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National survey shows lack of kidney patient awareness about minimally invasive options for hemodialysis access point creation

National Kidney Foundation and Medtronic survey found dialysis patients' top concerns potentially better addressed by minimally invasive AV fistula creation procedures

A survey recently conducted by Medtronic and the National Kidney Foundation found that patients undergoing hemodialysis lack awareness about minimally invasive treatment options for creation of an arteriovenous (AV) fistula. The survey of more than 400 dialysis patients and care partners also showed patients have a high level of trust for their physicians, presenting an opportunity for greater patient-physician dialogue around treatment options for candidate patients.[‡]

"Blood access is one of the greatest challenges faced by people treated with hemodialysis both at home or in a clinic," said Dr. Joseph Vassalotti, M.D., chief medical officer for the National Kidney Foundation. "Hemodialysis access complications can include infection and mechanical complications that are related to frequent use, typically three times weekly. A mature AV fistula as a hemodialysis access generally has lower complication rates than hemodialysis catheters."

To receive hemodialysis– a procedure where a dialysis machine and filter are used to clean a patient's blood– a kidney patient requires an access point. For many patients, this is done through the creation of an AV fistula– a fusion of a vein and artery, usually in the arm.

Gaps in Current Standard of Care

The long-standing standard of care for the last 50 years to create an AV fistula as a dialysis access point is an open surgery, which requires an incision in the arm or wrist. Nearly all patients surveyed (about 95%) reported having had surgery to create their fistula. Less than 4% of patients reported they received a newer minimally invasive AV fistula creation procedure. Minimally invasive AV fistula procedures have been available for approximately five years.

The survey revealed patients' top concerns when speaking to their physician about a hemodialysis access

procedure, including long-term maintenance and upkeep (45%), effectiveness of the fistula (42%), and fear of complications (30%).

Addressing Patient Preferences with Minimally Invasive Solutions

Minimally invasive AV fistula creation procedures often do not require open surgery. With these procedures, physicians will use a catheter such as the Ellipsys™ vascular access system from Medtronic, which received FDA clearance in 2018, that uses heat to fuse the artery and vein together in a procedure that usually takes 30 minutes or less.[1]

"Minimally invasive AV fistula creations are an emerging technology, so there is great opportunity to help kidney patients who will require dialysis to learn more and discuss with their physician if they are a candidate for this type of fistula creation," said Terry Litchfield, a kidney patient advocacy consultant. "Patient feedback on using minimally invasive technology to create a fistula has been positive. For example, hemodialysis patients have said that they appreciate that a fistula can be created through an outpatient procedure rather than an open surgery."

Clinical studies have shown that patients who have a fistula access created using a minimally invasive technique tend to have better outcomes[2] and find the experience easier[2] than patients who've undergone a more invasive surgery.[§]

Survey results indicated that patient concerns regarding dialysis access via fistula include ability to return to an active lifestyle (32%), appearance of the fistula on their body (26%)[2], and recovery time and side effects[1] (14%). Minimally invasive AV fistula creation procedures, like the Ellipsys system procedure from Medtronic, directly address these patient concerns.

"Patients having a voice leads to patients having a choice," Litchfield said. "There needs to be greater awareness among patients that minimally invasive fistula creations procedures are an option for many people. When patients are informed about all their eligible options, the treatment plan becomes their choice."

The patients with kidney disease/care partners surveyed also reported a high level of trust for physician guidance in treatment plans, showing an opportunity for more patient-physician dialogue around treatment options. Within the poll, 79% of patients/care partners reported they had talked to a nephrologist for trusted treatment information and 76% ranked physician recommendation as the top factor impacting their treatment selection.

"Shared decision making between the patient and nephrology care team about the options for kidney failure replacement therapy is very important," Dr. Vassalotti said. "Focusing on shared decisions can help patients better understand their kidney failure replacement options, including kidney transplantation, hemodialysis at home or in a center, or peritoneal dialysis. Our goal is that kidney patients can have multiple interactions with their care team, supported by educational materials from NKF and others that leave them feeling well informed about the full scope of treatment options."

To find more information and resources from the National Kidney Foundation, visit https://www.kidney.org/ and to learn more about fistula solutions and, visit medtronic.com.

About this survey

The survey was conducted online within the United States by the National Kidney Foundation and Medtronic. 420 National Kidney Foundation members who self-reported as being a person currently or previously on dialysis or care partner for a person currently or previously on dialysis responded to an email survey. The survey ran from March 20-March 29, 2023. A total of 420 National Kidney Foundation members responded to the survey. The respondents were 75% dialysis patients and 25% family, friend or other relation to a dialysis patient. Respondents were 51% male, 47% female, and 1% non-binary; 75% were over the age of 50 and 23% under 50 years old. Dialysis start times were reported as less than one year by 12%, 1-2 years by 29%, 3-5 years by 25%, and more than 5 years by 33% of respondents. Having hemodialysis access by an AV fistula was reported by 62% (259) of patients and/or care partners surveyed.

About Medtronic

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About the National Kidney Foundation

The National Kidney Foundation (NKF) is the largest, most comprehensive, and longstanding patient-centric organization dedicated to the awareness, prevention, and treatment of kidney disease in the U.S. For more information about NKF, visit www.kidney.org.

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‡ Candidate patients may include up to 65% of the general ESKD population.[1,3,4,5,6,7]

§ With any fistula creation procedure, risk for complications related to any of these concerns is possible. Risks may include total/partial occlusion or stenosis of the anastomosis, failure to achieve fistula maturation, Steal Syndrome, hematoma, infection, and need for vessel superficialization or other maturation assistance procedures.

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2. Beathard GA, Litchfield T, Jennings WG. Two-year cumulative patency of endovascular arteriovenous fistula. J Vasc Access. May 2020; 21(3):350-356.

3. Shahverdyan R, et al. Comparison of Ellipsys percutaneous and proximal forearm gracz-type surgical arteriovenous fistulas. Am J Kidney Disease. Oct 2021; 78(4):520-529.

4. Franco G, et al. Feasibility for arteriovenous fistula creation with Ellipsys. J Vasc Access. Sept 2020; 21(5):701-704.

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https://news.medtronic.com/National-survey-shows-lack-of-kidney-patient-awareness-about-minimally-invasive-options-for-hemodialysis-access-point-creation