Surgical Management of Patient with CKD stage 4-5

The general surgical management approach to patients with CKD stages 4 and 5 follows the 30-20-10 principle, based on the patient’s estimated glomerular filtration rate (eGFR). Under the 30-20-10 principle, patients should be referred to a nephrologist with an eGFR of 30 ml/min or less; referred to the access surgeon with an eGFR of 20 ml/min; and have dialysis initiated with an eGFR less than or equal to 10 ml/min. The expectations and actions listed below are stratified by eGFR. (See separate statement of Goals and Action Steps).

<20ml/min

- The surgeon should expect to have venous mapping results and some guidance from nephrologists regarding expected timing of initiation of dialysis to help select an AVF or AVG;

- There is a strong preference for AVF placement but the goal is utilization of the Central Venous Catheter (CVC) option last; AVGs are preferable to having a patient with a non-matured AVF at 3 months with a CVC;

- Along with hospitals, access surgeons should work to prioritize AV access placement regarding visits and operating room time; ideally patients should be seen within 2 weeks and have access placed within 3-4 weeks.

- 4 weeks after placement, the AVF should be examined for maturation, and if it is determined that the AVF will not be adequate for use 8 weeks after placement, then the patient should be referred to an interventionalist.

<15ml/min

- An AV access or PD catheter (considered as a bridge to an AV access) should be in place;

- Surgeons should be responsive to ongoing management of vascular access issues. For example, if surgery is necessary, it should be performed in a timely manner;

- Any patient starting hemodialysis with CVC should have a plan for permanent access developed within two weeks;

- Monitoring of AVF should follow "Rule of Six": that is, six weeks after creation of the AVF, the AVF should have a blood flow of >600 ml/min; >6mm in diameter, and < 6 mm below skin surface. Intervention by an interventional nephrologist or a surgeon should occur if the "rule" not met;

- Generally, an AVF should be cannulated by an experienced practitioner at 8 weeks without the need for clearance by a surgeon.