

Penumbra  
SMART COIL.

Progressively  
**soft**



Ingeniously  
**practical**

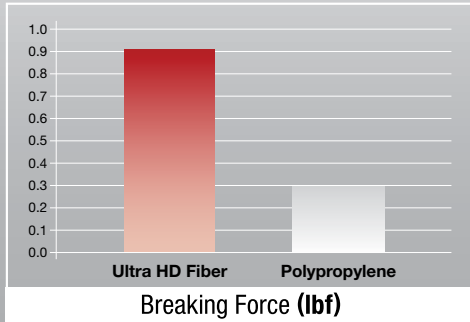
Penumbra 



10 Microcatheter  
Compatible

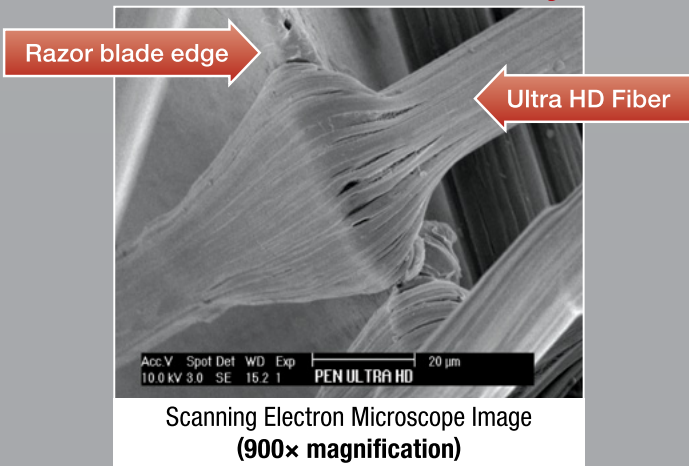
### Ultra Stretch Resistance

- High-tech Ultra HD Fiber™ is 3x stronger than current SR material<sup>a</sup>



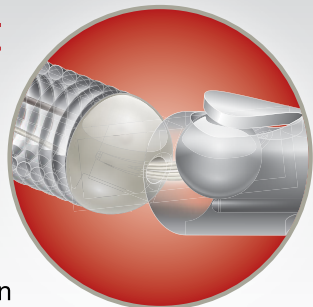
a. Data on file at Penumbra, Inc.: Ultra HD Fiber vs. Polypropylene SR material

### Exceptional Softness for Coil Conformability



### Consistent Instant Detachment

- True instant detachment using Ultra HD Fiber
- Detachment interface articulates 360° to reduce catheter deflection



# Progressive Softness

Made possible with SmartCore™ technology

#### Distal

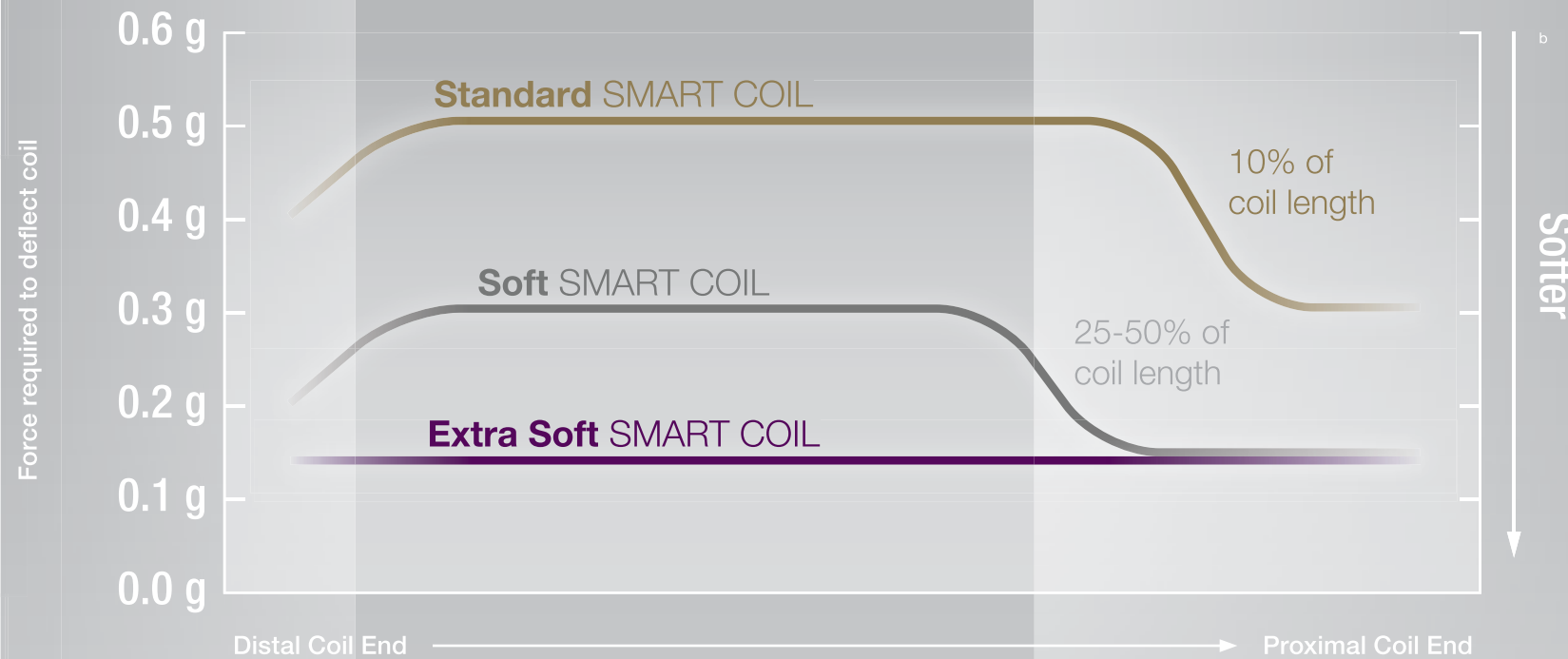
Distal coil loop is designed to be **soft and atraumatic**

#### Proximal

Coil becomes **progressively softer** as it is deployed

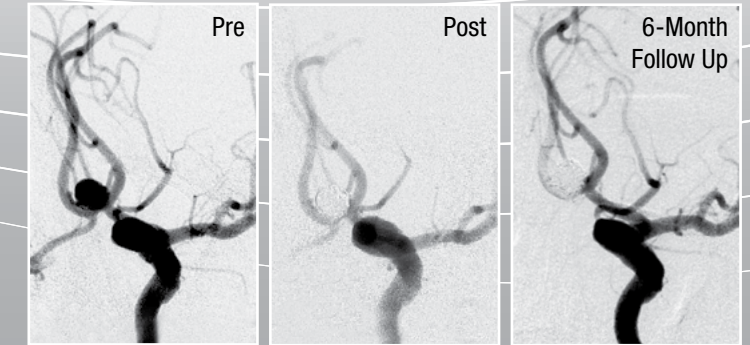


Photo of 1 mm x 3 cm SMART COIL displaying accurate complex shape



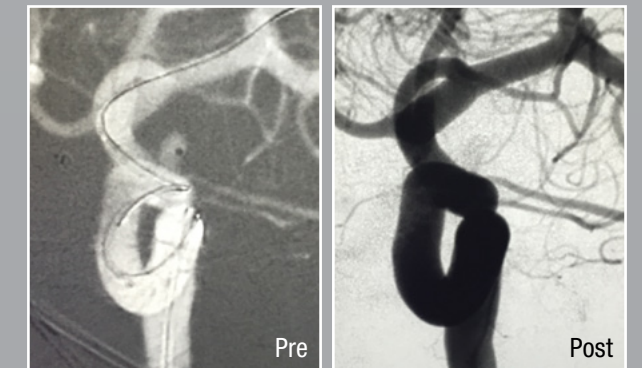
b. Data on file at Penumbra, Inc.

### Case Examples

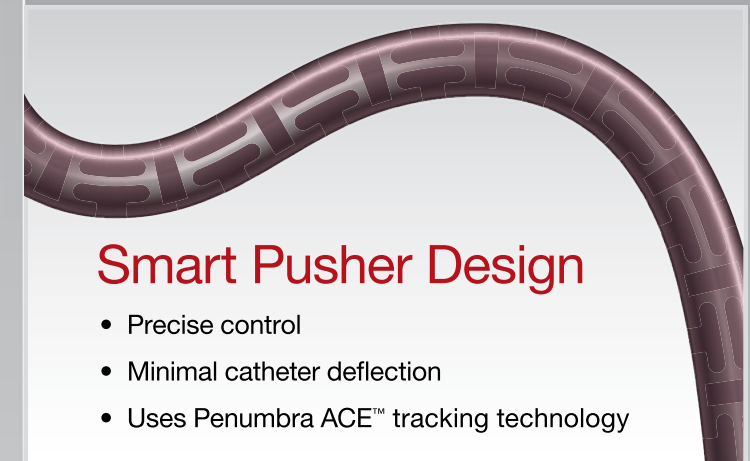


7 mm ACom Aneurysm

First follow-up performed in Europe, October 2015



5 x 2 mm ICA Aneurysm



### Smart Pusher Design

- Precise control
- Minimal catheter deflection
- Uses Penumbra ACE™ tracking technology

Images used with permission. Data on file at Penumbra, Inc.

# Penumbra SMART COIL

10

10 Microcatheter Compatible

Softness	Secondary Coil Diameter (mm)																		Coil Length (cm)	
	1	1.5	2	2.5	3	3.5	4	4.5	5	6	7	8	9	10	11	12	13	14		16
STANDARD							8		10	15	15	20	20	45	60	60	60	60	60	60
SOFT			3		4	8	6	10	6	10	15	20	30	30						
EXTRA SOFT	1 1.5 2 3 4	2 3 4	2 3 4 6 8	3 4 6 8	4 6 8	6 8 10	8 10	12												

STANDARD			SOFT			EXTRA SOFT			HELICAL EXTRA SOFT		
Catalog Number	Secondary Diameter (mm)	Length (cm)	Catalog Number	Secondary Diameter (mm)	Length (cm)	Catalog Number	Secondary Diameter (mm)	Length (cm)	Catalog Number	Secondary Diameter (mm)	Length (cm)
400SMTSTD0408	4	8	400SMTSFT0203	2	3	400SMTXSFT0101	1	1	400SMTHXSFT0101	1	1
400SMTSTD0510	5	10	400SMTSFT0304	3	4	400SMTXSFT011H	1	1.5	400SMTHXSFT0102	1	2
400SMTSTD0515	5	15	400SMTSFT0306	3	6	400SMTXSFT0102	1	2	400SMTHXSFT0103	1	3
400SMTSTD0615	6	15	400SMTSFT0308	3	8	400SMTXSFT0103	1	3	400SMTHXSFT0202	2	2
400SMTSTD0620	6	20	400SMTSFT3H08	3.5	8	400SMTXSFT0104	1	4	400SMTHXSFT0204	2	4
400SMTSTD0715	7	15	400SMTSFT0406	4	6	400SMTXSFT1H02	1.5	2	400SMTHXSFT0306	3	6
400SMTSTD0725	7	25	400SMTSFT0408	4	8	400SMTXSFT1H03	1.5	3	400SMTHXSFT0406	4	6
400SMTSTD0820	8	20	400SMTSFT0410	4	10	400SMTXSFT1H04	1.5	4			
400SMTSTD0830	8	30	400SMTSFT4H10	4.5	10	400SMTXSFT0202	2	2			
400SMTSTD0920	9	20	400SMTSFT0506	5	6	400SMTXSFT0203	2	3			
400SMTSTD0930	9	30	400SMTSFT0510	5	10	400SMTXSFT0204	2	4			
400SMTSTD1045	10	45	400SMTSFT0515	5	15	400SMTXSFT0206	2	6			
400SMTSTD1160	11	60	400SMTSFT0610	6	10	400SMTXSFT0208	2	8			
400SMTSTD1260	12	60	400SMTSFT0615	6	15	400SMTXSFT2H03	2.5	3			
400SMTSTD1360	13	60	400SMTSFT0715	7	15	400SMTXSFT2H04	2.5	4			
400SMTSTD1460	14	60	400SMTSFT0820	8	20	400SMTXSFT2H06	2.5	6			
400SMTSTD1660	16	60	400SMTSFT0930	9	30	400SMTXSFT2H08	2.5	8			
400SMTSTD1860	18	60	400SMTSFT1030	10	30	400SMTXSFT0304	3	4			
						400SMTXSFT0306	3	6			
						400SMTXSFT0308	3	8			
						400SMTXSFT3H06	3.5	6			
						400SMTXSFT3H08	3.5	8			
						400SMTXSFT0406	4	6			
						400SMTXSFT0408	4	8			
						400SMTXSFT0410	4	10			
						400SMTXSFT4H12	4.5	12			

## Penumbra SMART COIL Detachment Handle



Catalog Number	Description
SCH1	Smart Coil Detachment Handle

### Product availability varies by country.

Please contact your local Penumbra representative for more information.

**Caution:** Federal (USA) law restricts this device to sale by or on the order of a physician. 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.

### Indication For Use

- The Penumbra Smart Coil® System is indicated for the embolization of:
- Intracranial aneurysms
  - Other neurovascular abnormalities such as arteriovenous malformations and arteriovenous fistulae
  - Arterial and venous embolizations in the peripheral vasculature

### Contraindications

There are no known contraindications.

### Warnings

The Penumbra Smart Coil System should only be used by physicians who have received appropriate training in interventional techniques.

### Precautions

- The device is intended for single use only. Do not resterilize or reuse. Resterilization and/or reuse may compromise the structural integrity of the device or increase the risk of contamination or infection leading to device failure and/or cross-infection and potential patient injury, illness or death.
- Do not use kinked or damaged devices. Do not use opened or damaged packages. Return all damaged devices and packaging to the manufacturer/distributor.

Standard and Soft configurations of Smart Coils are designed with Nitinol wire inside the platinum outer coil. The safety and effectiveness of this device has not been evaluated in patients with Nitinol allergy.

- Use prior to the "Use By" date
- Use device in conjunction with fluoroscopic guidance
- Do not advance or withdraw the device against resistance without careful assessment of the cause using fluoroscopy
- Moving or torquing the device against resistance may result in damage to the vessel or device
- Maintain a constant infusion of an appropriate flush solution

### Potential Adverse Events

Potential complications include but are not limited to: Acute occlusion, air embolism allergic reaction and anaphylaxis from contrast media, aneurysm rupture,

arteriovenous fistula, coagulopathy, coil herniation into parent vessel, death, device malfunction, distal embolization, emboli, embolic stroke and other cerebral ischemic events, false aneurysm formation, hematoma or hemorrhage at access site of entry, incomplete aneurysm occlusion, infection, intima dissection, intracranial hemorrhage, ischemia, myocardial infarction, neurological deficits including stroke, parent artery occlusion, peripheral thromboembolic events, post-embolization syndrome, premature device detachment, recanalization, renal failure, respiratory failure, revascularization, thromboembolic episodes, vessel spasm, thrombosis, dissection or perforation



www.penumbrainc.com

**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 44  
 13507 Berlin  
 Germany  
 T +49 30 2005 676-0  
 F +49 30 2005 676-10  
 order@penumbrainc.de  
 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