

AN INTERVIEW WITH...

# Nicholas G. Inston, PhD

A conversation on research and innovation in vascular access, medical education in the COVID-19 era, work with the Transplant Links Community, and more.



**One theme in your writing and research is the need for creative options for vascular access. What new areas of research and innovation in vascular access are most exciting to you and why?**

The rapid progress in device development has been amazing. Vascular access presents some very unique challenges because it affects both the venous and arterial systems. The main area that is ripe for research is the basic science of how vessels remodel, both positively and negatively, after a fistula is created and how this may be manipulated through physical and pharmacologic approaches. Understanding the way endothelium reacts to the massive hemodynamic changes in vascular access may apply not only in vascular disease but also in areas such as placental pathology and angiogenesis of tumors.

**How would you define “end-stage vascular access,” and what factors do you consider when determining the best treatment strategy for these patients?**

Vascular access failure can be considered in stages, just as heart failure or chronic kidney disease is classified. With the National Kidney Foundation’s new Kidney Disease Outcomes Quality Initiative guidelines and the recommendation for a patient plan, considering vascular access failure in stages may become more important based on individual patients. New technologies are creating more options for access, so careful planning to prevent that end stage from being reached is critical.

**What role does the multidisciplinary team play in dialysis and renal care at your institution, and who comprises the team?**

Kidney failure is a multisystem disease, and I think most specialties are involved! The core team for dialysis access is centered on nursing, nephrology, surgery, and interventional radiology—with a critical role played by the dialysis access coordinators. Good cannulation

practice can’t be underestimated, and the dialysis nurses are critical for access outcomes and monitoring. The most overlooked members of the team are probably the patients and their relatives because they can monitor and cannulate their own access, particularly those patients on home therapy.

**The Transplant Links Community (TLC) charity, for which you are the Clinical Lead, has done great work providing hands-on kidney transplantation training in low- and middle-income countries. How did you get involved with this organization, and what are your favorite or most meaningful memories?**

In low-middle-income countries (LMICs), dialysis availability is limited and expensive or not available at all. A living donor kidney transplant is a straightforward and cost-effective solution. Throughout the last 10 years or more at TLC, we have been involved in programs in Africa, Asia, and the Caribbean. I’m proud to say I was on the very first visit and the most recent visit, and I have worked with some wonderful colleagues along the way. In transplantation, and particularly in LMICs, the most rewarding thing is seeing patients and their families who were losing hope return to healthy and fulfilling lives.

The basic purpose of TLC is to provide knowledge and skills transfer. We begin with a team approach to transplantation. Over time, the process goes from proof of concept (ie, that transplantation can be safely performed) to a mentoring process and then to involvement and support with complex cases.

On these visits, we assess the patients for future transplants, perform living donor transplants on suitable donor-recipient pairs, and catch up with previous transplant patients and their families. Along with this, we get involved in teaching and training about managing kidney disease, public health engagement, and media campaigning. Discussions with the government to develop policies around transplantation are really important, as are the meetings with local funding agencies who make it all possible.

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**In June you chaired the Vascular Access Consensus Session at Charing Cross 2020 Live, where you and panelists discussed new developments in the field, including drug-coated balloons and the percutaneous creation of arteriovenous fistulas. What is your view on the opportunities and obstacles for the wave of new therapeutic options in the dialysis access field?**

The COVID-19 pandemic has created so many frustrating issues that are obstructing the delivery and development of clinically important advances. Many clinical trials have been affected or suspended, including those in development. One huge opportunity that the pandemic has afforded us is the ability to closely examine the way we have been doing things and why we do them that way. Dialysis access problems need innovative solutions, and I think we will see from this improved practice that different approaches applied to common scenarios may prevail.

**As someone familiar with how the COVID-19 pandemic has affected medical education, how are you finding the transition from in-person to virtual meetings, and what does the future of medical education look like in your opinion? What elements of in-person meetings are hardest (or impossible) to replicate virtually?**

The quality of virtual meetings has improved dramatically in the last few months, and many are a very effective use of time. The ability to chat informally as well as the challenging question sessions and debates of the traditional conferences have not really been replicated yet. Time zones and international meetings are also a challenge—I've just agreed to a live presentation at 2 AM BST!

Medical education definitely must become more web-based, and some great packages are appearing, from operative surgical platforms to online journal clubs. It's an exciting time, and we must embrace the change.

**If a generous benefactor were to approach you and offer to fund a research and/or development initiative of your choosing and direction in the dialysis space, what would you request?**

I have a few interesting projects based around endothelial signaling molecules and potential drug targets if anyone wants to fund them! ■

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*Disclosures: Speaker, consultant, education, and Principal Trial Investigator for BD/Bard; consultant and research for Merit Medical.*

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