

The Renal Network, Inc.
**Reducing the Use of PICC Lines
in Chronic Kidney Disease Patients**

Patient Requires Venous Access¹

Options:

- Peripheral IV
- PICC Line
- Small Caliber Tunneled CVC or Port

PICC Line Requested

Does patient have CKD Stage 3 or greater?²

Creatinine > 2.0 and/or GFR <43ml/min

YES
CKD Stage 3 or Greater

NO
PICC Line Acceptable



Small Caliber Tunneled CVC³

References for PICC Avoidance Algorithm

1. All intravenous access devices carry risk so a thorough assessment of the need for IV access is essential. Is there alternative oral therapy? How difficult is peripheral venous access? How long is venous access needed? How frequently are venous blood draws needed? The more difficult the peripheral venous access, the more frequent the blood draws, and the longer venous access is required the more likely an alternative to peripheral IV is needed (Ports should be considered in those with greatest challenges in this regard).
2. **Patients with advanced stage 3 CKD, stage 4 CKD, stage 5 CKD, ESRD or kidney transplant should not have a PICC line placed.** Each institution should establish a protocol to ensure that the appropriate lab parameter is checked when a request for PICC line is received and prior to placing the line. Routine orders should be in place to prevent PICC placement in this patient population.

Stages of Chronic Kidney Disease (CKD)		
Stage	Description	GFR (mL/min/1.73m ²)
1	Kidney Damage with normal or increasing GFR	≥90
2	Kidney Damage with mild decrease in GFR	60-89
3	Moderate decrease in GFR	30-59
4	Severe decrease in GFR	15-29
5	Kidney Failure	<15 (or dialysis)
Chronic Kidney Disease is defined as either kidney damage or GFR<60mL/min/1.73m ² for ≥ 3 months. Kidney damage is defined as pathologic abnormalities in blood or urine tests and imaging studies. (NKF, 2002)		

3. The catheter (or port) should be placed in the **internal or external jugular veins**. The subclavian vein or extremity veins should not be used.