

## Season 2 Episode 4 – Pioneering Kidney Care: Innovations and Challenges Ahead

*Guest: Kirk Campbell, MD*

### **Peter Kotanko**

Welcome to the Renal Research Institute's, Frontiers in Kidney Medicine and Biology, where we share knowledge and advances in kidney research with the world.

Today, I have a tremendous pleasure to welcome Professor Kirk Campbell from the Mount Sinai Hospital in New York as my guest. Doctor Campbell was recently elected as president elect of the National Kidney Foundation in the United States. Kirk, welcome to this Frontier's in Kidney Medicine series.

### **Kirk Campbell**

Thank you so much. Dr. Kotanko.

### **Peter Kotanko**

Kirk, you obviously are a practicing nephrologist in the United States, and the National Kidney Foundation is one of the lead. organizations in the United States. Kirk, can you tell us a little bit about the setup of the National Kidney Foundation, about its, goals and about its accomplishments?

### **Kirk Campbell**

Yes, absolutely. Thanks so much for giving me this opportunity. So the National Kidney Foundation is a voluntary, non-for-profit health organization, headquartered in New York City, over 30 local offices across the country with the stated mission to prevent, kidney and urinary tract diseases in order to improve the health and well-being of individuals and families affected by kidney diseases.

So, we really pride ourselves on being multidisciplinary, supporting primarily patients, caregivers, families, but also professionals in the kidney health space, including physicians, advanced practitioners, social workers, nutritionists, other allied health professionals, advanced practitioners, and so on. we do have, an annual, spring clinical, meeting, which is our really, flagship, event for getting together to discuss, issues of concern to the kidney community again, with that multidisciplinary, focus, very involved in advocacy.

Very robust, legislative and advocacy, arm, advocating, for policies that will benefit, again, key stakeholders, around kidney health.

### **Peter Kotanko**

Thank you. Kirk. This gives a very nice overview of the broader goals of the National Kidney Foundation. I'm wondering, how do you really see the future of kidney care here in the United States? Do you think, for example, that the number of patients with chronic kidney disease will increase and the number of patients who will eventually, advance to stage five, kidney disease, chronic kidney disease?

Or do you think that because of the introduction of novel drugs such as SGLT2 inhibitors or GLP1 receptor agonist and others, that it will be possible to flatten that curve.

**Kirk Campbell**

Right. So, we often, cite this, unfortunate statistic. Right. that, up to 90% of patients with kidney disease do not know they have it. so this is an under-diagnosed, condition. But we do know, as you rightfully point out, that we now have the tools, right, to slow the progression of kidney disease, for patients at the earliest stages.

Stage one, two, early, stage three phase, for example, to really slow that progression and hopefully in the future, limit, the number of patients who will require dialysis or kidney transplantation. And this is new, right? The advent of these novel therapeutics will force us to rethink the way we go about, our clinical practices. but certainly, around, our practices for screening and detection of kidney disease will have to change, right?

We will certainly have to spend a lot more time identifying those patients who will, likely benefit the most from these novel therapeutics. And, the goal, again, is to reduce the numbers of those individuals who are progressing. that would be an aspirational target, to certainly see a flattening, of that curve, if you will, patients who are requiring dialysis and transplantation.

But it really will have to begin with increased detection. and we certainly need to pivot, with the advent of new technologies, around home detection, home monitoring. Really have to spend a lot more time identifying those patients, not only with a decreased GFR, but also with micro albuminuria macro albuminuria. Right. so that we can really intervene on that proteinuria, kidney conditions that really are a harbinger of those who will, progress, more rapidly.

**Peter Kotanko**

So actually, it's very interesting that you mentioned this home diagnostics, are there specific, developments that you can, talk about. And which ones do you think are particularly, promising?

**Kirk Campbell**

Well, there's several home diagnostics that are in development, a few that are currently available. one will think of the various tools to measure, urinary album and creatinine,

levels, for example, in the home, that seem quite promising and scalable. but we do want to certainly enhance accessibility. we do want to have, an equity lens around our practices because we know, that patients in underserved areas, might have limited access to follow up on these results, even if they can be obtained.

We want to make sure we're well positioned to act on abnormal results. So building up that infrastructure around home testing, dissemination of results, will be important. one of the things that National Kidney Foundation is doing is really partnering with those entities, developing home testing capabilities, but also, building up, a registry. Right. the kidney care study, is trying to really, identify patients with kidney disease who are willing, to engage, in this, data, gathering and, partnership program with health systems around the country so that we can, again, get more accurate data on the true prevalence of kidney disease, but also identify patients who might be candidates, for clinical trials for novel therapeutics going forward.

### **Peter Kotanko**

These are all very, very important steps. And I'm, of course, recognizing that the National Kidney Foundation is really a leader in that field. there is one area I think that concerns many of us nephrologists is that social determinants of health are a driver of kidney disease, and maybe they may even be aggravated in the years to come because of the impact of climate change and heat episodes.

So how do you see this field? Is there any activity that the National Kidney Foundation is planning or is already conducting in order to address those areas? Specifically social determinants of health and the impact of climate change, on patients, which affects primarily as far as I know, really, populations that live in the disadvantaged conditions.

### **Kirk Campbell**

Yes, absolutely. And rightfully because of the national reach, with myriad of local offices, there are a number of very robust local partnerships that the National Kidney Foundation has spearheaded. And, it's really overseeing. Right. to get, again, better information at the local level on the key prevalence, of kidney disease as well as the associated risk factors.

Right. really mapping, by zip code and integrating with payer information, getting these detailed neighborhood level prevalence numbers, right, around the country would be quite helpful as we seek to really direct resources to patient populations that need them the most. Right. I think ideally, we'll be able to have a database.

where we'll really connect environmental and other social determinants, associated risk for kidney disease development with the prevalence of disease in those communities.

and we can partner with local providers, to improve outcomes, get patients to access that. They need, to care as appropriate. some of the things, really to think about are access to healthy foods and we often are quite mindful of the sodium intake and appropriate protein intake and healthy, balanced diet and activity levels that are important for kidney health.

And we want to really make sure that we can not just offer dialysis and transplant, but certainly intervene earlier, right. around some of the novel therapeutics we discussed earlier, but healthy lifestyle issues and the basics of partnering with primary care practices. Nephrologist. And it ties in as well to how we think about resource allocation from a workforce standpoint.

We do know, that nephrology has a particular challenges around the workforce and attracting medical students, residents to this specialty has been a challenge in the last decade. but we certainly by getting this data, can approach stakeholders to really develop the resources that are appropriate to advance kidney health and improve outcomes in these communities.

#### **Peter Kotanko**

I think you touched on the point of nutrition. I mean, there is, emerging data that highly processed, ultra processed food, actually, increases the risk for chronic kidney disease. So, I think this might be an important aspect to tackling and we here at the Renal Research Institute are very much interested in using artificial intelligence actually, to develop affordable, healthy recipes for patients with kidney disease that can be delivered to the patient's phone or to the physician's office. So I think that, AI may actually present one of the ways to really advance also the field, I don't know what's your opinion on that? on the use of artificial intelligence to improve the care for our patients.

#### **Kirk Campbell**

I would agree that we have to take full advantage of all the emerging technologies, seeing some interesting preliminary information on wearable devices, and how you can engage, with patients in real time, a lot more effectively, quite frankly, than we traditionally do. And, outpatient visit schedule or on the inpatient side. But you can, track activity level.

You can send reminders and tips and provide nutritional and dietary advice and, collect a lot of biometric information, right, with patient consent, to advise individuals on their health and activity level and overall health status. that's quite meaningful for kidney, cardiovascular, metabolic health, right? Which certainly is quite important as we've been learning in the last few years.

So all for it, right. the more we can integrate, and make the most valuable use of these emerging technologies, the better our patients will do.

**Peter Kotanko**

I have to confess, I hardly watch TV. mostly I do it when I stay in a hotel and just switch the telly on. And I was surprised that recently, especially in the context of SGLT2 inhibitors, I see actually quite a number of ads that have chronic kidney disease as a theme. So do you think that this kind of ads, that brings the notion of chronic kidney disease, to the populations homes?

Do you think that this actually may help with creating more consciousness around the topic of chronic kidney disease?

**Kirk Campbell**

I think that that any initiative or effort to raise awareness around kidney disease would be helpful. A lot of patients have approached us and our practices after seeing some of these commercials. Unfortunately, a lot of them are not great candidates for these medications for various reasons, including kidney disease being too advanced, for example, or other contraindications.

But again, raising of awareness is a good thing because discussions with their family members and friends and colleagues and coworkers will compel individuals to think about kidney health, have their kidney function tested. We do not have a national screening program in the US, for chronic kidney disease. so the more we can do to raise awareness about this really silent condition in many cases, the better off I think our patients will be.

**Peter Kotanko**

Speaking of screening programs, I recently traveled to mainland China and I learned from a colleague. Something, that sounded really almost unbelievable to me that in certain areas of China or certain provinces, at public toilets. There are QR codes in the latrines. And there is actually devices embedded that can measure uremic protein. And if you are interested in getting the results of these measurements, you just scan the QR code and somehow then a result will be sent to you.

I haven't seen this personally, so it's a little bit of hearsay. but, it came from a trustworthy colleague, so I was really surprised if this is indeed reality. Kirk, do you think that's something we should also try to implement in the US? Or would you be concerned about privacy questions because of practicality of reimbursement.

So what's your take on that. And I said I haven't seen this personally. It's hearsay. And it sounded quite fantastic / futuristic to me. But I'm just wondering if this would be an option. But what do you think about that?



**Kirk Campbell**

I've heard of, some of this technology being developed, to kind of test, some of the urine values, in the privacy of, toiletry. and, I think the discussions that have been undertaken, and the forums that I've been in would be to potentially test the utility of such an approach, in a clinical trial setting.

Right. and that may be the first place. Right? to get feedback. Right, on how feasible this might be for larger scale implementation and perhaps in other countries that's already been done. but it'd be good to perhaps test that here. And in some ways, even in the home. Right. patients, using the bathroom, we can get information to monitor disease activity.

And that's some of the discussions that we've had. So, again, whatever we can do to make it easier for patients, right. to, generate results that they can discuss with their physicians, providers, the better off we can be, as a health care delivery industry.

**Peter Kotanko**

Actually, testing the privacy of my home. I remember when I was a schoolboy and living in Austria. Suddenly, at one point in time, we would receive a urinary test strip by mail and it would test your urine for sugar. And I was very much interested in this, and honestly, I was always a little bit disappointed when there wasn't a big color change.

not knowing that this is actually good news. That there wasn't the color change. But, I'm wondering if programs like that might help to better understand the prevalence of chronic kidney disease or conditions leading to chronic kidney disease. And by doing so, prevent or mitigate the fact that so many patients live with undetected chronic kidney disease.

**Kirk Campbell**

Yeah, absolutely. And I think as we know, patients with diabetes, for example, should have annual urine albumin levels checked. and it's done less than 50% of the time around the country, as we know. We know that the uptake for using SGLT2 inhibitors is not nearly where it should be. Right. although increasing.

So, even with the guidelines on the books for patients who are in the higher risk categories, they're not always getting the care, that they need. So when you take a step back for the general population, it's easy to imagine how worse off. Right. we are at a starting point. So, again, making it easier getting to patients, where they are, I think will be a lot better going forward.

**Peter Kotanko**

Yeah, yeah. And actually, we are also impressed by the results reported in top medical journals about kidney outcomes with SGLT2 inhibitors., with GLP1 receptor agonist. but of course, these are data from study populations. In real life someone has to diagnose the condition. Then someone has to prescribe the drug

The drug has to be, taken by the patient, over an extended period of time until it may deliver an effect, as described in this study. So there are many, many steps along the way. And I think every step, requires attention there that we're in this on the patient side, on the physician side, the prescription of the drugs the adherence to the drugs and then we may see the difference. so I think the National Kidney Foundation has actually a great opportunity. It's in unique position, really, to inform the various stakeholders along the way. So to make sure that the benefit of these novel drugs and promising drugs can be fully harvested, so to speak.

In recent years, patient reported outcomes have taken center stage and they are even part now of large clinical trials like the most recent CONVINCe trial on high volume hemodiafiltration. So, what is your take on, patient reported outcomes, do you think, for example, that patient reported outcomes should maybe replace other outcomes in clinical studies, or that the patient reported outcomes should be a primary endpoint of clinical studies?

Or how do you see this and what's your vision actually moving forward.

### **Kirk Campbell**

Yeah. No, I mean I really again, speaking from my own, point of view as well as sort of the mission of the NKF as a patient advocacy organization, a big proponent and believer in patient centered care. and so the more we can include the patient voice in trial design, which is something we've done upfront in a lot of the clinical trial development activities that I've personally been involved in, the better.

So, whether those outcomes should replace standard endpoints. I think that, maybe up for debate, but certainly should be a big part. Right. of stated endpoints. Right. as a part of the approval, monitoring, assessment of efficacy and safety, of, new approaches to care, including drug devices, modalities, etc.. So certainly a very central place, should be played by patient reported outcomes.

And I think also, as I said, I strongly believe patients should be a big part of study design. Right. and later on implementation after approval, because again, that's really our key stakeholder group.

### **Peter Kotanko**

Yeah. Yeah. And mobile technologies such as smartphones with apps installed offers of course, a unique opportunity to capture patient reported outcomes. I recently learned

that in Australia, for example, patient reported outcomes are required for reimbursement. and that there is actually apps such as the My Companion app that actually have the capability to capture patient reported outcomes.

So I think it may be that, once this becomes part of certain aspects of reimbursement that this actually would boost the use of these outcomes in daily practice. So, would you support such a development that patient reported outcomes are actually considered when it comes to reimbursement.

### **Kirk Campbell**

Yeah. I mean I think that's certainly something that should be considered. Right. and, of course, we can certainly weigh the impact, right. we have great tools. Right. I'm a big believer in gathering data on how new policies would affect practice and harder outcomes related to morbidity and mortality, quality of life, etc..

and cost. Right. we do have to kind of be mindful of the climate that we live in. so I think it should be assessed. Right. whether or not, you'd get more favorable outcomes, by having reimbursement tied right to those outcomes. And again, if others have done it, we can certainly, learn from their experience.

Right. and that would certainly be the wise approach.

### **Peter Kotanko**

I don't know details about this Australian model. I read recently about it, but it might be worthwhile to take a more detailed look at it and see what are the pros and cons and what the experience captured there. So I have to say, Kirk, this is such a wonderful conversation with you, I feel that I am truly enriched by your insights.

So, really thank you for that. Kirk, what are your plans for your upcoming tenure as NKF president?

### **Kirk Campbell**

Yeah. Thanks so much for this great conversation as well. I think each president has a focus in terms of priorities, and NKF has a tremendous number of activities ongoing at the local, national level, international activities, also ongoing. And I've been involved in a lot of these ongoing initiatives. I think from a personal point of view, I'm most interested in enhancing screening detection practices for chronic kidney disease. I've been alarmed as I've, really appreciated the full scope of the number of individuals in this country with kidney disease who do not know, that they have it.

And I think we, as we stated earlier, can do more for patients at earlier stages of kidney disease now than at any time in our history. So, initiatives around CKD intercept, that's been piloted by National Kidney Foundation partnerships, with primary care doctors and



payers and state health agencies. will be quite exciting going forward to move the needle, around increase detection, as well as implementation right around, getting people the medications that they could benefit from the slow, the progression of kidney disease.

Those will be some of the major priorities. I'm also very excited about engaging with the National Kidney Foundation Innovation Fund that has the stated mission of investing, in earlier stage. Right. companies that are developing novel solutions to improve kidney health. And, there have been some early success stories in that regard that we do want to get more involved in.

And I'd also say the workforce is a big part of my concern as a former nephrology fellowship director, I do want to improve some of the support that we give to folks considering careers in nephrology as well as those at an earlier stage in their careers, or particularly trainees or early stage faculty around some of those career development support activities. So, looking forward to a lot of these initiatives.

#### **Peter Kotanko**

I'm glad that you bring up the workforce difficulties and I know that there are nephrologists, from abroad in the US that have run into difficulties with accreditation. Do you think that there is a pathway or that a more swift accreditation, or a lower barrier kind of accreditation of colleagues who have a proven track record of nephrology experience abroad, that this could help to mitigate the problem.

#### **Kirk Campbell**

Yeah, we definitely have, workforce challenges and a lot of, work done by the National Kidney Foundation and American Society of Nephrology. really, try to develop a framework for addressing these concerns. And I think that the barrier, for folks with expertise, from training in other countries is one piece of it, but there are also folks, who have trained in the US, who are from other countries who find it difficult to embark on academic careers.

And they have this innovative spirit, several of them, and they're not eligible. Right, for career development awards due to visa status, for example, and overall kidney research is not as well funded as it should be relative to other specialties. So, I think we're starting off with a smaller allocation than we should have to support the careers, right, of these trainees who want to contribute effectively to improve kidney health.

So it's going to really take, an all hands on deck approach, to think about some of these novel training paths, right, around the training experience, but also support for research, support for specialized clinical, training, medical education training, and so on. But again, we have to do it.

**Peter Kotanko**

Kirk, I really want to thank you so much for this wonderful conversation. I see that the future of the National Kidney Foundation and of nephrology in general will be in very, very good hands with you and, maybe we'll have a follow up conversation in a few years. Right., to look back and see what changes have been made because, I think it's actually a really exciting time to be a nephrologist.

With all those new drugs that are now available to slow down the progression of chronic kidney disease with new technologies like wearables, like apps, like the advent of AI. I think it's a really, really exciting time we live in and I'm totally convinced that under your leadership these innovations will be broad, will take center stage and will improve the lives of our patients. So, Kirk, thank you. Are there a few final sentences you want to share with us.

**Kirk Campbell**

No, I just to say I totally agree. It's an exciting time to be in the nephrology field and I'm really thankful that I have this opportunity to contribute to the development of initiatives that will improve kidney health for the patients that we all serve. So thank you again for meeting, with me today.

**Peter Kotanko**

Thank you. Thanks a lot Kirk. All the best.

Thank you for joining the Renal Research Institute for this episode of Frontiers in Medicine and Biology. We invite you to engage with us on our social media channels and look forward to seeing you again soon for the next episode of Frontiers in the Medicine and Biology.