

PRESERVATION OF RENAL REAL ESTATE

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OBJECTIVES

- ▶ To standardize best practices for evaluation and assessment for this patient population.
- ▶ Empower the Vascular Access Team (PICC RN's) to assess and provide recommendations for the most appropriate venous access while preserving the integrity of peripheral veins for future hemodialysis access
- ▶ Promote awareness among nursing staff not to place peripherally guided ultrasound piv's in upper arm extremities.
- ▶ Provide education to these patients encouraging them to become an active participant and advocate for their own vein preservation.

WHAT CAUSES VENOUS INJURY

1. Frequent venipuncture
2. Indiscriminate use of peripheral intravenous lines
3. PICC's
4. Central Venous Catheters
 - ▶ a) Can occur at time of insertion
 - ▶ b) Injury can progress if the catheter remains for extended periods of time.
 - ▶ c) Can cause phlebitis, venous sclerosis, stenosis and thrombosis.
 - ▶ d) Impair venous circulation
 - ▶ e) Damage veins
 - ▶ f) Jeopardize future fistula construction or function.

WHY GUIDELINES??

- ▶ Two fold purpose:
 - ▶ a) provide criteria for early identification of CKD patients who will likely need HD graft or fistula in the future.
 - ▶ b) Provide an algorithm for delivery of optimal venous access in these high risk patients.

HOW TO IDENTIFY CKD PATIENTS

- ▶ Obviously those patients with CKD 3-5, currently receiving hemodialysis or peritoneal dialysis.
- ▶ Patient with a functional or non functional kidney transplant.
- ▶ Patients with a GFR <60 or INR >2.0

WHAT VEINS DO WE USE

- ▶ PIV access in the dorsal hand veins in the dominant arm are first choice.
- ▶ PIV access in the dorsal hand veins in the non-dominant arm are second choice.
- ▶ The internal jugular veins are the preferred location for central venous access.
- ▶ The external jugular veins are an acceptable alternative for venous access.

WHAT VEINS DO WE AVOID






- ▶ Subclavian veins should not be used for central venous access.
- ▶ Avoidance of upper arm Cephalic and Basilic veins
- ▶ The forearm cephalic vein, the antecubital veins, and the upper arm veins should not be used for peripheral venous access.

HOW TO ACCOMPLISH

- ▶ Education is the key!!
 - ▶ Patient education is a must
 - ▶ Physician
 - ▶ Vascular Access Nurse
 - ▶ Fistula First, Catheter Last
 - ▶ Right Access for the Right Patient

Classification of Chronic Renal Disease

<u>Stage</u>	<u>Description</u>	<u>eGFR</u>
1	“Normal” renal function	>90
2	“Mild” renal dysfunction	60-89
3	“Moderate” renal dysfunction	30-59
4	“Severe” renal dysfunction	15-29
5	“End-Stage” renal dysfunction	<15

STAGES OF CHRONIC KIDNEY DISEASE		GFR*	% OF KIDNEY FUNCTION
Stage 1	Kidney damage with normal kidney function	90 or higher	 90-100%
Stage 2	Kidney damage with mild loss of kidney function	89 to 60	 89-60%
Stage 3a	Mild to moderate loss of kidney function	59 to 45	 59-45%
Stage 3b	Moderate to severe loss of kidney function	44 to 30	 44-30%
Stage 4	Severe loss of kidney function	29 to 15	 29-15%

REFERENCES

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QUESTIONS ?