The Gold Standard

Vascular Access Flow
Aragoncillo I et al, “Adding access blood flow surveillance reduces thrombosis and improves arteriovenous fistula patency: a randomized controlled trial,” J Vasc Access. 2017 Apr 20:0. (Transonic Reference # HD11190) QA-based surveillance combining Doppler ultrasound and ultrasound dilution reduces the frequency of thrombosis, is cost effective, and improves thrombosis free and secondary patency in autologous AV.


Recirculation
MacRae JM et al, “The Cardiovascular Effects of Arteriovenous Fistulas in Chronic Kidney Disease: A Cause for Concern?” Seminar in Dialysis 2006; 19: 349-352. (Transonic Reference # HD7337A) A thorough cardiac assessment should be performed in patients with CAD prior to placing an AVF. Regular careful evaluations are necessary in patients with cardiac disease and AVFs. Patients with high flow fistulas (flow greater than 2L/min) and increasing LVEDV are recommended to have a flow reduction procedure on their AVF.

Pediatric

Goldstein SL, Allsteadt A, “Ultrasound Dilution Evaluation of Pediatric Hemodialysis Vascular Access,” Kidney Int 2001; 59: 2357-2360. (Transonic Reference # HD11190) Ultrasound indicator dilution (UD) is a valid indicator of access flow in children. “When the uncorrected flow value reported by UD is corrected for patient body surface area, UD is predictive for the presence or absence of severe AV graft stenosis, regardless of patient size.”

Comparison of Methodologies

Pressure Versus Flow