

# Updated KDOQI Guidelines on Vascular Access: What to Expect

A brief summary of some of the changes in hemodialysis access over the past decade and what can be expected in the upcoming KDOQI guidelines.

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Over the past decade, multifaceted changes have affected hemodialysis vascular access, including approaches to and perceptions of vascular access, vascular access research, and clinical vascular access management and patient care. Many of these changes have been inspired by the 2006 National Kidney Foundation Kidney Disease Outcomes Quality Initiative (KDOQI) guidelines.<sup>1</sup> For example, the Fistula First Initiative was a quality care initiative that occurred, in large part, in response to the KDOQI guidelines' support of the arteriovenous fistula (AVF) as the preferred vascular access. This led to an impressive nationwide effort to increase both AVF creation and use.

Although the Fistula First Initiative was hugely successful, there were also some unintended consequences—both positive and negative. This effort revealed the high risk of AVFs failing to mature. This led to two large research studies funded by the National Institutes of Health and led by the Dialysis Access Consortium. The first study was the largest double-blind, randomized controlled trial of AVFs to date, evaluating an antiplatelet agent (clopidogrel) to reduce AVF primary failure.<sup>2</sup> Although the study met its primary outcome of reducing early thrombosis, clopidogrel did not improve the clinically significant outcome of increasing AVF maturation and usability for dialysis. This importantly highlighted the community's knowledge gaps in understanding the pathophysiology and mechanisms of fistula maturation and failure. As a result, a second National Institutes of Health-funded study was undertaken to better

understand the predictors (eg, clinical, anatomical, biological, and process of care) of AVF maturation success and failure.<sup>3</sup> On the clinical front, there was an unintended increase in central venous catheter use concurrent with the efforts to increase AVF creation.<sup>4</sup> These events led to an amendment of the original quality initiative to Fistula First and Catheter Last.

## RESPONSIVE CHANGES TO THE UPCOMING KDOQI GUIDELINES

As there are highly responsive and linked interactions of clinical care, quality improvement, research, and KDOQI guidelines, the upcoming KDOQI guidelines (anticipated to be completed in 2018) will also reflect the workgroup's very careful and responsive considerations of the changes that have occurred over the past decade. The 2006 guidelines have raised valid clinical and scientific questions that led to the generation of new data that must be considered and incorporated. For example, while the previous KDOQI guidelines made recommendations on arteriovenous access (AVF and arteriovenous graft) surveillance based on observational data, more rigorous data from randomized clinical trials have arisen that necessitate reevaluation. The scientific community has gained sophistication in guideline development, grading, and reporting that will be incorporated in the upcoming KDOQI guidelines. The landscape of medical care has shifted from a predominantly population-based approach to a personalized or patient-centered approach, and this personalized approach is closely aligned with the new approach of the upcoming guidelines.

These updated KDOQI guidelines will embrace an approach to the patient's end-stage renal disease (ESRD) life plan,<sup>5</sup> where the focus will not be on "the best vascular access now," but rather will emphasize an iterative and comprehensive consideration of what access is most appropriate for an individual patient at the current time, as well as in the future, and considers what has happened in the past. It considers vascular access in the context of nondialysis chronic kidney disease and all ESRD modalities (peritoneal dialysis, transplantation, and hemodialysis) in order for patients to have true lifelines (not a single lifeline) that reflect their lives and medical circumstances, modality and access preferences, and goals. The upcoming KDOQI guidelines will promote and support an approach to vascular access that attempts to achieve "the right access, in the right patient, at the right time, for the right reasons." ■

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*Disclosures: None.*

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