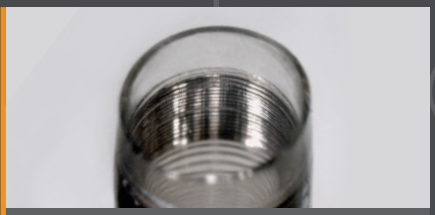
BENCHMARK 071

INTRACRANIAL ACCESS SYSTEM

Penumbra

BENCHMARK 071
Key Design Features

.071" (1.80 mm) Inner Diameter
Optimised for Delivering Embolisation Devices



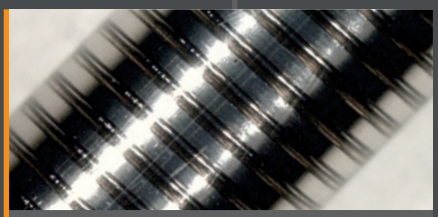
Polished, Atraumatic Tip
Designed for distal placement

Soft 9 cm Platinum Coil Wind Flexible Segment
Designed for distal trackability

Advanced Polymer Construction
Enables navigation and visibility

10 Material Transitions
Designed for efficient energy transfer and trackability

Proximal Shaft Construction
Engineered to provide stability and support



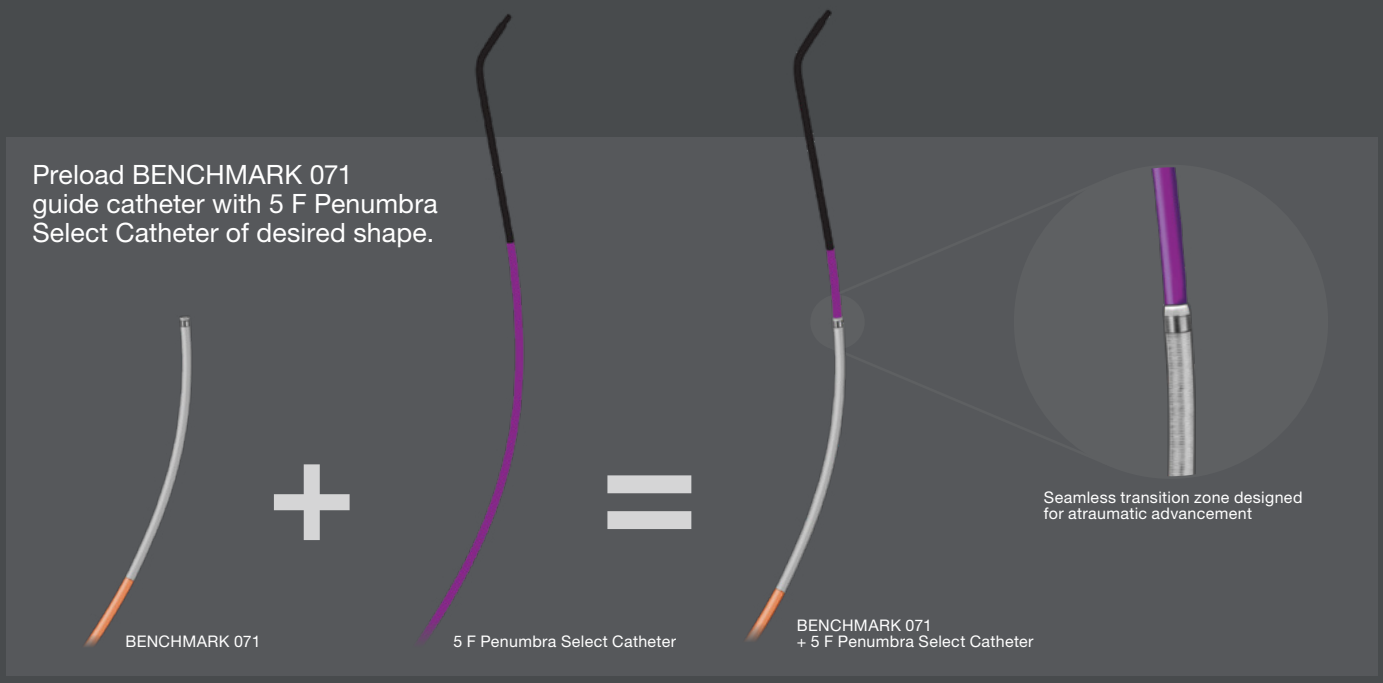
Hybrid Flat/Round Stainless Steel Reinforcement
Enables arch support and navigation in tortuous vessels

2 mm Outer Diameter Low Profile System
Compatible with 6 F femoral and radial sheaths

BENCHMARK 071 packaged with 5 F Penumbra Select Catheter

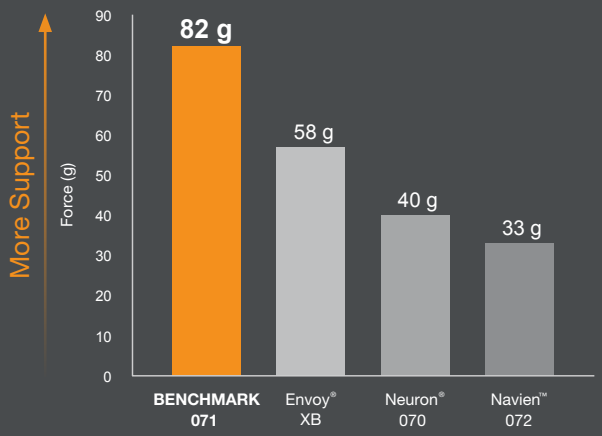
Advantages of Rapid Primary Access

- Faster procedures – no need for an exchange
- Allows easy selection off of arch into desired vessel
- Facilitates atraumatic placement into distal vasculature
- Can be used for diagnostic angiogram – .040" (1.02 mm) lumen
- Compatible with .035"–.038" (.89 mm–.97 mm) guidewires



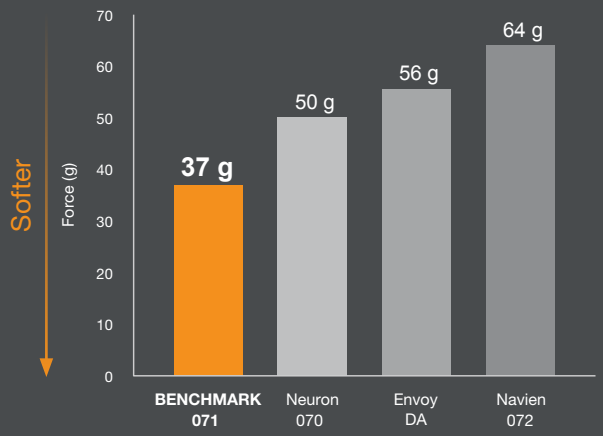
Performance Testing

Designed to Maximise Arch Support



Buckling Test: Higher values correspond with more proximal support[a]

Advanced Level of Tip Softness



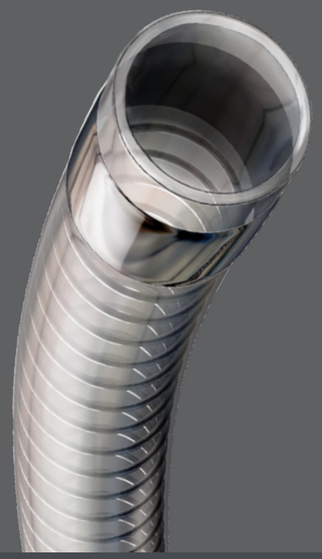
Deflection Test: Lower values correspond to softer distal tip[b]

a, b. Data on file at Penumbra, Inc. Flexibility measured by recording maximum force required to compress appropriate catheter segment. Bench test results may not be indicative of clinical performance.

Femoral Access, Defined

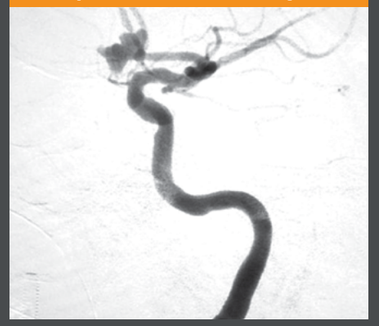
Designed for stability and compatibility with atraumatic navigation

Standalone or compatible with 6 F long sheath

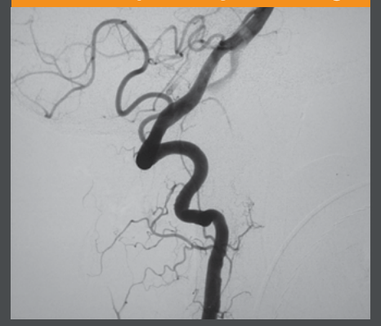


BENCHMARK 071 Intracranial Access via Femoral Approach

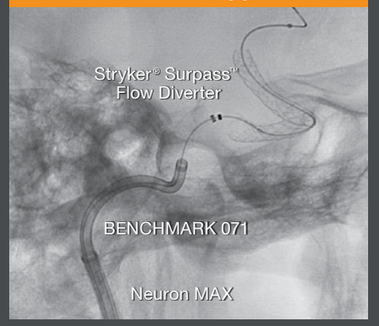
Balloon Coiling of Ruptured ACom Aneurysm

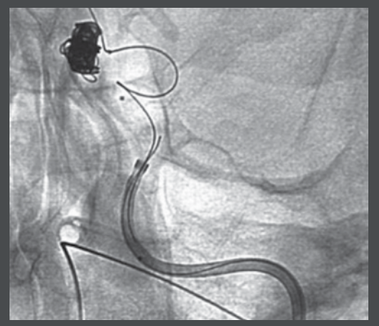


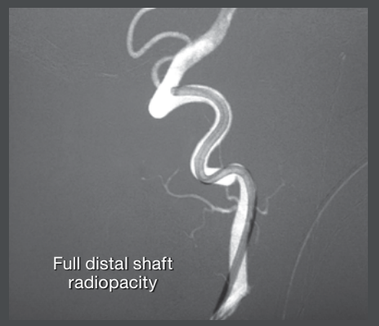
Distal Purchase for Basilar Tip Aneurysm Coiling



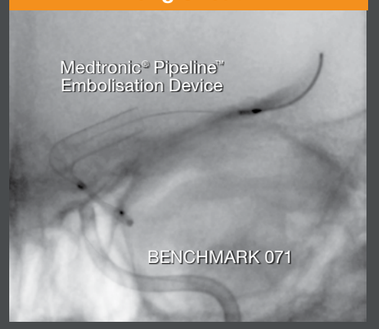
Compatible with Neuron MAX® for Added Support







Stability Without Long Sheath



Images courtesy Drs. Yasha Kayan and Josser Delgado
Abbott Northwestern Hospital, Minnesota, USA

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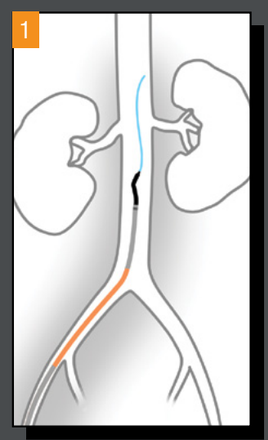
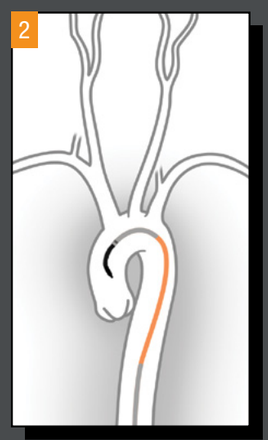
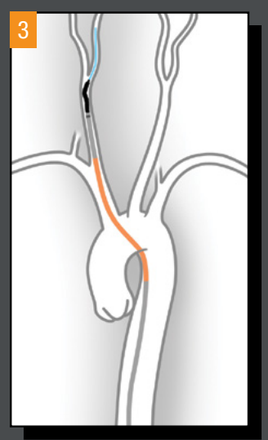
Rapid Primary Access — Typical Approach via Femoral Artery



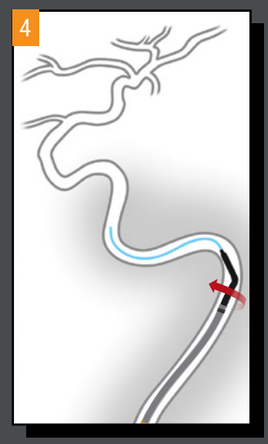
Introduce the preloaded system over a guidewire and advance to a straight section of the abdominal aorta



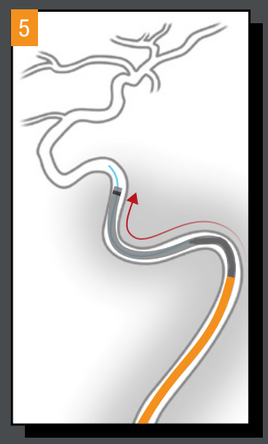
Advance the tip of 5 F Select over the guidewire into the ascending aorta while maintaining the position of BENCHMARK 071



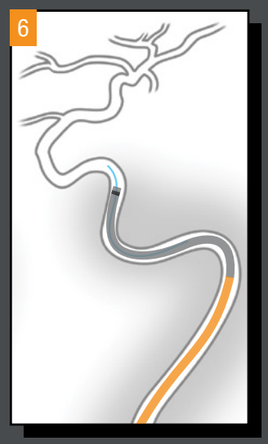
Advance 5 F Select and BENCHMARK 071 over the guidewire into the internal carotid artery



With sufficient wire purchase, torque 5 F Select towards the first major turn



While maintaining position of 5 F Select and guidewire, advance BENCHMARK 071 into desired position

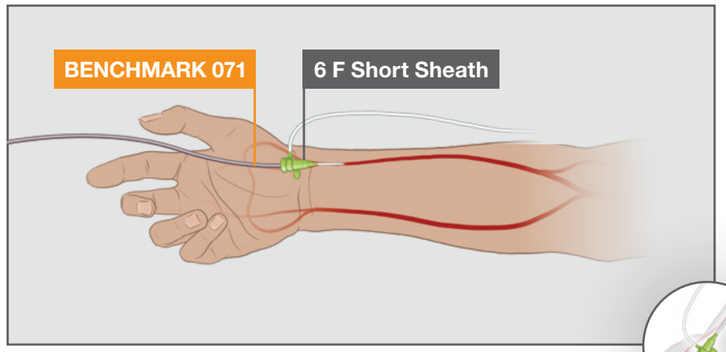


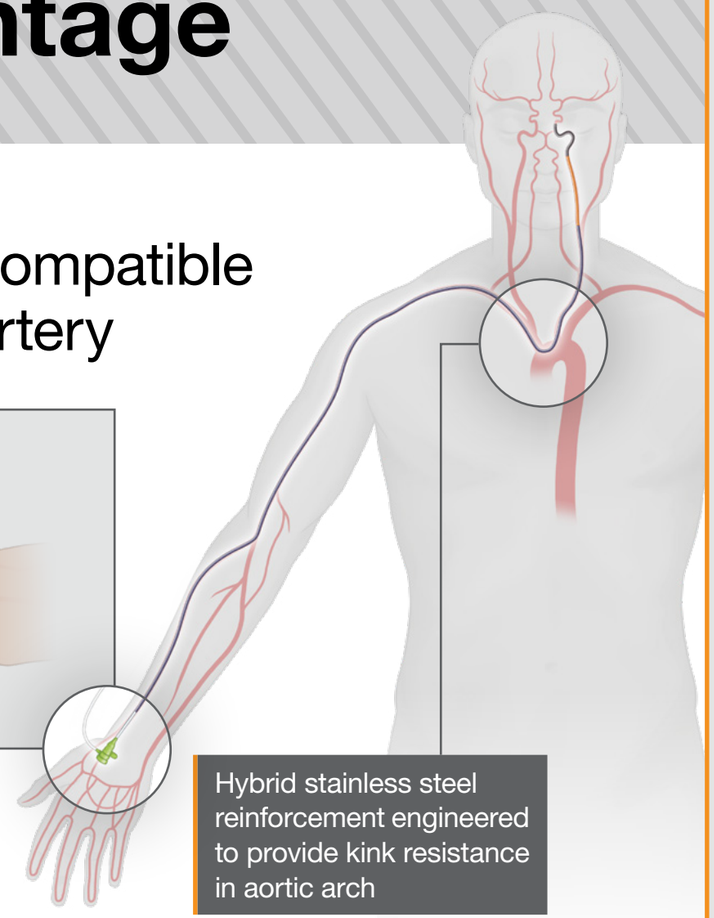
Remove 5 F Select while holding BENCHMARK 071 in position

Procedural and operative techniques and considerations are illustrative examples from physician experience. Physicians' treatment and technique decisions will vary based on their medical judgment.

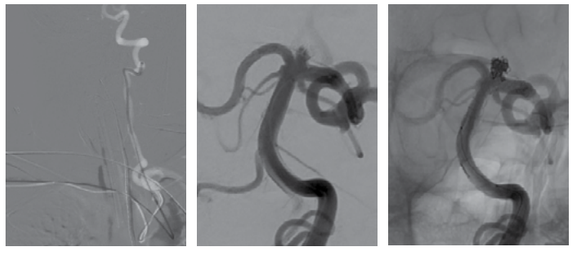
Radial Advantage

Low profile 2 mm OD compatible with the typical radial artery

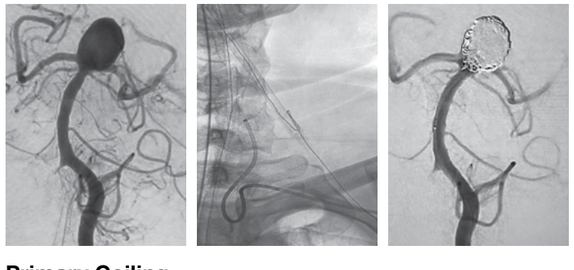




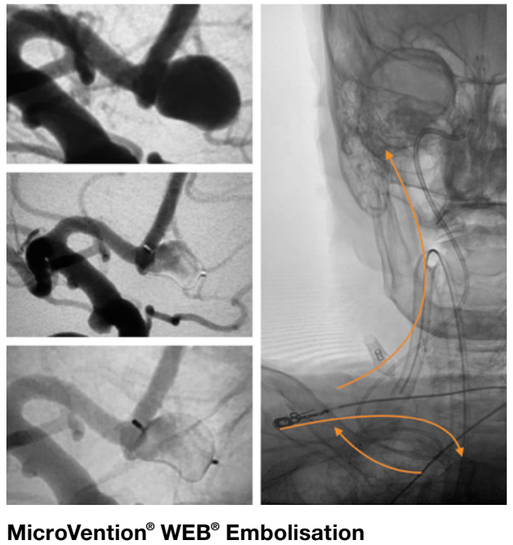
Hybrid stainless steel reinforcement engineered to provide kink resistance in aortic arch



Stent-Assisted Coiling
Dr. Levansri Makalanda
The Royal London Hospital
London, UK



Primary Coiling
Dr. Jean Delbrune
Northside Hospital
Florida, USA



MicroVention® WEB® Embolisation
Dr. Justin Singer
Spectrum Health
Michigan, USA

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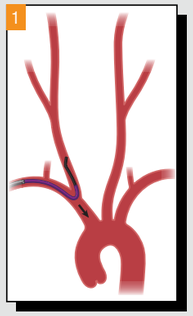
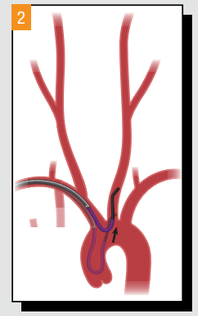
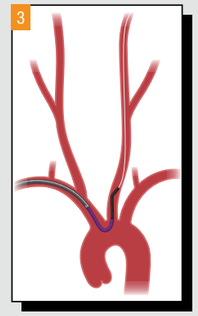


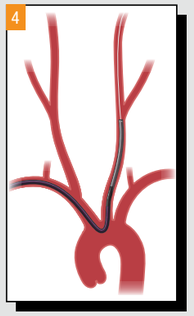
With BENCHMARK 071 and 5 F SIM Select in right subclavian artery, 5 F SIM Select is advanced forward into aortic arch



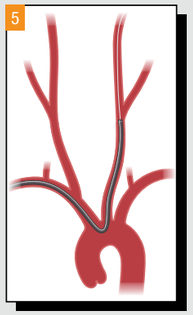
BENCHMARK 071 is moved forward over 5 F SIM Select in right subclavian artery, 5 F SIM Select is pulled back to access left CCA



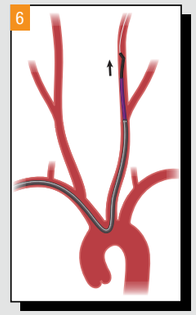
.035" wire is moved through 5 F SIM Select into left ICA



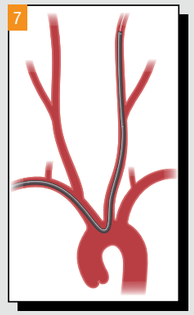
While 5 F SIM Select is left in place, BENCHMARK 071 is tracked into CCA



5 F SIM Select is removed, while BENCHMARK 071 and .035" wire stay in CCA/ICA



Switch to 5 F BER Select, which is advanced into ICA while BENCHMARK 071 and .035" wire stay in CCA/ICA



BENCHMARK 071 is advanced over BER Select catheter into ICA, then 5 F Select is removed

Procedural and operative techniques and considerations are illustrative examples from physician experience. Physicians' treatment and technique decisions will vary based on their medical judgment.

Data Presented at SNIS 2018

Radial Access for Cerebrovascular Intervention Using Penumbra BENCHMARK 071 Guiding Catheter[c]

36	Patients
10	Primary Coiling
8	Stent-Assisted Coiling
5	Flow-Diverter Embolisation
2	Balloon-Assisted Coiling
2	Wingspan™ Stent-Assisted Coiling
2	AVM or Dural AV Fistula
2	Vessel Sacrifice
1	Subclavian Stent
1	Vasospasm Treatment
3	Other

Key Results

No catheter-related complications

No major radial access site complications

c. Satti S, Rastogi S, Eden T, et al. E-031 Radial access for cerebrovascular intervention using penumbra benchmark 071 guiding catheter. J NeuroInterv Surg. 2018;10:A63-A64. doi: 10.1136/neurintsurg-2018-SNIS.107

BENCHMARK™ 071 Kits

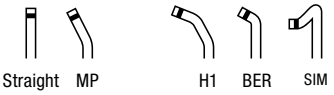
		BENCHMARK 071		5 F Select™ Catheter	
Catalog Number	**Description**	**Length (cm)**	**Shape**	**Length (cm)**	**Shape**
BMK6F95BER120	BENCHMARK 071 KIT	95	Straight	120	BER
BMK6F95MBER120	BENCHMARK 071 KIT	95	MP	120	BER
BMK6F105BER130	BENCHMARK 071 KIT	105	Straight	130	BER
BMK6F105MBER130	BENCHMARK 071 KIT	105	MP	130	BER

BENCHMARK 071

		BENCHMARK 071	
Catalog Number	**Description**	**Length (cm)**	**Shape**
BMK6F95	BENCHMARK 071	95	Straight
BMK6F95M	BENCHMARK 071	95	MP
BMK6F105	BENCHMARK 071	105	Straight
BMK6F105M	BENCHMARK 071	105	MP
BMK6F115	BENCHMARK 071	115	Straight
BMK6F115M	BENCHMARK 071	115	MP

Tip Shapes

BENCHMARK 071		Select Catheter		
Straight	MP	H1	BER	SIM



5 F Select Catheters

Catalog Number	Description	Working Length (cm)	Inner Diameter (in / mm)	Wire Compatibility (in / mm)	Shape
PNS5F120BER	5F Select Catheter	120	.040 (1.02)	.035–.038 (.89–.97)	BER
PNS5F130BER	5F Select Catheter	130	.040 (1.02)	.035–.038 (.89–.97)	BER
PNS5F130SIM	5F Select Catheter	130	.040 (1.02)	.035–.038 (.89–.97)	SIM
PNS5F120H1	5F Select Catheter	120	.040 (1.02)	.035–.038 (.89–.97)	H1
PNS5F130H1	5F Select Catheter	130	.040 (1.02)	.035–.038 (.89–.97)	H1

Prior to use, please refer to the Instructions for Use for complete product indications, contraindications, warnings, precautions, potential adverse events, and detailed instructions for use.

BENCHMARK Intracranial Access System – Intended Use
The BENCHMARK Intracranial Access System is intended for the introduction of interventional devices into the peripheral, coronary, and neuro vasculature.
Potential Adverse Events
Possible complications include, but are not limited to, the following: acute occlusion; air embolism; death; distal embolization; emboli; false aneurysm formation; hematoma or hemorrhage at puncture site; infection; intracranial hemorrhage; ischemia; neurological deficits including stroke; vessel spasm, thrombosis, dissection, or perforation.

NEURON MAX System – Intended Use
The NEURON MAX System is intended for the introduction of interventional devices into the peripheral, coronary, and neuro vasculature.
Potential Adverse Events
Possible complications include, but are not limited to, the following: acute occlusion; air embolism; death; distal embolization; emboli; false aneurysm formation; hematoma or hemorrhage at puncture site; infection; intracranial hemorrhage; ischemia; neurological deficits including stroke; vessel spasm, thrombosis, dissection, or perforation.

NEURON Intracranial Access System – Intended Use
The NEURON Intracranial Access System is intended for the introduction of interventional devices into the peripheral, coronary, and neuro vasculature.
Potential Adverse Events
Possible complications include, but are not limited to, the following: acute occlusion; air embolism; death; distal embolization; emboli; false aneurysm formation; hematoma or hemorrhage at puncture site; infection; intracranial hemorrhage; ischemia; neurological deficits including stroke; vessel spasm, thrombosis, dissection, or perforation.

Penumbra

Penumbra, Inc. USA
One Penumbra Place
Alameda, CA 94502
USA
1.888.272.4606
T 1.510.748.3200
F 1.510.748.3232
order@penumbrainc.com
info@penumbrainc.com

Penumbra Europe GmbH
Am Borsigturm 4413507 Berlin
Germany
T +49 30 2005 676-0
F +49 30 2005 676-10
de-order@penumbrainc.com
info@penumbrainc.de

Penumbra Neuro Australia Pty Ltd
Suite 3, Level 5, 1 Oxford Street
Darlinghurst NSW 2010
Australia
T +61-1300 817 025
F +61-1300 817 026
order.anz@penumbrainc.com

Penumbra Latin America Distribuidora de Equipamentos e Produtos Médicos Ltda
Avenida Brigadeiro Luís Antônio
3421 cj 201 CEP 01401-001
São Paulo, Brazil
T 5511.2883.5825
order.la@penumbrainc.com

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