

## **SHORT AND LONG TERM OUTCOMES IN ARTERIOVENOUS FISTULAS REQUIRING INTERVENTIONS TO PROMOTE MATURATION**

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The emphasis on “Fistula First” has likely resulted in more interventions to promote AVF maturation and maintain patency of previously functional AVFs. Primary failures due to thrombosis or inadequate maturation remains a significant barrier in improving prevalence of AVF use. The objective of this study is to study both short-term and long-term survival among AVFs which require interventions to promote maturation and maintain patency compared to those that did not require interventions to promote maturation.

A retrospective review of University patients who received autologous AVFs from January 2002 to March 2008 was performed. In total, we identified 127 patients during this period. 74.8% were male, 69.3% blacks, 53.5% diabetics, 24.4% had peripheral vascular disease, 70.1% with upper arm accesses, and 42.5% requiring intervention before AVF maturation. There were no demographic differences between patients who had an intervention before AVF maturation and those who did not.

Patients with interventions prior to AVF maturation compared to those without interventions had worse cumulative survival (mean survival 797 vs 970 days,  $p=0.0044$ ), postintervention primary patency (median survival 96 vs 605 days,  $p=0.004$ ) and postintervention secondary patency (median survival 390 vs 630 days,  $p=0.036$ ) and, and longer time to first AVF use (median time 127 vs 85 days,  $p=0.0068$ ).

Patients with interventions prior to AVF maturation had worse short and long term outcomes, and required longer maturation time before first use. Interventions may induce endothelial injury, inflammation, and oxidative stress, resulting in worse short and long-term AVF survival. Our results emphasize the importance of being able to identify prognostic markers that determine AVF survival following an intervention to promote AV fistula maturation.