RUSH

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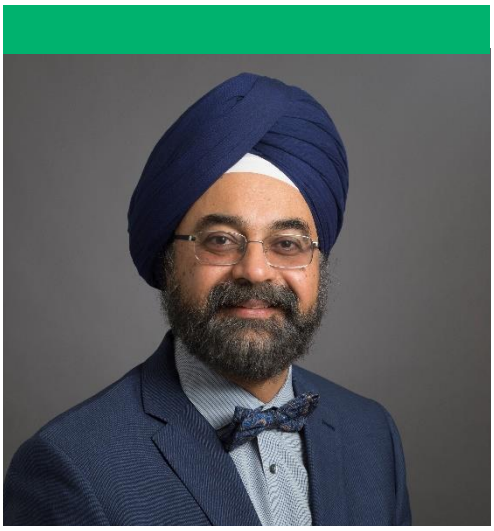
The Dr. Andrew and Peg Thomson
Professor of Internal Medicine



Advancement of Medicine

In 2024, my research enterprise at Rush's Glomerular Disease Therapeutics Laboratory, or GDTL, continued several ongoing projects to develop and validate the first mechanism-based drugs for a subset of human kidney diseases called glomerular diseases. We also made significant progress towards reversing chronic kidney disease, which has never been achieved in the past. Once this progress is fully established, it will significantly reduce the number of patients developing terminal kidney failure and decrease the need for dialysis and kidney transplantation in the future.

Research

Your generosity supported GDTL-related research efforts and expenses. We have the only functional mass spectrometer at Rush, which we use to assay creatinine (a waste product filtered by the kidneys) and specific proteins. Your support also enabled our team to travel internationally to discuss our research findings and present an internationally renowned oration.

I continue to serve as principal investigator (labeled PI) or co-investigator (labeled CI) for the following studies funded by the National Institutes of Health, or NIH:

- "Soluble mediators of relapse," investigating the cytokine storm induced by common cold infections to prevent relapse of minimal change disease and focal segmental glomerulosclerosis (PI)
- "COVID-19 cytokine storm," investigating mechanisms by which the extensive cytokine storm induced by COVID-19 causes kidney injury (PI)
- "Recombinant hANGPTL4 and CKD," studying the role of human ANGPTL4 gene mutation in slowing the progression of chronic kidney disease (PI)

- "Kidney PCSK9 in nephrotic syndrome," exploring the role of the protein PCSK9 secreted from kidney cortical collecting duct cells in the pathogenesis of hypercholesterolemia in nephrotic syndrome (CI)
- "COVID-19-induced worsening of glomerular disease," exploring how cytokine storms associated with COVID-19 infection can have an irreversible effect on kidney function in patients with chronic kidney disease (CI)
- "Hodgkin's Lymphoma-induced nephrotic syndrome," investigating soluble proteins secreted from the Hodgkin lymphoma tumor that can cause kidney disease in the form of nephrotic syndrome (CI)
- Three intellectual properties transitioned into national phase entry

Grants

- I have three active non-modular NIH grants and am PI on all three grants.
- **Lionel Clement, PhD**, associate professor in the Department of Internal Medicine, has been funded by his own NIH grant since 2021.
- **Camille Macé, PhD**, assistant professor in the Department of Internal Medicine, started her own NIH grant project in January 2023.
- **Eduardo Molina-Jijon, PhD**, a GDTL trainee and assistant professor in the Department of Internal Medicine's Division of Nephrology, submitted a major NIH grant in 2024 that was funded and started earlier this year.

The Year Ahead: 2025 and Beyond

We plan to submit for publication a major study on the first biological drug candidate that can reverse chronic kidney disease. We will also continue to develop six intellectual properties into therapeutic initiatives.

With Gratitude

Thank you for your generous support. It advances the cause of our research and academic goals. We are determined to improve the outcomes of human kidney disease. Your generosity has played a key role in our success.