## HD03 Measurements of Vascular Access Flow in AV Grafts and Fistulas

Transonic<sup>®</sup> Hemodialysis Monitor identifies vascular access dysfunction and risk of thrombosis

## **Vascular Access Flow**

Access flow is the quintessential vital sign for an AV Access. Insufficient flow causes underdialysis. Still lower flow invites thrombosis. Too much flow can lead to heart problems. Each condition harbors associated morbidities.

Transonic<sup>®</sup> ultrasound dilution technology is an intra-access flow measurement technology to detect flow limiting problems wherever they occur within a vascular access during the dialysis session. The method uses Transonic<sup>®</sup> Hemodialysis Monitors and Flow/Dilution Sensors to measure access flow directly for an instant snapshot of access function.

By measuring vascular access flow routinely and trending the results over several months, a record of access patency is created. A drop in access flow signals formation of a stenosis, in time for proactive minimally invasive intervention.

Access Flow enables clinicians to detect onset of stenosis before thrombosis occurs.





Access flow measurement with the Transonic® Hemodialysis Monitor.



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Hemodialysis

## Fistula and Graft Access Flow Interpretation

Lower A	rm AV	<b>/F</b> (wrist	and abov	′e)						
<b>200</b> 4	00	600	800	1000	1200	14(	00 160	00 <b>180</b>	0 2000	2200
Upper A	rm AV	<b>/F</b> (elbov	v and abo	ve)						
<b>200</b> 400	) 600	800	0 1000	1200	1400	1600	1800	2000 22	00 2400	2600
AV Graf	<b>t</b> (forear	rm loop g	raft)							
200 4	00 6	500	800	1000	12	00	1400	1600	1800	2000
Action: Consider Clinical Examination & Imaging			Ac If M	Action: If Flow Is Steady, Continue Monitoring. If 25% Decrease Occurs, Consider Clinical Exam & Imaging				Action: Evaluate the patient for , signs and symptoms of high output cardiac failu		
Actual flo A clinical e as part of Transonic examinati Snuffbox the anaste Upper arn A potentia symptoms	w levels examina the pre- access fl on to de or endov omosis a n AV fist al for can s of high	for AV fi tion (lool cannulat ow meas etect/cont vascular f nd the ve ulas typic rdiac ove -output c	stula and c, listen, f ion proce urements irm indic istulas ma ssel's out cally have cload exis ardiac fa	graft pat feel, arm ess. are inter ations of ay have a tflow con a higher ts at flow ilure.	ients sh elevatio aded to access c lower a figuratio access f >1600-	ould b n and be util lysfunc ccess f on. low rai 3000 n	e customi: augmenta ized in col tion. low range nge due to nL/min. Ev	zed by the ation) shoul njunction w e depending o the larger valuate pati	nephrolog d be used vith a clini- g on the lo r artery siz ent for sig	jist. routine cal ocation ze. Jns and
Tran equ flow www.transonic.com				nsonic Systems Inc. is a global manufacturer of innovative biomedical measurement ipment. Founded in 1983, Transonic sells "gold standard" transit-time ultrasound vmeters and monitors for surgical, hemodialysis, pediatric critical care, perfusion, prventional radiology and research applications. In addition, Transonic provides ssure and pressure volume systems, laser Doppler flowmeters and telemetry system						
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