



Patients with Dialysis Access

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Condition

Chronic kidney disease (CKD) is the ninth leading cause of death in the U.S, outpacing breast and prostate cancer.

About 37 million people in the U.S. have CKD. Hemodialysis is the most widely used form of kidney replacement therapy; over 500,000 patients receive hemodialysis. Adequate access for hemodialysis dramatically influences both the quality and longevity of life in patients on dialysis.

Because of its importance in maintaining quality of life and survival in CKD patients, establishing a long-term plan for hemodialysis is an important aspect of their care.

When to Refer

The SVS recommends referral of patients choosing hemodialysis as their preferred kidney replacement therapy once they have Stage 4 CKD (GFR < 30 ml/min/1.73m²). Persistent albuminuria, with sustained levels > 30mg/mmol, also places patients at high risk for kidney failure. Referral is recommended once either of these conditions is met to allow adequate time for access creation and maturation before the patient needs dialysis. Patients referred to vascular surgeons more than 1 month before needing dialysis require temporary dialysis catheters less than 5% of the time. Reducing dialysis catheter use is associated with better long-term outcomes for CKD patients.

Why Refer to a Vascular Surgeon

The guidelines of the National Kidney Foundation's Kidney Disease Outcomes Quality Initiative (KDOQI) suggest creating a "Life-Plan" for each CKD patient based on his/her needs and preferences. Future hemodialysis options should be considered during initial consultation. As the only specialty that provides all aspects of hemodialysis access creation and maintenance, vascular surgeons can provide both the immediate and ongoing needs of the hemodialysis patient.

Vascular surgeons offer percutaneous and open surgical techniques to establish and maintain access, as well as to rescue failed hemodialysis access.

Dialysis Access Clinical Practice Guidelines*

Patients with advanced CKD disease (late stage 4) should be referred to a vascular surgeon to plan the construction of AV access

- If upper extremity arterial and venous anatomy are adequate for autogenous AV access, it should be constructed as soon as possible to allow time for maturation or revision as needed so it is ready to use at the initiation of hemodialysis.
- If prosthetic access is instead needed, it can be delayed until just before dialysis.

Recommended Operative Strategies

- AV accesses should be placed as far distal in the upper extremity as possible, and when possible, an autogenous vein should be used, with preference given to the non-dominant arm if options are equal in both upper extremities.
- Lower extremity and body wall access sites are used only after all upper extremity access sites have been exhausted.

*The Society for Vascular Surgery: Clinical practice guidelines for the surgical placement and maintenance of arteriovenous hemodialysis access:

<https://www.jvascsurg.org/article/S0741-5214%2808%2901399-2/fulltext>

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