

Mechanical Thrombectomy Device Update

Company	Device	Sheath Size (F)	Guidewire (in)	Working Length (cm)
Arrow International, Inc.	Arrow-Trerotola PTD (Percutaneous Thrombolytic Device)	5	None	65
	Arrow-Trerotola Over-The-Wire (OTW) PTD (Percutaneous Thrombolytic Device)	7	.025	65, 120
Bacchus Vascular	Trellis-8 Peripheral Infusion Catheter	8	.035	80 or 120 catheter length with treatment areas of 15 or 30
Boston Scientific Corporation	Oasis Thrombectomy System	6	.018	65, 100
Cordis Endovascular	Hydrolyser Percutaneous Thrombectomy Catheter	6	.018	65, 100
Concentric Medical, Inc.	Merci Retrieval System	8, 9	.014	Balloon guide = 95; microcatheter = 150; retriever = 180
Datascope	ProLumen	6	None	65
EKOS Corporation	Ultrasound Accelerated Thrombolysis System (USAT)	5, 3	.035, .014	106, 150
ev3	X-Sizer Catheter System	6, 7	.014	135
	Helix Clot Buster Thrombectomy Device (Amplatz Device)	7	None	75, 120
	Castaneda Over-The-Wire Brush	6	.035	65
IDev Technologies, Inc.	AKónya Eliminator	6	None	60
	AKónya Eliminator Plus	6	.018	60
Kensey Nash Corporation	ThromCat Thrombectomy Catheter System	6	.014	150
Kerberos Proximal Solutions	Peripheral Rinspiration System (7-F Sheath Compatible)	7	.014	65, 135
	Rinspiration System (6-F Guide Compatible)	5	.014	135
	Rinspiration System (7-F Guide Compatible)	6	.014	135
OmniSonics Medical Technologies, Inc.	Resolution Endovascular System	5	None	60
Possis Medical, Inc.	XMI	4	.014	135
	XMI-RX	4	.014	135
	XMI-RX+	4	.014	135
	Spiroflex Rapid Exchange	4	.014	135
	SpiroflexVG Rapid Exchange	5	.014	135
	XVG	5	.014	140
	Xpeedior 120	6	.035	120
	AVX	6	.035	50
	DVX	6	.035	90
Rex Medical	Cleaner	6	n/a	65, 120
Straub Medical	Rotarex Catheter	6, 8	.018	86, 110
	Aspirex Catheter	6, 8	.018	86, 110
	Aspirex Catheter	10	.035	95
	Aspirex Catheter Flex PE	11	.032	135

Mode of Operation	CE Mark	FDA Indicated Use
Mechanical thrombectomy	Yes	Used in combination with the rotator drive, permits mechanical declotting of native arteriovenous fistulae and synthetic dialysis grafts
	Yes	
Isolated thrombolysis	Yes	Controlled and selective infusion of physician-specified fluids, including thrombolytics, into the peripheral vasculature
Venturi effect with fragmentation	Yes	AV grafts
Conventional contrast power injector is used to inject saline solution through the injection lumen; resultant pressure reduction at the tip nozzle creates a 360° vortex that fragments and aspirates thrombus into the exhaust lumen; thrombolytic material is discharged through the exhaust lumen into a collection bag.	Yes	Indicated to percutaneously remove soft, newly formed (less than 5 days old) thrombus from dialysis shunts of 3 to 6 mm
Mechanical thrombectomy with aspiration and proximal flow arrest	Yes	Restoring blood flow in the neurovasculature by removing thrombus in patients experiencing ischemic stroke; patients who are ineligible for intravenous tissue plasminogen activator (IV t-PA) or who fail IV t-PA therapy are candidates for treatment; retrieval of foreign bodies misplaced during interventional radiology procedures in the neuro, peripheral, and coronary vasculature
Wall contact with clot maceration properties	No	AV grafts
Accelerate thrombolysis by delivery of high-frequency, low-power ultrasound to temporarily loosen fibrin matrix to increase clot permeability and drive the lytic agent deep into the clot for better lytic agent binding	Yes	Intended for the controlled and selective infusion of physician-specified fluids, including thrombolytics, into the peripheral vasculature (5.2-F peripheral system and 3-F micro system are approved for delivery of lytics in the peripheral system; the 3-F system is also approved for delivery of contrast agents in the neurovasculature)
Enclosed cutter with vacuum aspiration	Yes	Mechanical removal of thrombus in synthetic hemodialysis access grafts
Wall washing impeller technology for clot fragmentation	Yes	Dialysis graft and native fistulae
Wall contact with rotating brush	Yes	Synthetic AV grafts
Combination of manual driven axial, rotational, and/or pulsatile motion	Yes	Indicated for use in the mechanical declotting of synthetic dialysis grafts
	Yes	Indicated for use in the mechanical declotting of synthetic dialysis grafts and native AV fistulae
High vacuum and saline jets disrupt thrombus and pulls into catheter; enclosed helix for maceration and removal	Pending	Indicated for removing thrombus from synthetic hemodialysis access grafts and native vessel dialysis fistulae
Handheld fluidic debris removal; simultaneous rinsing to wash vessel walls and aspiration to evacuate debris	No	Indicated to infuse physician-specified fluid and remove/aspirate fluid, fresh, soft emboli, and thrombi from the peripheral vasculature
	Yes	Indicated to infuse physician-specified fluid and remove/aspirate fluid, fresh, soft emboli, and thrombi from the coronary and peripheral vasculature
	Yes	
Non-thermal ultrasonic energy	No	Treatment of thrombosed synthetic dialysis access grafts
High-velocity water jets enclosed in catheter utilize Bernoulli principle for capture, microfragmentation, and removal	Yes	Removing thrombus in the treatment of patients with symptomatic coronary artery or saphenous vein graft lesions in vessels ≥ 2 mm in diameter prior to balloon angioplasty or stent placement
	Yes	Removing thrombus in the treatment of patients with symptomatic coronary artery or saphenous vein graft lesions in vessels ≥ 2 mm in diameter prior to balloon angioplasty or stent placement
	Yes	Breaking apart and removing thrombus from infrainguinal peripheral arteries ≥ 2 mm in diameter
	Yes	Breaking apart and removing thrombus from infrainguinal peripheral arteries ≥ 2 mm in diameter
	No	Breaking apart and removing thrombus from infrainguinal peripheral arteries ≥ 3 mm
	Yes	Breaking apart and removing thrombus from infrainguinal peripheral arteries ≥ 3 mm in diameter
	Yes	Breaking apart and removing thrombus from infrainguinal peripheral arteries ≥ 3 mm in diameter
	Yes	Breaking apart and removing thrombus from AV access conduits
	Yes	Breaking apart and removing thrombus from infrainguinal peripheral arteries ≥ 3 mm in diameter
Battery-operated, handheld drive unit initiates the mechanical rotation of an atraumatic, wall-contact, sinusoidal vortex wire for effective thrombus maceration	No	Indicated for use in the mechanical declotting of synthetic dialysis grafts; currently pursuing native vessel indication
Detachment, suction, fragmentation, and transport	Yes	No
Suction, fragmentation, and transport	Yes	No
	No	No
	No	No

Prepared by the editors of *Endovascular Today* in conjunction with the device manufacturers.