Procedures in Nephrology Fellowships: Time for Change

Donald E. Kohan

Division of Nephrology, University of Utah Health Sciences Center, Salt Lake City, Utah


I
n this month’s issue of CJASN, Berns and O’Neill describe the results of a survey of US adult nephrology training program directors (68% responded) on procedures performed by faculty and fellows at their institutions (1). The results are not surprising: The vast majority of programs require competency in performing native and transplant renal biopsies and placement of temporary hemodialysis access, whereas approximately 15 to 20% of programs perform tunneled catheter placement, peritoneal dialysis access placement, and/or therapy of stenosed/clotted vascular access. As one might expect given the lack of nationally mandated standards, there is no uniformity among programs on the required number of a given procedure. What is surprising is that such analysis of training program practices has not been done for 18 yr (2). Even more concerning is that there has been no analysis for 17 yr on the effectiveness of procedural training in preparing fellows to be practicing nephrologists (3). What, then, should renal fellowship programs be doing, and how do we make this determination?

Certain procedures are generally accepted as being integral to nephrology practice; relinquishing them would potentially affect the timeliness, quality, and safety of patient care. Such procedures are appropriately mandated by the American College of Graduate Medical Education (ACGME): Renal biopsy and temporary hemodialysis access. The latter is obvious: Nephrologists should have the ability to place emergent access. With regard to renal biopsies, only nephrologists can make real-time decisions about adequacy of sample size given the suspected diagnosis. Nephrologist-obtained renal biopsies yield similar numbers of glomeruli but fewer severe complications, as compared with radiologists (4). Scheduling conflicts may preclude timely biopsy performance by radiologists, particularly in emergent cases. Approximately 50 to 60% of surveyed training programs are doing or planning to do their own ultrasound guidance (1). This technique is readily mastered, requiring relatively minimal training using inexpensive portable ultrasound devices. Given the rapid growth in nephrologist-performed ultrasound guidance, it is evident that this is being perceived as a valuable technique to teach fellows.

Other procedures are being increasingly performed by training programs but are not ACGME mandated. Dr. O’Neill has provided superlative leadership in establishing diagnostic ultrason sound within the nephrologist’s domain (5). The major issues relate, however, to interventional nephrology procedures. Aside from the obvious financial implications, does nephrologist performance of these procedures affect the timeliness, quality, and safety of patient care? Most of us have experienced frustrating delays in tunneled dialysis access placement, peritoneal dialysis catheter insertion, or vascular access repair; even the most cooperative radiologists and surgeons have competing priorities and are less inclined to prioritize the procedure as highly as the nephrologist. Non-nephrologists fully realize that temporary dialysis access can be provided to buy time, whereas nephrologists see the risks associated with delayed definitive treatment, including reduced dialysis access sites, patient inconvenience and suffering, and infection. Furthermore, nephrologists are most highly invested in making innovations in and conducting research about these procedures. Tunneled dialysis catheters, access (fistula and graft) declotting, and access (fistula and graft) angioplasty can be safely and effectively done by nephrologists and with lower complication rates than reported by other services (6,7). Similarly, peritoneal dialysis catheter insertion by nephrologists can be safely done and may even improve use of this dialysis modality (8,9). However, there is no need for every renal fellow to become an interventionalist. Given the estimate of approximately 500 dialysis patients supporting one interventional center (6) and given that such a center requires at least two interventional nephrologists, clearly a minority of nephrologists with these skills would be needed. As such, it is more rational to view interventional nephrology, as stated previously (10), as akin to interventional cardiology: Fellows could have the option to train in these techniques but not to make them integral to all general nephrology training programs. Under no circumstances should interventional nephrology training be mandated by the ACGME; given the growth in interventional nephrology programs, it is likely that adequate training for interested fellows will become available in the not-too-distant future. It is notable that 20 to 30% of surveyed renal training programs were performing or were planning on performing these procedures (1); if this is reflective of the entire United States, then we may be approaching “adequate” training opportunities for fellows who are interested in interventional nephrology.

A key question addressed by the training program survey was how many programs were performing procedures with no minimum number required for documentation of competence. Of note, 30 to 40% of responding programs had no minimum requirement for the ACGME-mandated procedures. Presum-
ably, all of these programs assessed competence; however, how this is accomplished was not reported. Should a minimum number of required procedures be established, should competency assessment be independent of numbers of procedures, or should there be some combination of minimum numbers and competency assessment? With regard to temporary vascular access and renal biopsies, the American Board of Internal Medicine sets no minimum numbers, whereas the ACGME is increasingly moving away from mandating a minimum number of procedures toward program-defined competency. This leaves each program free to create their own standards; however, the caveat is that ACGME will ask the programs to demonstrate that their competency standards are effective (i.e., backed by outcomes data). It is extremely doubtful that most programs have validated their competency standards, assuming that they have even clearly elaborated such standards. Furthermore, how does the ACGME site visitor determine whether program practices are acceptable, because precise criteria for program evaluations are lacking? A reasonable solution would be that nephrology training program directors, working closely with practicing nephrologists, develop guidelines for competency assessment (including consideration of the use of simulators) as well as examination of outcomes. Such outcomes analysis could be based on analysis of multicenter procedural outcomes, including incidence of complications and success of procedures. Validated guidelines would remove the onus from each training program to prove its own system works, would assist in hospital credentialing, and would facilitate satisfying ACGME requirements. Whether such guidelines involved minimum numbers would be for this group to decide, but decide it must—nephrologists must take the initiative.

Amazingly, 60% of responding programs had no minimum requirement for ultrasound (guidance or diagnostic), peritoneal dialysis catheter insertion, or endovascular procedures (1). The American Society of Diagnostic and Interventional Nephrology (ASDIN) was founded in 2000 with the purpose of promoting the proper application of nephrology procedures. ASDIN has established minimum numbers of procedures for certification in renal ultrasound, peritoneal dialysis catheter insertion, tunneled catheters, and endovascular procedures; however, ASDIN certification is not officially recognized by other societies; neither, as is apparent from the survey, are most interventional nephrologists held to ASDIN standards. It is essential that renal training program directors work with ASDIN, practicing nephrologists, and relevant societies to develop standard guidelines. These guidelines should be evidence based; such analysis would be facilitated by formation of a national procedural database that catalogues success rates (acute and long term) and complications. This database would also serve as a valuable resource for academic studies. As increasing numbers of subspecialty programs are being certified by the ACGME and trainees certified by the American Board of Internal Medicine, it is essential that nephrologists join to determine the future of interventional nephrology accreditation and credentialing. Care must be taken in this process: As the ratio of patients with ESRD and chronic kidney disease to nephrologists increases, we must be diligent in maintaining adequate general nephrology care.

Drs. Berns and O’Neill should be congratulated for performing this analysis of training program practices—it is long overdue. These findings should be considered a call to arms. As a specialty, we are at risk for failing to steer our own course in training fellows in procedural nephrology. It is time for us to begin the process of developing evidence-based procedural guidelines that establish the standards for high-quality patient care and fellow competency.

Disclosures
None.

References