

Interviews



Sam Kant, Catherine Quinlan, and Matthew A. Sparks spoke with EMJ, sharing insights into their inspiring careers and research. The experts explored a variety of key topics in the field nephrology, including transplantation, genetic kidney disease, and medical education.

Featuring: Sam Kant, Catherine Quinlan, and Matthew A. Sparks



Sam Kant

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Q1 What influenced you to pursue a career in medicine, and then specialise in nephrology?

I always enjoyed science and being part of a bigger community. Medicine combines these two aspects really well. I pursued nephrology because of the most fascinating pathophysiology, which spans so many areas, including acid-base, glomerular disease, dialysis, and transplantation. Above all, it gives us the opportunity to have a long-term association with our patients, from chronic kidney disease to dialysis, and then transplantation. As Atul Gawande aptly put it, medical care has two aspects: incrementalism and heroism. With nephrology, you could be a long-term comrade to patients by providing constant incremental care, but also be there when the heroism of critical care is needed. When I look back in my rear-view mirror, the above decisions were also partly influenced by the fact that I had an early exposure to medicine, having spent a lot of time in the hospital with my father, who had a kidney transplant.

Q2 Your clinical and research interests include renal transplantation, immunosuppression, and opportunistic infections. You co-authored a review in July 2022 on BK virus nephropathy in renal transplant. Could you provide a summary of the findings from this review, and the implications this has for clinical practice?

BK viraemia is a common problem in patients who have received a kidney transplant, mostly as a result of immunosuppression. While there are screening strategies that have been effective in detecting the virus in the post-transplant period, there is a lack of appropriate diagnostic techniques and treatment for the potentially ensuing BK viral nephropathy. The development of BK viral nephropathy has been associated with progressive graft loss. It is encouraging to know that there are clinical trials underway looking at modified T cells and monoclonal antibodies to treat the virus.

Q3 Is there any ongoing or novel research in the field of renal transplant medicine that you are excited about for the future management of patients with kidney transplants?

There is a continued lack of biomarkers to detect early allograft damage and guide immunosuppression. There is a lot of work being done in the space, since this will potentially not only help in enhancing graft longevity and patient survival, but also reduce adverse effects of immunosuppression, including infections, cancers, and metabolic/cardiovascular issues. In addition, there is an increased emphasis on making sure there is equitable access to organs.

Q4 You also co-authored a paper on the principles of immunosuppression in the management of kidney disease. Could you describe the key learning points healthcare professionals working in the field should take away from this article?

Before deciding on immunosuppression for a particular entity of glomerular disease, it is important to not only think about pathogenesis, but also patient profile, such as comorbidities, potential adverse effects, and extent of organ injury. It is also pertinent to think about how we can mitigate these adverse effects, which includes balancing appropriate therapeutic response with risk for toxicity.

"There is continued discovery of new facets with respect to each entity of glomerular disease."



Q5 Another of your clinical interests is glomerular disease, and in 2022, you co-authored an article discussing the advances in the pathogenesis and treatment of immune-mediated kidney diseases. Can you tell us how these advances in pathogenesis have translated clinically, and what this means for patient outcomes?

There is continued discovery of new facets with respect to each entity of glomerular disease. For example, multiple new antigens associated with the development of membranous nephropathy have now been found. The role of complements in anti-neutrophil cytoplasmic antibody-associated vasculitis and IgA nephropathy is being increasingly elucidated. As a result, multiple therapeutics are being based on these targets, which could translate into better outcomes for patients.

Q6 As a transplant nephrologist, can you tell us about some of the biggest challenges faced by both clinicians and patients pre- and post-transplant surgery?

With regards to pre-transplant, for patients on the deceased donor list, the wait time continues to be a big challenge worldwide. With regards to post-transplant, providers need to ensure continued patient education and seamless coordination of care.

Q7 Can you tell us about the evidence surrounding organ donation from deceased patients positive for severe acute respiratory syndrome coronavirus 2, and the current scientific and clinical standpoint on the use of these organs in transplant medicine?

The biggest study so far was done in 2022, looking at COVID-19-positive deceased

donors using the Organ Procurement and Transplantation Network (OPTN) database. It showed that transplantation from these deceased donors was not associated with worse graft outcomes or patient survival in the post-transplant period. There is a definite need for long-term follow-up studies, but initial reports do seem encouraging.

Q8 Are you currently working on any projects within either renal transplant research or medical education that you are excited about? Are there any technological advances anticipated in the field of transplant medicine and surgery that you are excited for?

We are currently involved in projects pertaining to biomarkers, the effect of apolipoprotein 1 in kidney transplantation, desensitisation regimes, and BK viraemia/nephropathy. I am looking forward to see how the space of xenotransplantation develops, and endeavours to address inequity and new immunosuppression regimes.

Q9 You are an Organising Committee Member for the National Kidney Foundation (NKF), New York, USA. Can you tell us what your position entails?

As an organising committee member for the scientific meetings, we brainstorm various sessions that would be helpful for healthcare providers in nephrology. For the last 2 years (2022 and 2023), I have been responsible for organising the nephrology board review (US certification) for the NKF Scientific Meetings. In addition, I organise activities focused on trainees, which includes moderating a panel of experts sharing their experience in various fields in nephrology.



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Q10 You are Chair of the Early Physicians Council for the American College of Physicians (ACP), which aims to assist younger clinicians with career and personal development. How did you become involved in this, and what are your main responsibilities as Chair?

The ACP plays a very active role in the development of internal medicine/general medicine trainees and supporting attendings/consultants. As a chief resident, trainee engagement and welfare were very important to me, so I became involved with the Chief Residents Association of Baltimore (CRAB), which is facilitated by the ACP Maryland. I now continue to be involved with ACP Maryland as Chair of the Early Career Physicians Council, where I am responsible for organising activities to further the cause of physicians who have finished residency, and have either entered fellowship, or become attendings/consultants. The council forms an important support structure as members transition to the next phase of their careers. To quote the words of Steve Sisson (President-elect of the ACP), we strive to be "of value to the members of ACP".

Q11 You recently presented at the ACP Maryland Williams Conference, on the topic of habits for highly effective students and interns. Can you discuss these habits, and why they are important to clinical practice?

When we transition from medical school to training, there is a perception that medical knowledge is all we need, but this is far from reality. As chief resident, when I looked back at the most successful trainees, they did have some common attributes, which I hoped to distil through this talk. Some of these habits include efficiency, or being adept in using the electronic health record to your advantage, collegial relationships with nurses, being open to opinion, and being wholly present in each clinical encounter.

Q12 In 2020, you received the Maryellen Woodward Governor's Service Award by the Maryland Chapter of the ACP for contributions to the science and patient care. Could you tell us more about this award, and what it meant for you to receive this?

I am just glad to be a part of the ACP and its mission. The leadership continues to be one of the most supportive groups I have come across. I would encourage trainees of all levels, as well as consultants/attendings, to become a part of the ACP. It is a community second to none.

Q13 You recently published an article in the *Washington Post* regarding prevention of kidney disease. Could you please elaborate on this further?

This article was written to raise awareness regarding kidney disease. It outlines risk factors and evidence-based strategies for prevention of chronic kidney disease, and addresses the often debated question of 'how much daily water intake is actually needed'.

Q14 To conclude, what has been your proudest achievement in your career so far?

I am just thankful and consider myself fortunate to have the opportunity to serve patients, and contribute to medical trainees. I do not think any of this would be possible without the excellent mentors that I have had. They surely do help us navigate our career paths, to become better doctors, and better people. ●