Guideline at a Glance

Selection of Permanent Hemodialysis Vascular Access

(Approved May 11, 2007)

BC Renal Agency
An agency of the Provincial Health Services Authority

The full version of this guideline is located on the BC Renal Agency website http://www.bcrenalagency.ca/committees/pvas/ProvGuide.htm. "Guideline at a Glance" summarizes the highlights.

	Recommendation	HA/ HD Centre
1	The preferred vascular access for patients requiring chronic HD is AV fistula, then AV graft, then catheter. ► Refer for AVF creation when GFR <25 mL/min & change is >5mL/min/yr	☐
2	Target timelines for vascular access creation/placement are: • AVFs: >3-4 months prior to the anticipated start of HD • AVGs: 3 – 6 weeks prior to the anticipated start of HD • Catheters: as close as possible to the anticipated start of HD	☐
3	Prior to creation/placement of a vascular access, conduct (1) a thorough history and physical examination; and (2) vessel mapping in all patients. ► Preoperative vessel mapping has been shown to increase the proportion of patients dialyzing with fistulae. ► Duplex ultrasound is the preferred method for vessel mapping, especially for complex cases. At a minimum, vessel mapping via portable ultrasound is recommended, with duplex ultrasound being available as needed. ► Central veins may be assessed indirectly using duplex ultrasound or magnetic resonance angiography (MRA) or directly using venography. For patients not yet on dialysis, the benefits of venography must be weighed against the risks associated with exposure to contrast media.	☐
4	If the vessels are adequate, use the non-dominant arm for creation/placement of a permanent HD access; if not, use the dominant arm.	☐
5	For AV fistulas, the preferred order of creation is: (a) radio-cephalic fistula (RCF) (wrist, forearm or elbow) (b) brachio-cephalic fistula (BCF) (elbow)	☐
6	If an AV fistula created in the wrist/forearm/elbow fails, attempt to move up the same arm for the second AV fistula if the vascular anatomy is favorable.	☐

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7	If a RCF or BCF is not possible, second line options are (in alphabetical order): (a) Radio-basilic with vein transposition (b) Transposed brachio-basilic fistula (tBBF) (c) Transposed brachio-cephalic fistula	
8	If a native fistula is not possible, an AV graft is acceptable and is preferred to a catheter.	
9	In patients with AV grafts, consider secondary AVF placement.	
10	Use tunneled cuffed tunneled catheters as a last option; if used, the preferred site is the right internal jugular vein.	
11	In patients with advanced kidney disease, make every effort to preserve forearm and upper arm veins. ► Start vein preservation in patients with progressive kidney disease and a GFR of <30 mL/min. ► Arm veins, particularly the cephalic veins of the non-dominant arm, should not be used for venipuncture or intravenous catheters (if an intravenous line is needed, use the dorsum of the hand). ► Subclavian catheters and PICC lines are not recommended in patients with progressive kidney disease.	