

Indications & Urgency Criteria for Radiology Hemodialysis Procedures

AV Fistulas and Grafts

	Findings	<24 hrs	<48 hrs	<2 weeks	<1 month
Flow/Hemodynamics	Access flow: AV fistula		<300 mL/min or > 50% drop from baseline	300 -500 mL/min or > 20% drop from baseline	
	Access flow: AV graft		<500 mL/min or > 50% drop from baseline	500 -650 mL/min or > 20% drop from baseline	
	Blood pump speed (BPS)		<200 mL/min with 15g needle or > 50% drop from baseline	<300 mL/min by week 3 of initiating HD or <350 mL/min for established HD (on 2 consecutive HD runs)	25-50% drop from baseline
	Venous pressure		>80% above baseline (3 consecutive runs)	>125 -150 mmHg using 15-16g needles @ BPS 200 mL/min (3 consecutive runs) or >50% above baseline (3 consecutive runs)	25-50% above baseline (3 consecutive runs)
	Arterial pressure			Less than -220 (e.g., -240) mmHg using 15-16g needles @ BPS 200 mL/min (3 consecutive runs)	
Dialysis Adequacy	Urea reduction ratio			<66% without other obvious cause	
	KT/V			<1.2 without other obvious cause	
	Uremic symptoms			Present without other obvious cause	
Physical Findings	Cannulation	Unable to cannulate		Difficult to cannulate	Prolonged bleeding post needle removal
	Arm swelling				AVF or AVG
	Facial swelling		Potential SVC syndrome (acute facial swelling with respiratory compromise)		Non-urgent central vein stenosis
	Pulse/thrill	Loss of pulse/thrill in AVF		<ul style="list-style-type: none"> Significant decrease in thrill/pulse in AVF Clotted AVG (recommend: <5 days) 	
Clinical Scenarios	Post-op thrombectomy			Fistulogram +/- transonic measure	
	Pre AVF/AVG creation				Ipsilateral arm venography (high risk patients)
	Steal syndrome			Arm arteriogram or CT angiogram based on VA clinic assessment	
	Failure to mature				Fistulogram

HD Catheters

May involve diagnostics and/or catheter line changes

	Findings	24-48 hrs	<48 hrs	<2 weeks
Flow	Blood pump speed (BPS)	<250 mL/min with acute need for dialysis	<250 mL/min with sub-acute need for dialysis	
Dialysis Adequacy	Urea reduction ratio			<66% without other obvious cause
	KT/V			<1.2 without other obvious cause
	Uremic symptoms			Present without other obvious cause
Physical Findings	Arm swelling	Acute	Acute	Chronic
	Facial swelling	Potential SVC syndrome		
	Dysfunctional catheter/catheter migration/extrusion (line replacement required)		x-ray; replace catheter if required	

This provincial guideline was developed to support improvements in the quality of vascular access care delivered to patients with chronic kidney disease in BC. Based on the best information available at the time it was published, the guideline relies on evidence and avoids opinion-based statements where possible. When used in conjunction with pertinent clinical data, it is a tool that health authorities and health professionals can use to develop local guidelines.

Developed by a Vascular Access Working Group of multidisciplinary care providers from across BC, the guideline was approved by the Provincial Vascular Access Services Team and the BC Provincial Renal Agency Medical Advisory Committee. It has been adopted by BCPRA as a provincial guideline.

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