

## **Minimizing Failures in Arteriovenous Fistula (AVF) In Hemodialysis (HD) patients in Lebanon**

### **Abstract**

Background: The AVF have been shown to have superior performance with better safety profile than a graft, providing durability, lower complications (infection, stenosis and thrombosis) and provide high blood flow rates to deliver the needed dialysis dose. Early AVF failure may be due to insufficient venous and/or arterial dilation or venous neointimal hyperplasia. Additionally, pre-operative assessment of the patient's vasculature by the surgeon before AVF insertion may play a crucial role in either success or failure of the AVF.

Significance: This study will evaluate existing practices of AVF insertion by vascular surgeons in Lebanon and the characteristics of failed and successful AVFs in Lebanese HD patients. The results can provide evidence that can be formulated into specific recommendations for pre-operative assessments, and standardized guidelines for the construction and maintenance of AVFs, and the management of their complications.

Methods: The HD units at 7 hospitals will be included in the study with a combined HD population over 600 patients. A total of about 250 patients who initiated dialysis at these hospitals either during the 12 months prior to study start (historical cohort) or during the first 12 months of the study (prospective cohort), are estimated to be eligible for the study. Data will be obtained through chart abstraction, surgeon's notes, and actual ultrasound and hemodynamic flow measurements. Structural and operational characteristics of failed vs. successful AVFs will be compared as well as the risk profile of the patients who had them.

Interpretation of results: Understanding the practical issues of AVF failure and success in HD patients in Lebanon is essential to improving the practices and hence the outcomes of these critical lifelines, with the hopes of minimizing the potential for failed AVFs through clear guidelines and process standardization.