

# The Future of Dialysis Access Is Now



Twenty years ago, hemodialysis access was largely neglected and poorly understood. Most patients in the United States who required renal replacement underwent hemodialysis using an

arteriovenous graft (AVG). Catheters were acceptable, and arteriovenous fistulas (AVFs) were the predominant type of hemodialysis access used in Europe and Asia. Now, AVFs are prevalent in the United States, and use of AVGs and catheters is discouraged. In the backdrop of these changes, we have seen the expansion of renal replacement and the rising cost for care. In 2015–2016, Medicare fee-for-service spending for beneficiaries with end-stage renal disease (ESRD) accounted for 7.2% of overall paid claims—a total of \$35.4 billion.<sup>1</sup> Renal replacement is shockingly expensive and continues to be one of the most inefficient and fragmented components of ESRD care, hence the need for ongoing innovation, economy, and appropriate use of resources. There are many components of ESRD that can be optimized, but hemodialysis vascular access has been in the cross-hairs!

The Fistula First Breakthrough Initiative, now called Fistula First Catheter Last, has successfully increased the incidence and prevalence of AVFs in the United States ESRD population. It aims to reduce central venous catheter use, as well as morbidity and mortality for hemodialysis patients, while containing costs. Although programs that aim for better outcomes have proven beneficial, those of us who care for ESRD patients must balance a programmatic approach for all ESRD patients to one where we do the right thing, for the right reason, and at the right time for each person. Perhaps, for some, it's best to consider peritoneal dialysis, maybe an AVG or catheter for hemodialysis if it is more appropriate than an AVF, and sometimes it's best to take a palliative care approach.

Along this march toward a sensible and comprehensive approach to renal replacement have been great strides to improve our ability to create, maintain, and salvage hemodialysis access. This dialysis access edition of

*Endovascular Today* captures many of those innovations and insights. An expert panel discusses the burgeoning field of nonsurgical, catheter-based AVF creation. Covered stents, initially developed to treat aortic aneurysms, have been proven to extend patency in AVGs and AVFs beyond angioplasty, as shown in a summary of covered stent trials by Dr. Dolmatch and Ziv Haskal, MD. Technical aspects of covered stent placement in the cephalic vein arch are presented by Drs. Andrew Wigham and James Gilbert, and tools and techniques to address thoracic central vein obstruction are reviewed by Mark Lessne, MD, and Brian Holly, MD. With recent and ongoing clinical trials using paclitaxel-coated balloons in AV access, there's no escaping discussion of potential safety concerns. A second panel discussion centers on the safety of AV access maintenance using this technology. With catheter-based AVF creation, covered stents, drug-coated balloons, and more technology on the way, Terry Litchfield, MPH, reviews some of the most recent coding and billing conundrums in the field of dialysis access. Finally, if safety in AV access creation and maintenance is your interest, Ingemar Davidson, MD, and coauthors will explain how you can become the champion of safe and contemporary practice in your community.

We've put together an all-star team of talent in this edition, and we hope it provides a window to the world of renal replacement and progress in dialysis access. If you're interested in this topic, there are many ways to develop your knowledge, judgment, and skill beyond this edition of *Endovascular Today*. Continuing education meetings are held in the United States and internationally, with upcoming dialysis access conferences such as the Controversies in Dialysis Access ([www.dialysiscontroversies.org](http://www.dialysiscontroversies.org)), American Society of Diagnostic and Interventional Nephrology ([www.asdin.org](http://www.asdin.org)), and Vascular Access Society of the Americas ([www.vasamd.org](http://www.vasamd.org)) meetings. The medical community clearly sees the need for better strategies and therapies to help patients who need renal replacement. ■

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1. United States Renal Data System. Chapter 9: healthcare expenditures for persons with ESRD. [https://www.usrds.org/2018/view/v2\\_09.aspx](https://www.usrds.org/2018/view/v2_09.aspx). Accessed May 11, 2019.