



# **BENCHMARK 071**

**INTRACRANIAL ACCESS SYSTEM**



Penumbra 

# BENCHMARK 071

## Key Design Features

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

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

**Advanced Polymer  
Construction**  
Enables navigation and visibility

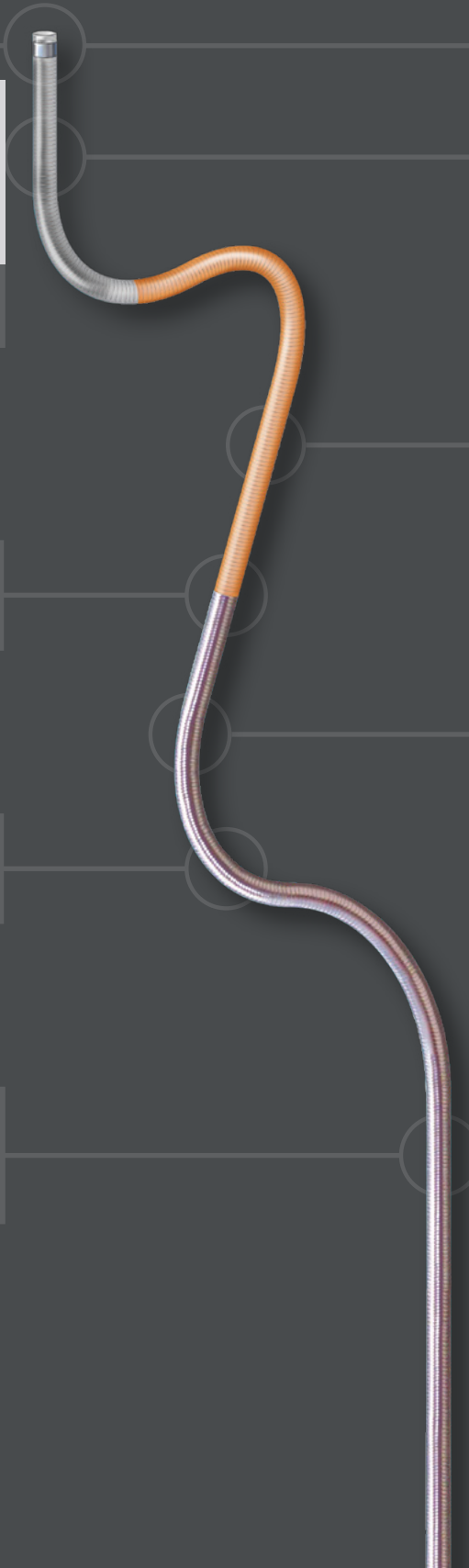
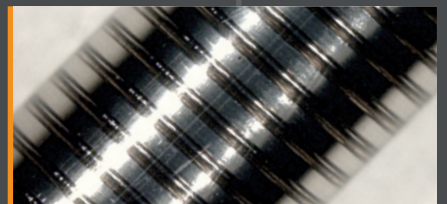
**Hybrid Flat/Round  
Stainless Steel Reinforcement**  
Enables arch support and  
navigation in tortuous vessels

**Polished, Atraumatic Tip**  
Designed for distal placement

**10 Material Transitions**  
Designed for efficient energy  
transfer and trackability

**Proximal Shaft Construction**  
Engineered to provide stability  
and support

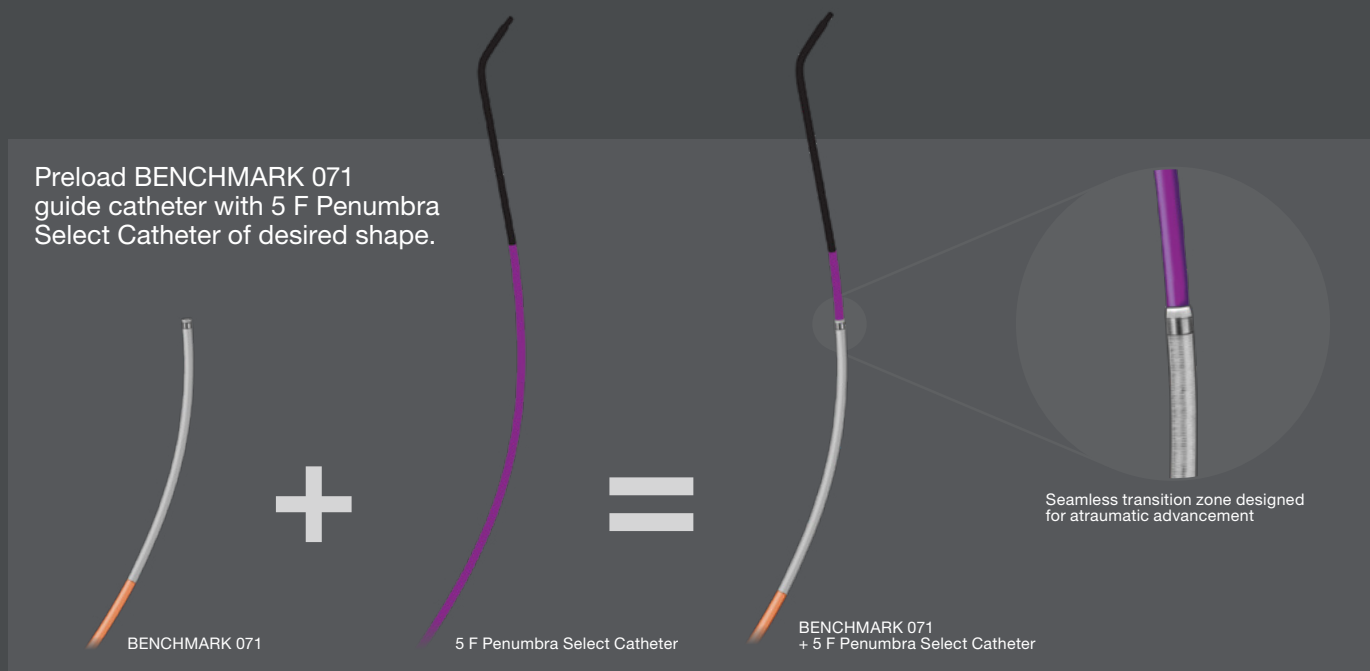
**2 mm Outer Diameter  
Low Profile System**  
Compatible with 6 F  
femoral and radial sheaths



# BENCHMARK 071 packaged with 5 F Penumbra Select Catheter

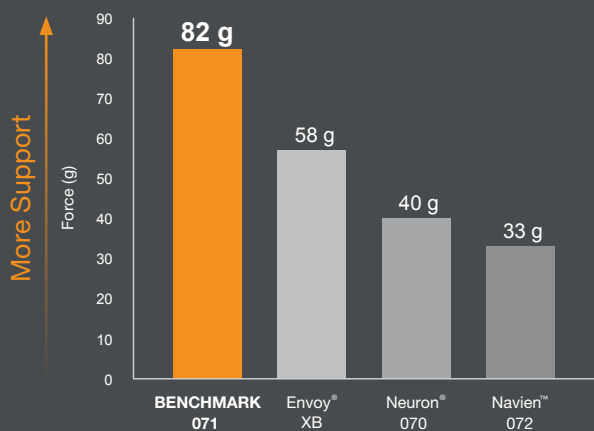
## Advantages of Rapid Primary Access

- 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



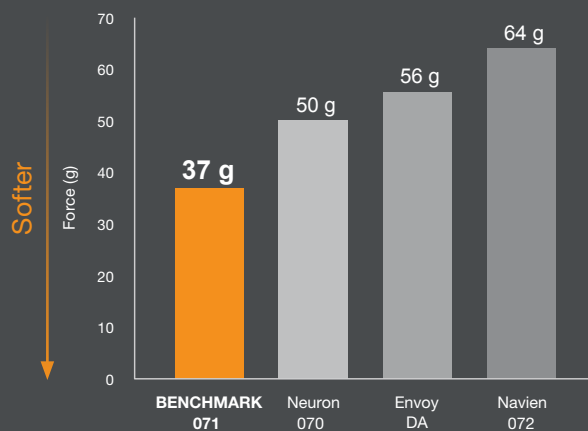
## Performance Testing

### Designed to Maximise Arch Support



**Buckling Test: Higher values correspond with more proximal support<sup>a</sup>**

### Advanced Level of Tip Softness

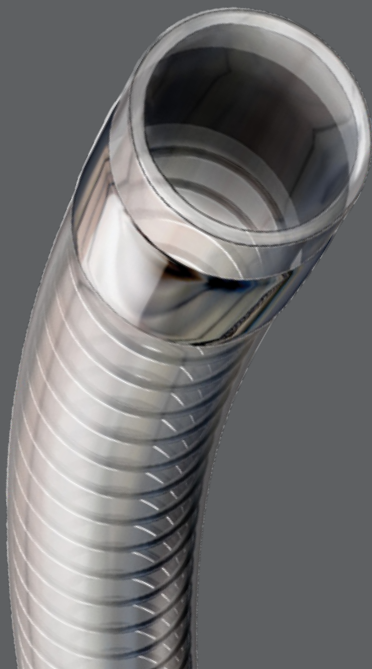


**Deflection Test: Lower values correspond to softer distal tip<sup>b</sup>**

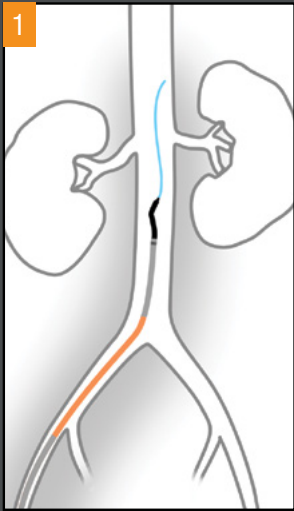
# Femoral Access, Defined

Designed for stability and compatibility with atraumatic navigation

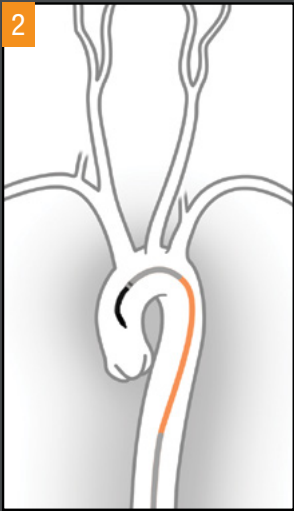
Standalone or compatible with 6 F long sheath



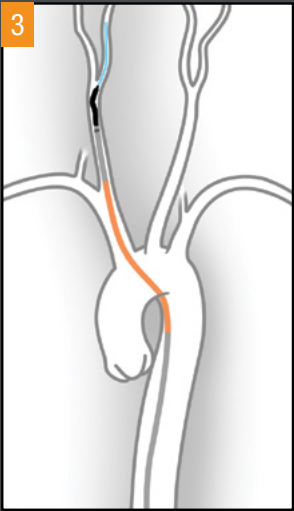
## Rapid Primary Access — Typical Approach via Femoral Artery



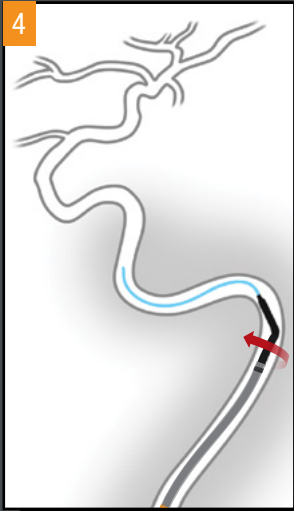
1 Introduce the preloaded system over a guidewire and advance to a straight section of the abdominal aorta



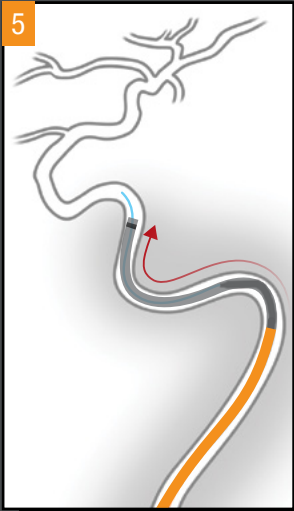
2 Advance the tip of 5 F Select over the guidewire into the ascending aorta while maintaining the position of BENCHMARK 071



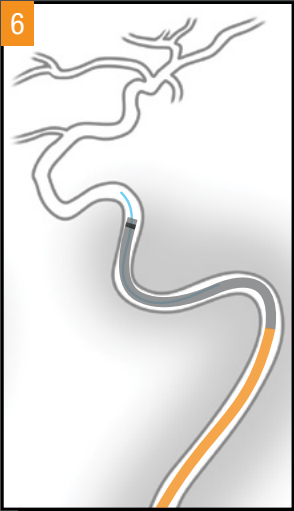
3 Advance 5 F Select and BENCHMARK 071 over the guidewire into the internal carotid artery



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

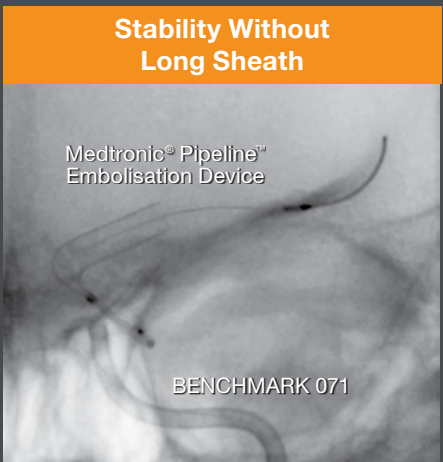
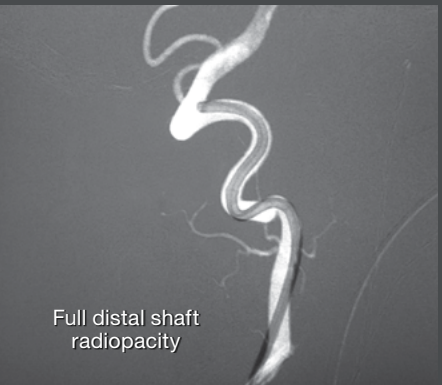
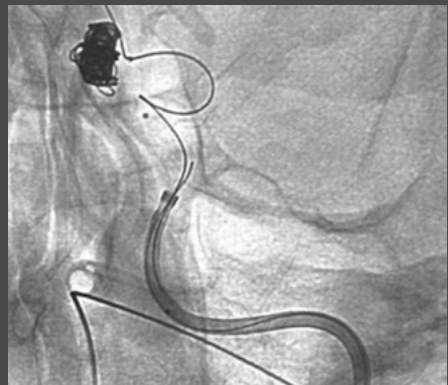
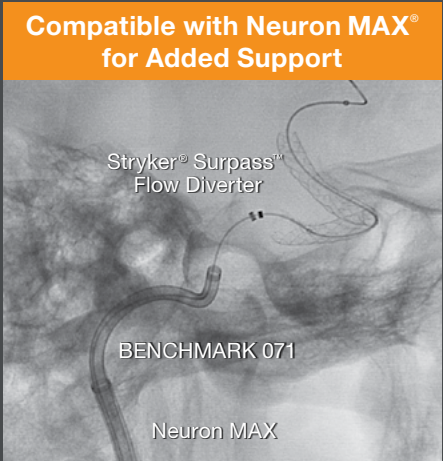
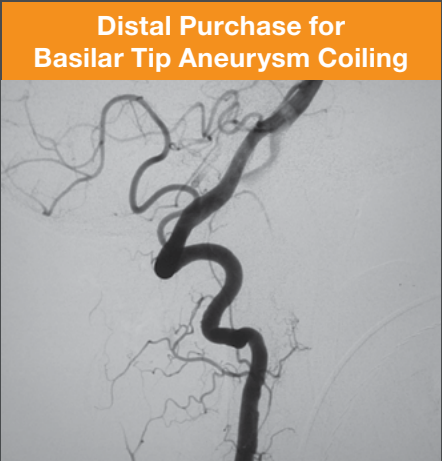
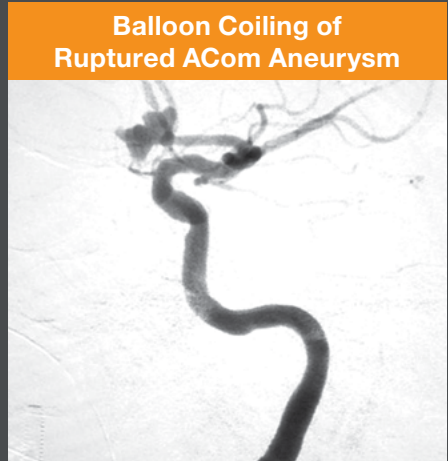


5 While maintaining position of 5 F Select and guidewire, advance BENCHMARK 071 into desired position



6 Remove 5 F Select while holding BENCHMARK 071 in position

## BENCHMARK 071 Intracranial Access via Femoral Approach

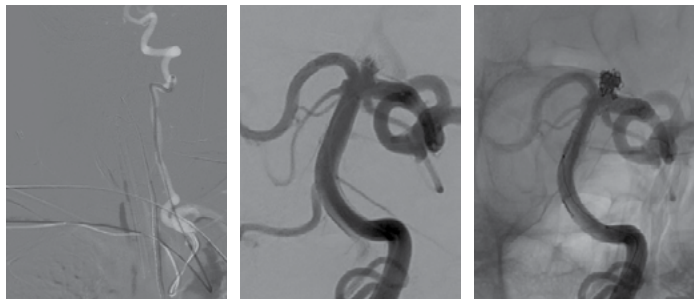
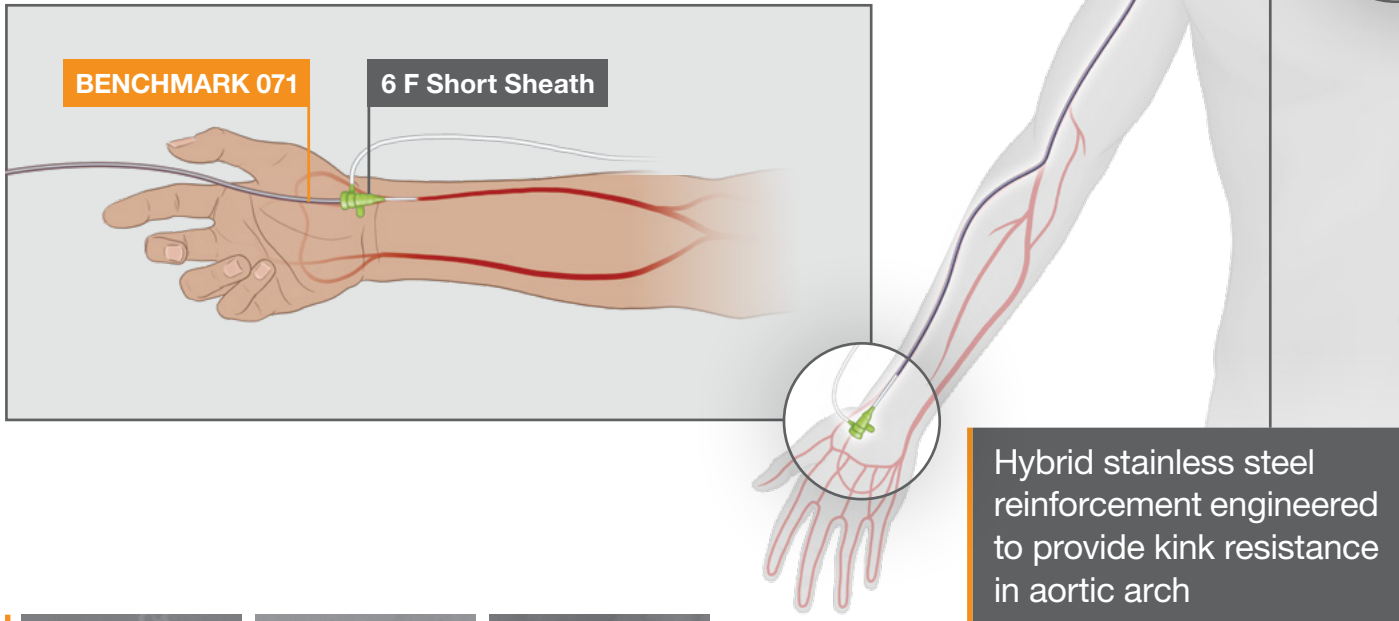


Images courtesy Drs. Yasha Kayan and Jossier Delgado  
Abbott Northwestern Hospital, Minnesota, USA

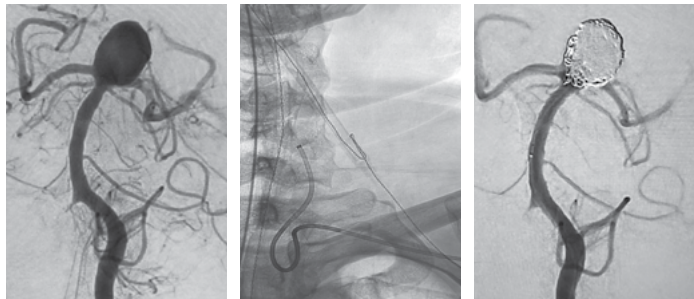


# Radial Advantage

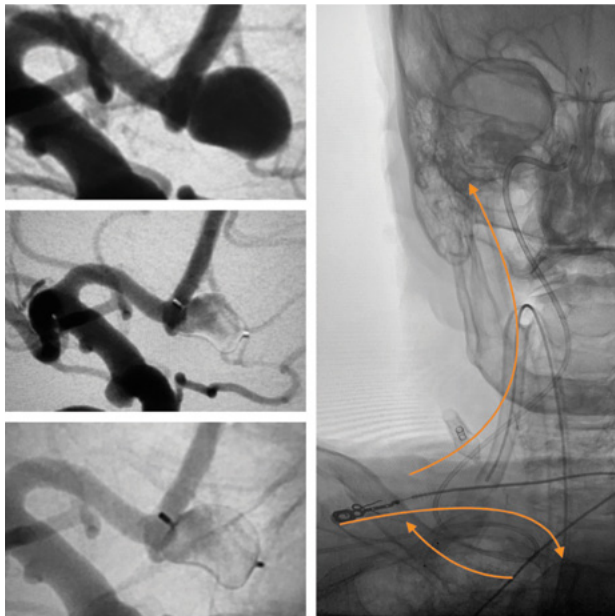
Low profile 2 mm OD compatible with the typical radial artery



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

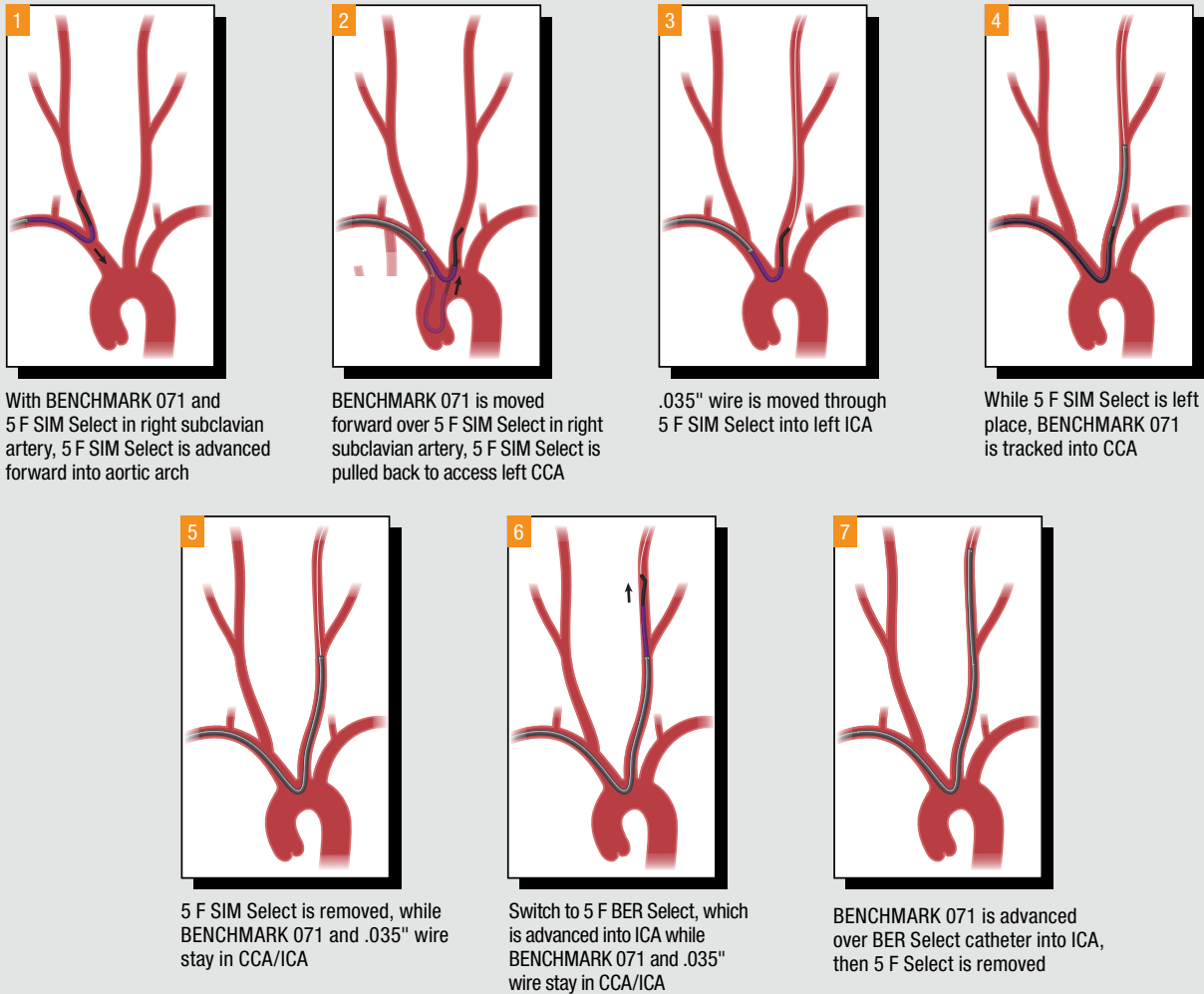


**Primary Coiling**  
Dr. Jean Delbrune  
Northside Hospital  
Florida, USA



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

## Rapid Primary Access — Typical Approach via Radial Artery



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<sup>c</sup>

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

Images used with permission. Consents on file at Penumbra, Inc. Case examples presented are for informational purposes only. Results may not be predictive for all patients and may vary based on patient-specific attributes and other factors.

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.

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