERC/SSHRC)
Role: PI (Co-PI: Prof. Samy Mahmoud (Carleton University))
Amount: \$250,000 over two years (March 31st, 2023 to March 30th, 2025)

Dr. Janet Davis

1. **Title:** *“A mixed methods process evaluation of two consultative, collaborative outpatient palliative care clinics for patients with End-Stage Kidney Disease on dialysis and patients with End-Stage Liver Disease.”*

Agency: TOHAMO

Role: Co-investigator (Bruni A (PI). Co-PIs: Warmels G, Isenberg SR. Co-Is: Cohen L, Dargavel G, Davis JL, Kelly EM)

Amount: \$99,500 (March 2023-March 2026)

Dr. Swapnil Hiremath

1. **Title:** *“Diet or additional supplement to increase potassium intake: An adaptive clinical trial”*

Agency: Lotte & John Hecht Memorial Foundation

Role: Co-Principal Investigator (with Dr. Marcel Ruzicka)

Amount: \$286,540

Dr. Greg Hundemer

1. **Title:** *“The Impact of Subclinical Primary Aldosteronism on Kidney Disease”*

Agency: Kidney Foundation of Canada: Kidney Health Research Grant (#851937-21KHRG) (2021-2024)

Role: Principal Investigator

Amount: \$122,340

2. **Title:** *“Subclinical Primary Aldosteronism”*

Agency: Department of Medicine, University of Ottawa Pilot Research Grant (2020 - 2022)

Role: Principal Investigator

Amount: \$48,000

3. **Title:** *“Characterizing Cardiovascular Outcomes in Subclinical Primary Aldosteronism”*

Agency: Canadian Institutes of Health Research (CIHR) (2021-2024)

Role: Principal Investigator

Amount: \$443,701

Dr. Greg Knoll

1. **Title:** *“Nicotinamide chemoprevention for keratinocyte carcinoma in solid organ transplant recipients: a multicentre, pragmatic randomized trial”*

Agency: CIHR (2022 – 2027)

Role: Co-Applicant (Nominated Principal Applicant: Dr. A. Chan)

Amount: \$810,900

2. **Title:** *“Filling Knowledge Gaps for the Success of Ontario Renal Plan 3”*

Agency: CIHR (2021-2026)

Role: Co-Applicant (Nominated Principal Applicant: Dr. M. Weir)

Amount: \$1,143,676

3. **Title:** *“Calcineurin Inhibitor in NEuRoLoGically deceased donors to decrease kidney delayed graft function trial (CINERGY)”*

Agency: CIHR (2021 – 2023)

Role: Co-Applicant (Nominated Principal Applicant: Dr. F. D'Aragon)

Amount: \$447,525

Dr. Marcel Ruzicka

1. **Title:** *“Diet or Additional Supplement to Increase Potassium Intake: An Adaptive Clinical Trial”*

Agency: Hecht Foundation

Role: Co-Principal Applicant (with Dr. Swapnil Hiremath)

Amount: \$286,540

2. **Title:** *“Metal-free Contrast Agents for Kidney Magnetic Resonance Imaging”*

Agency: CIHR

Role: Co-investigator

Amount: \$160,500

3. **Title:** *“Evaluating the effectiveness of commonly recommended heat-mitigation strategies for limiting heat strain in elderly adults during extreme heat events”*

Agency: CIHR

Role: Co-principal Investigator

Amount: \$952,425.

Dr. Manish Sood

1. **Title:** *“Artificial intelligence for the prevention of unplanned dialysis”*

Agency: CIHR (2022-2026)

Role: Co-investigator (Nominated Principal Investigator, Dr. G. Hundemer)

Amount: \$195,000

2. **Title:** *“Improving cardiovascular risk Prediction in patients with glomerular disease”*

Agency: CIHR (2022-2025)

Role: Co-investigator (Nominated Principal Investigator, Dr. S. Barbour)

Amount: \$236,385

3. **Title:** *“Examining the downstream health impacts associated with emergency room visits for alcohol intoxication in youth and young adults”*

Agency: CIHR (2022-2023)

Role: Co-investigator (Nominated Principal Applicant, Dr. P Tanuseputro)

Amount: \$100,000

4. **Title:** *“Reducing bleeding with DOACs in breast cancer patients: The STOP Bleed Cancer Study”*

Agency: CIHR (2021-2023)

Role: Co-investigator, with nominated co-PI Dr. T.F. Wang)

Amount: \$110,000

5. **Title:** *“Development, validation and dissemination of a survey-based prediction equation targeting the general public: PREDICT-CKD Lifestyle”*

Agency: Kidney Foundation of Canada (KFOC) (2020-2022)

Role: Co-investigator

Amount: \$111,967

6. **Title:** *“EPIphANY (Evaluation of Pharmacological Interactions with Anticoagulants in caNcer patients) program - prostate cancer cohort”*

Agency: CIHR

Role: Co-Principal Investigator

Amount: \$215,000 (2023-2025)

7. **Title:** *“The Impact of COVID-19 on Francophone and other Minority Language Groups Living in Long-term Care or Receiving Home Care”*

Agency: CIHR

Role: Co-Principal Investigator

Amount: \$725,000 (2023-2027)

8. **Title:** *“Cardiovascular Risk-Based Thresholds of Early Kidney Function Decline in Young and Middle-Aged Adults: Re(de)fine CKD”*

Agency: TOHAMO Innovation Fund

Role: Principal Investigator

Amount: \$99,500 (2023-2024)

9. **Title:** *“Generating data-driven policy solutions for Ontario’s primary care crisis”*

Agency: CIHR

Role: Co-investigator

Amount: \$149,690 (2023-2024)

10. **Title:** *“Examining the physician workforce in long-term care homes”*

Agency: CIHR

Role: Co-Principal Investigator

Amount: \$149,690 (2023-2024)

11. **Title:** *“The Impact of Language Concordant Care for Inpatient Terminal Cancer Patients”*

Agency: Association Medicale Universitaire Montfort (AMUM)

Role: Co-investigator

Amount: \$91,000 (2023-2024)

12. **Title:** *“Examining the downstream health impacts associated with emergency room visits for alcohol intoxication in youth and young adults”*

Agency: CIHR

Role: Co-investigator

Amount: \$100,000 (2022-2023)

Dr. Deborah Zimmerman

1. **Title:** *“Canada in the INcremental Dialysis to Improve Outcomes in People Starting Hemodialysis (CAN-INCH-HD) Study: A Randomized Controlled Trial”*

Agency: CIHR (2021-2026)

Role: Co-Principal Investigator (with Dr. C. Lok)

Amount: \$654,075

2. **Title:** *“A pragmatic randomized controlled trial of a CKD specific telemonitoring platform to minimize adverse outcomes in high risk CKD”.*

Agency: CIHR (2021-2023)

Role: Co-investigator (PI – Dr. Claudio Rigatto)

Amount: \$562,275

Unrestricted grants

1. **The Jones Family Foundation**

KRC INVESTIGATORS - INVITED PRESENTATIONS

DR. ANN BUGEJA

1. HYPERTENSIVE LIVE KIDNEY DONORS SHOULD BE ALLOWED TO DONATE, WADI N. SUKI SYMPOSIUM, HOUSTON METHODIST HOSPITAL
2. OBESITY AND LIVING KIDNEY DONATION. AMERICAN TRANSPLANT CONGRESS, BOSTON, U.S.A.
3. ACCEPTANCE OF LIVING KIDNEY DONOR CANDIDATES WITH HYPERTENSION, AMERICAN SOCIETY OF NEPHROLOGY, ORLANDO, FLORIDA, NOVEMBER 2022
4. ACCEPTANCE OF LIVING KIDNEY DONOR CANDIDATES WITH HYPERTENSION AND OBESITY, TRANSPLANT GRAND ROUNDS, EMORY UNIVERSITY, ATLANTA, GEORGIA, OCTOBER 2022

DR. DYLAN BURGER

GETTING YOUR PAPER PUBLISHED- WHAT NOT TO DO!. 29TH SCIENTIFIC MEETING OF THE INTERNATIONAL SOCIETY OF HYPERTENSION. OCTOBER 12, 2022

CONTROVERSIES IN ACADEMIA MINI-DEBATE. PRE-PRINTS IN ACADEMIC RESEARCH (PRO). 29TH SCIENTIFIC MEETING OF THE INTERNATIONAL SOCIETY OF HYPERTENSION. OCTOBER 15, 2022

EXTRACELLULAR VESICLES: BIOMARKERS AND BEYOND. 29TH SCIENTIFIC MEETING OF THE INTERNATIONAL SOCIETY OF HYPERTENSION. OCTOBER 13, 2022

DR. KEVIN D. BURNS

Protecting the Kidney From Ischemic AKI: From Cells to Exosomes to miRNA. M3K Meeting, Invited lecture, Montreal Quebec, April 21, 2023.

Lessons from a Career in Kidney Research: Grimes Award lecture, OHRI Research Retreat, Ottawa, ON, May 4, 2023.

DR. EDWARD CLARK

Intravenous Albumin for Intradialytic Hypotension in Critically Ill Patients, Queen's University Nephrology Grand Rounds, Sept. 30th, 2022.

"Intravenous Albumin: Nephrology's Other Liquid Gold?" Grand Nephrology Rounds, McMaster University on February 24th, 2023

DR. TODD FAIRHEAD

Dietary Interventions in Nephrotic Syndrome, ORN Provincial GN Rounds (online rounds to all nephrology programs in Ontario), January 26, 2023

DR. SWAPNIL HIREMATH

University of New Mexico Nephrology Grand Rounds, Albuquerque, NM 'Revisiting Resistant Hypertension' June 12, 2023

Panelist, American Heart Association, 'Becoming a FAHA' , June 17, 2023

Panelist, Hypertension Canada Webinar 'The Problem of Unvalidated Home Blood Pressure Devices: Implications for Public Health and Practice' May 8 2023

Speaker, Africa Healthcare Network Nephrology Educational Webinar Series "Social media (twitter podcasts visual abstract blogs) in nephrology education" May 19 2023

Panelist, International Society of Nephrology Twitter Spaces Discussion 'Hypertension in Adolescence and Senescence' May 30 2023

'Nephrology Education in the Era of Alternate Reality' April 29 2023, Mumbai, India at the 'Apex Pathshala (Board Review Course)'

'Don't Believe Everything You Read: A Guide to Critical Appraisal' April 29 2023, Mumbai, India at the 'Apex Pathshala (Board Review Course)'

The Paxlovid Protocols: An ORN Initiative: Ontario Renal Network Provincial Leadership Table, March 27, 2023

Medical Grand Rounds, Alta Bates Summit Medical Center - Sutter Health, Berkeley, California. 'Rethinking Resistant Hypertension' Feb 23 2023

'MedEd in the 21st Century' Nephrology Grand Rounds, University of Maryland, US, Dec 6th 2022

'Contrast Nephropathy Update' Kenyan Renal Association KRACON 2022, Mombassa, Kenya, Sep 31 2022

'Treating Hypertension: Mixing Old Tools and New Therapies' North England Renal Rounds, UK, Nov 15 2022

'Debate: Sodium in CKD, Con' CSN in America, Orlando, Florida, Nov 1 2022

'Debate: Blood Pressure Control Should Focus on More Potassium' American Heart Association, Hypertension Sessions, San Diego, US, Sep 7, 2022

'Debate: Publishing through Preprints should become standard practice' International Society of Hypertension, Oct 15, 2022, Kyoto, Japan

CONTRAST NEPHROPATHY' RENAL UNIT ACADEMIC MEETING, ROYAL DEVON UNIVERSITY, BRISTOL, UK, MAY 19, 2022

PAXLOVID IN DIALYSIS' FRESENIUS GLOBAL MEETING, GERMANY, JUNE 9TH 2022

Medical Grand Rounds, Alta Bates Summit Medical Center - Sutter Health, Berkeley, California.
'Rethinking Resistant Hypertension' Feb 23 2023

The Paxlovid Protocols: An ORN Initiative : ORN Provincial Leadership Table, March 27, 2023

"Maximizing the Power of Twitter (for Good!) in Academics" Club Med (DoM GIM, TOH) March 3rd 2023

May 5th: 'Contrast and the Kidney: What is Left to Enhance?' Nephrology Grand Rounds, Regina Saskatchewan

DR. JOLANTA KARPINSKI

Teaching and Learning in CBD 1.0 - for the uOttawa FoM Faculty Development. March 29th, 2023

DR. DAVID MASSICOTTE-AZARNIOUCH

VASCULITIS THERAPEUTICS - CONTEXT AND FUTURE" AT THE VASCULITIS THERAPEUTICS SESSION – DUBLIN, IRELAND

DR. MANISH SOOD

1. "When Hyperkalemia Impairs Optimal Treatment of HF and CKD: What New Guidelines Recommend" Medscape (virtual) CME, USA, Sept 2023.
2. "Catch-22: Hyperkalemia-RAASi" ERA-EDTA Annual General Meeting, Milan, Italy, June 2023.
3. "Predicting early CKD: the key to fighting an epidemic?" University of South Florida, USA, May 2023.
4. "Reducing the risks of hyperkalemia in the treatment of HF and CKD: What it means for management team members" Medscape (virtual) CME, USA, Feb 2023.
5. "Approaches and challenges of treatment of atrial fibrillation in kidney disease" American Heart Association Congress, Chicago USA, Nov 2022.
6. "Atrial fibrillation in patients with advanced CKD" Nephrology Provincial Grand Rounds, University of Saskatchewan, Regina, Canada. Jan 2023.
7. "HELP-MD: Progress and future directions" Canadian Medical Association Policy Committee, Virtual, Canada, Dec 2022.
8. "Re(de)fine CKD" Nephrology Grand Rounds, The Ottawa Hospital, University of Ottawa, Dec 2022.

9. “HELP-MD: Progress and future directions” The Ottawa Hospital Physician Wellness Committee, Ottawa, Canada, Dec 2022.

10. “EDI update” OHRI Research Day, Ottawa, Canada, Oct 2022.

DR. DEBORAH ZIMMERMAN

1. “Looking to the Future: Anemia Management of CKD”. University Health Network Grand Rounds, Toronto ON.

2. “Managing Kidney and Heart Outcomes in Patients with Diabetic Kidney Disease”. Queens University Grand Rounds. Kingston ON, March 2023.

AWARDS AND DISTINCTIONS

- DR. AYUB AKBARI** Appointed as Associate Scientist, OHRI
- DR. DYLAN BURGER** Co-Chair, Organizing Committee for the 2022 Virtual Symposium on Urinary Extracellular Vesicles
- DR. DYLAN BURGER** Kidney Research Scientist Education and National Training Program (KRESCENT) Review Panel (Member)
- DR. DYLAN BURGER** OUTSTANDING VOLUNTEER AWARD. HYPERTENSION CANADA
- DR. DYLAN BURGER** Review Panel for “Characterization of Islet-derived Extracellular Vesicles for Improved Detection, Monitoring, Classification, and Treatment of Type 1 Diabetes” (Member)
- DR. DYLAN BURGER** Canadian Institutes of Health Research (CIHR) Pharmacology & Toxicology (PT) Grant Panel (Member)
- DR. KEVIN D. BURNS** Dr. J. David Grimes Career Achievement Award, OHRI
- DR. MARK CANNEY** KRESCENT New Investigator Awardee, 2022
- DR. EDWARD CLARK** Appointed as Jindal Research Chair for the Prevention of Kidney Disease
- DR. SWAPNIL HIREMATH** Awarded as a Fellow of the International Society of Hypertension, Inaugural Class (FISN)
- DR. SWAPNIL HIREMATH** Appointed to the American Heart Association (AHA) Statistics Committee
- DR. SWAPNIL HIREMATH** Runner up to Media Engagement Trailblazer Award, Medical Post
- DR. GREG KNOLL** Distinguished Research Chair Award, University of Ottawa, Faculty of Medicine (\$200,000/yr for 5 years, 2020-2025)
- DR. MANISH SOOD** Promotion to Full Professor, University of Ottawa
- DR. MANISH SOOD** INDUCTED INTO THE AMERICAN JOURNAL OF KIDNEY DISEASE “REVIEWER HALL OF FAME”
- DR. MANISH SOOD** 2023-2026 Member, Pharmacoepidemiology expert for national CADTH- Post Marketing Drug Evaluation Committee, (lead Dr Melissa Brouwers)
- DR. MANISH SOOD** Member, Selection Committee for Tier 2 Canada Research Chair in Thrombosis Research, Faculty of Medicine, Ottawa

DR. MANISH SOOD

Publication featured on CTV National News (Jan 2023) and interviewed on CityNews Ottawa (Sam Laprade AM 1310 Jan 30, 2023). “Noel A, Anan Badder A, Manuel D, Rhodes E, Tangri N, Hundemer G, Tanuseputro P, Knoll G, Sood MM. A health survey-based prediction equation for incident CKD. Clinical Journal of the American Society of Nephrology. 18(1):p 28-35, January 2023. DOI: 10.2215/CJN.0000000000000035”

DR. DEBORAH ZIMMERMAN

Appointed as Scientist, OHRI

STUDENT AND TRAINEE AWARDS/RECOGNITIONS

2022 **Dr. Robert Myette**: Kidney Research Scientist Core Education and National Training (KRESCENT) Program Fellowship (BURGER LAB)

2022 **Chloé Landry**: CIHR Canada Graduate Scholarships (Doctoral Research Award) (BURGER LAB)

2023 **Agafe Reyes**: Agostino Monteduro Italian Night Scholarship recipient, from the Kidney Foundation of Canada (BURGER LAB)

2023 **Dr. Sumaiya Ahmed**: Agostino Monteduro Italian Night Scholarship recipient, from the Kidney Foundation of Canada (Supervisors: Dr. G. Hundemer, Dr. A. Bugeja)

2023 **MALVIKA AGARWAL**, RECEIVED THE UNIVERSITY OTTAWA DEPARTMENT OF MEDICINE MEDICAL STUDENT SUMMER RESEARCH AWARD (Supervisor: DR. D. Zimmerman).

SPEAKERS 2022-2023

I) DIVISION OF NEPHROLOGY GRAND ROUNDS

<u>Date</u>	<u>Speaker</u>	<u>Title</u>	<u>Affiliation</u>
1-Sep-22	Dr. Weins	<i>Nephrin and Minimal Change Disease</i>	Harvard Medical School
8-Sep-22	Dr. Abhilash Korata	<i>POCUS</i>	Medical College of Wisconsin
15-Sep-22	Dr Remi Goupil	<i>Central BP in CKD</i>	Université de Montréal
6-Oct-22	Dr. Kristin Clemens	<i>Bone Disease and the PREFERRED trial</i>	Western University
13-Oct-22	Dr. Robert Shahverdyan	<i>The Role of Endovascular Arteriovenous Fistula in Patients with Chronic and End-Stage Kidney Disease</i>	Asklepios Clinic Barmbek, Hamburg, Germany
27-Oct-22	Dr Sadiya Khan	<i>HFpEF for Nephrologists</i>	Northwestern University
10-Nov-22	Dr. Sean Wharton	<i>Obesity management</i>	McMaster University
1-Dec-22	Edouard Fu	<i>Target Trials</i>	Harvard Medical School
8-Dec-22	Michelle Lim	<i>Visual abstracts</i>	South Tees Hospital Foundation, UK
15-Dec-22	Dr. Manish Sood		TOH, University of Ottawa
12-Jan-23	Dr. Will Herrington	<i>EMPA KIDNEY</i>	University of Oxford, UK
26-Jan-23	Dr. Megan Prochaska	<i>Kidney Stones</i>	University of Chicago
9-Feb-23	Dr. J. Matt Luther	<i>All things Aldosterone</i>	Vanderbilt University
23-Feb-23	Dr. Shruti Gupta	<i>Onconeurology</i>	Harvard Medical School
2-Mar-23	Dr. Shree Sharma	<i>Kidney biopsy in AKI</i>	University of Arkansas
9-Mar-23	Dr. Sunil Badve	<i>Rivaroxaban in CKD Trial</i>	St. George Hospital, Sydney, Australia
16-Mar-23	Dr. Anuja Java	<i>Complement and GN – Genetics</i>	Washington Univ., St. Louis
6-Apr-23	Dr. J. Gordon Boyd	<i>Neuro Critical Care</i>	Queens University
13-Apr-23	Dr. Amelie Bernier-Jean	<i>Diet and CKD</i>	Université de Montréal
27-Apr-23	Dr. Corey Goldstein	<i>Ethical Issues in Cluster RCTs in Hemodialysis</i>	OHRI
4-May-23	Dr. Indranil Dasgupta	<i>Hypertension Adherence</i>	University of Warwick, UK
11-May-23	Dr. Dominique Guerrot	<i>HTN in PKD</i>	Université de Rouen, France
18-May-23	Dr. Ryan Chan		The Ottawa Hospital
8-Jun-23	Dr. Andreas Kronbichler	<i>ANCA Vasculitis</i>	Medical University, Innsbruck, Austria

15-Jun-23 Dr. William Beaubien *AKI and fluid management* Université de Montréal
22-Jun-23 Alexandre Loupy *Kidney Transplant* Inserm, Necker-Enfants Malades
Hospital, Paris Descartes University

II) **KRC SEMINAR SERIES**

Sept. 15, 2022 Dr. Moises Freitas-Andrade, Ph.D., (Laboratory Manager, Lacoste lab)
“Astroglial Hmgb1 is required for postnatal cerebrovascular maturation.”

Sept. 22, 2022 Chloe Landry (Burger lab), *“Work-in-progress on neutrophil extracellular traps (NETs) in kidney disease”*

Sept. 29, 2022 Dr. Jose Vinas (Burns lab), *“Immunological response in acute kidney injury to chronic kidney disease transition”*

Oct. 20, 2022 Julie Ouellette (Lacoste lab) *“Investigating metabolic defects in 16p11.2-deficient primary mouse brain endothelial cells”*

Nov. 3, 2022 Mayra Trentin-Sonoda (Hebert lab), *“Effect of SGLT2 inhibition in diabetic/hypertensive mice”*

Nov. 10, 2022 Dr. William Stanford, Senior Scientist, OHRI: *“Teasing apart kidney diseases with human pluripotent stem cell derived renal organoids”*

Jan. 12, 2023 Dr. Derrick Gibbings, University of Ottawa *“Use of extracellular vesicles as delivery vehicles in chronic kidney diseases”*

Jan. 19, 2023 Nicole Blakeley (Dr. Lacoste’s lab) *“Investigating the effect of 16p11.2 haploinsufficiency on astroglial metabolism”*

Jan. 26, 2023 Dr. Rob Myette (Burger lab), *“Urinary large extracellular vesicles in idiopathic childhood nephrotic syndrome”*

Feb. 16, 2023 Paul Kotchetkov (Lacoste lab), *“Involvement of blood brain barrier in autism spectrum disorders”*

Feb. 23, 2023 Dr. Chet Holterman (Kennedy lab), *“Kidney macrophage infiltration in septic AKI”*

March 9, 2023 Dr. Alexey Gutsol *“Work-in-progress on kidney imaging in animal models of hypertension and kidney disease”*

March 23, 2023 Nicole Blakeley(Lacoste lab) *“Investigating the effect of 16p11.2 haploinsufficiency on astroglial metabolism”*

April 6, 2023 Undergraduate research students, *“Undergraduate student seminars”*

April 20, 2023 Dr. Adrianna Douvris (Burns lab), *“miR-486-5p prevents against ischemic acute kidney injury and the transition to CKD”*

April 27, 2023 Emma Durocher (Gadde lab), *“3-in-1 Nanotherapeutic Strategies for Ovarian Cancer”*

June 15, 2023 Agafe Reyes (Burger lab), *“Effects of Gestational Diabetes Mellitus on Vascular and Renal Mitochondrial Health”*