



# Breakthrough Initiative - National Coalition

## Recommendations for the Avoidance of Radial Artery Access for Procedures

Patients with Stage 3-4 chronic kidney disease (CKD) are at risk for progression to kidney failure (ESRD, or Stage 5 CKD). Patients with ESRD may be dependent on hemodialysis for life-sustaining renal replacement therapy. Hemodialysis requires construction of a vascular access to the bloodstream by way of arteriovenous fistulae (AVF) or grafts (AVG). Maintaining arterial integrity is essential to provide a future dialysis vascular access for these patients. The *Fistula First Breakthrough Initiative National Coalition* recommends NOT using the radial artery for access of the arterial vasculature in patients at risk for, or with known Stage 4 and 5 CKD or ESRD, in order to avoid risk to arteries which may be needed for future arteriovenous dialysis access.

The radial artery approach for cardiac catheterization is sometimes employed and is gaining popularity in order to minimize the potential morbidity associated with femoral artery cannulation. In patients who dialyze by way of an upper extremity AVF or AVG, it is recommended that venopuncture and the taking of blood pressure be avoided in these extremities.

Similarly, maintaining arterial integrity for future dialysis access is essential in patients with Stages 3 and 4 CKD who are at risk for progression to dialysis-dependent ESRD. In such patients, arteries in *both* arms that could be used for future hemodialysis vascular access **MUST** be preserved or protected from vascular interventions.

### Summary:

Until further data are obtained about the risk of progression to kidney failure, the Fistula First recommendation is that the radial artery not be used as the access vessel for cannulation in anyone identified as having Stage 4 and 5 CKD or ESRD. Compromised vessel integrity could lead to the loss of usable upper extremity vasculature.

### Points to remember:

- CKD classification is based on National Kidney Foundation KDOQI CKD Guidelines (National Kidney Foundation [NKF], 2002 using estimated glomerular filtration rate (eGFR)
- Obtain a GFR estimate<sup>2</sup> for all patients with high serum creatinine levels
- Avoid use of the radial artery in patients with Stage 4 and 5 CKD or ESRD.
- Patients at risk for progressive CKD include those with diabetes, hypertension, and other cardiovascular conditions (NKF, 2004)

### Reference

National Kidney Foundation. K/DOQI clinical practice guidelines for vascular access (2006). *Am J Kidney Dis* 48 (Suppl 1): S1248-S273. Available at <http://www.kidney.org>

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