

Penumbra (P)

Indigo System Catheters

Indigo System Catheters



Arterial, venous, and pulmonary clot in larger vessels where circumferential aspiration is desired



Arterial clot in larger arteries including SFA, popliteal, and viscerals



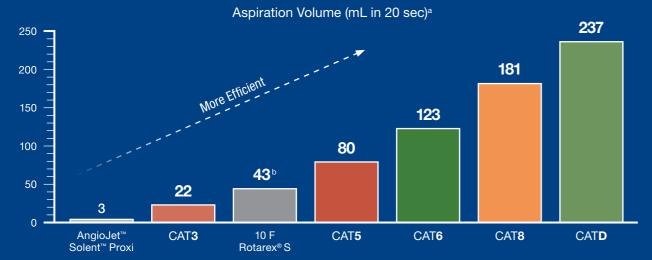
Smaller, distal reach for upper and lower arterial extremities



50 cm length for upper and lower venous and AV fistula/graft thrombus aspiration

Aspirate, Don't Macerate

Power Aspiration with Indigo System



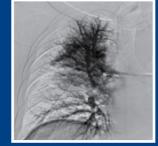
a. AngioJet setup tested with its own accessories and aspiration source per its Instructions for Use. Data for AngioJet Solent Proxi was collected in 2015

Benefits of Mechanical Power Aspiration

- Atraumatic tracking
- No reported bradycardia or hypotension°
- \bullet No reported haemolysis or renal failure $^\circ$
- Can be used to retrieve distal emboli

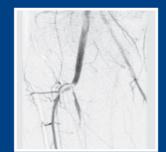
Get the Clot Out with Indigo System





Removal of Thrombus from Pulmonary

Dr. Juan José Ciampi-Dopazo, Complejo Hospitalario de Toledo, Toledo, Spai





Removal of Thrombus from Tibioperoneal



Indigo System Features



PRISM Trial Results





Corey Teigen, MD, Department of Interventional Radiology, Sanford Health, Fargo, ND, USA James F. Benenati, MD, FSIR, Miami Cardiac & Vascular Institute, Miami, FL, USA Richard R. Saxon, MD, San Diego Cardiac & Vascular Institute, San Diego, CA, USA George L. Adams, MD, North Carolina Heart & Vascular Research, Raleigh, NC, USA Luke Sewall, MD, Adventist Health Partners, Downers Grove, IL, USA





Successful Revascularisation

Successful Revascularisation

Post All Interventions

96.2%

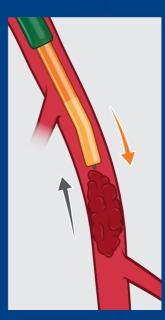
Successful Revascularisation was defined as TIMI 2-3 flow

Conclusion: XTRACT Technique with Indigo System is Safe and Effective

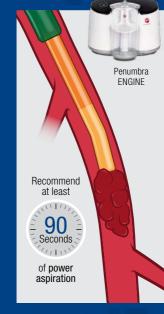
XTRACT Technique Used in PRISM Trial for Arterial Occlusions



The contralateral sheath with RHV/Tuohy is positioned as close to the lesion as possible and the Indigo CAT8 is advanced through sheath over a wire.



The Indigo CAT8 is placed just proximal to the face of the clot and wire is retracted.



Aspiration is applied to Indigo CAT8 via Penumbra ENGINE until CAT8 becomes occluded (recommend waiting at least 90 seconds).



The Indigo CAT8 is removed under aspiration to ensure clot remains engaged in catheter tip and clot is extracted out of the body.

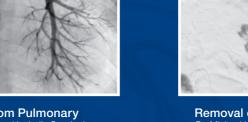
The opinions and clinical experiences presented herein are for informational purposes only. The results may not be predictive for all patients. Individual results may vary depending on a variety of patient-specific attributes Renderings for illustrative purposes only. Procedural and operative techniques and considerations are illustrative examples from physician experience. Physicians' treatment and technique decisions will vary based on their medical judgment.

f. Saxon RR, Benenati JF, Teigen C, Adams GL, Sewall LE; PRISM Trialists. Utility of a Power Aspiration-Based Extraction Technique as an Initial and Secondary Approach in the Treatment of Peripheral Arterial Thromboembo lism: Results of the Multicenter PRISM Trial. J Vasc Interv Radio. 2018 Jan; 29(1):92-100. doi:10.1016/j.jvir.2017.08.019.

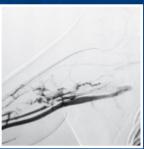


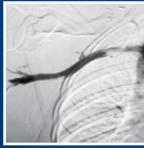


Removal of Thrombus from Pulmonary Drs. Sergio Berti, Cataldo Palmieri, and Isabella Spadoni Fondazione Toscana Gabriele Monasterio, Ospedale del Cuore, Italy



Removal of Thrombus from Iliac & Femoral Vein Dr. Michael Lichtenberg, Klinikum Arnsberg, Arnsberg, Germany

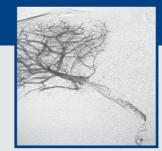




Removal of Thrombus from Subclavian Vein Dr. Frank Arko, Atrium Health, NC, USA

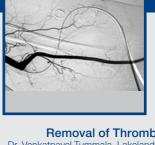


Removal of Thrombus from BTA Dr. Gianmarco de Donato, University of Siena, Siena, Italy





Removal of Thrombus from Portal Vein Dr. Rafik Lababidi, Largo Medical Center, FL, USA





Removal of Thrombus from AV Fistula





Dr. Branavan Umakanthan, Nevada Heart and Vascular Center, NV, USA



Removal of SFA Chronic Total Occlusion





Removal of Thrombus from Anterior Tibial Dr. Florian Wolf, Allgemeines Krankenhaus der Stadt Wien, Vienna, Austria

Up to 8F Arterial, Venous, and Pulmonary Indication

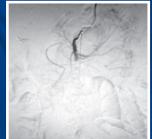




Removal of Thrombus from Popliteal Artery Dr. Theodosios Bisdas, Athens Medical Center, Athens, Greece



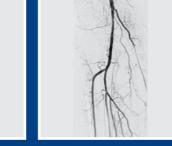
Removal of Thrombus from Occluded SFA Stent Dr. George Adams, REX/UNC Healthcare, NC, USA





Removal of Thrombus from SMA





Removal of Thrombus from Popliteal Artery Dr. Maria Antonella Ruffino, Città della Salute e della Scienza di Torino, Torino, Italy

Indigo System Powered by Penumbra ENGINE



Indigo System

Now Packaged with **Dynamic Tubing**

Ability to Slide Flow Switch



g. Compared to previous Flow Switch. Data on file at Penumbra, Inc.

64% Larger Flow Switch ID⁹







Dynamic Flow Switch

Indigo Catheter Kits							
Catalog Number	Description	Proximal OD	Distal OD	Compatibility (Sheath or Guide)	Working Length (cm)	Wire Platform (in.) (mm)	Compatible Penumbra Devices
CAT8XTORQ115KIT - Now!	Indigo 8 XTORQ Tip + Dynamic Aspiration Tubing	8 F (2.67 mm)	8 F (2.67 mm)	8 F (2.67 mm) Sheath	115	.014038 (.3697)	Separator 8
CAT8TORQ85KIT - Now!	Indigo 8 TORQ Tip + Dynamic Aspiration Tubing	8 F (2.67 mm)	8 F (2.67 mm)	8 F (2.67 mm) Sheath	85	.014038 (.3697)	Separator 8
CAT8STR85KIT - Now!	Indigo 8 Straight Tip + Dynamic Aspiration Tubing	8 F (2.67 mm)	8 F (2.67 mm)	8 F (2.67 mm) Sheath	85	.014038 (.3697)	Separator 8
CAT6KIT - Now!	Indigo 6 + Dynamic Aspiration Tubing	6 F (2.00 mm)	6 F (2.00 mm)	6 F (2.00 mm) Sheath	135	.014038 (.3697)	Separator 6
CAT5KIT - Now!	Indigo 5 + Dynamic Aspiration Tubing	6 F (2.00 mm)	5 F (1.65 mm)	6 F (2.00 mm) Sheath	132	.014038 (.3697)	Separator 5
CAT3KIT - Now!	Indigo 3 + Dynamic Aspiration Tubing	4.1 F (1.37 mm)	3.4 F (1.14 mm)	5 F (1.65 mm) Sheath	150	.014025 (.3664)	Separator 3
CATD - Now!	Indigo D + Dynamic Aspiration Tubing	8 F (2.67 mm)	8 F (2.67 mm)	8 F (2.67 mm) Sheath	50	.014038 (.3697)	Separator D

eparators			
Description	Distal OD (in.) (mm)	Total Length (cm)	Compatible Penumbra Devices
Separator 8	.072 (1.83)	150	CAT8
Separator 6	.055 (1.40)	175	CAT6
Separator 5	.045 (1.14)	175	CAT5
Separator 3	.028 (.71)	190	CAT3
Separator D	.072 (1.83)	90	CATD
	Description Separator 8 Separator 6 Separator 5 Separator 3	Description Distal OD (in.) (mm) Separator 8 .072 (1.83) Separator 6 .055 (1.40) Separator 5 .045 (1.14) Separator 3 .028 (.71)	Description Distal OD (in.) (mm) Total Length (cm) Separator 8 .072 (1.83) 150 Separator 6 .055 (1.40) 175 Separator 5 .045 (1.14) 175 Separator 3 .028 (.71) 190

Accessories		
Catalog Number	Description	Compatible Penumbra Devices
PMXENGN - Now!	Penumbra ENGINE	Penumbra ENGINE Canister
IAPS3 - Now!	Penumbra ENGINE Canister	Penumbra ENGINE

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.

INDIGO Aspiration System – Intended Use

The INDIGO Aspiration System is intended for the removal of fresh, soft emboli and thrombi from vessels of the peripheral arterial and venous systems and certain central circulatory system conditions such as pulmonary emboli using continuous aspiration.

Potential Adverse Events

Possible complications include, but are not limited to, the following: allergic reaction and anaphylaxis from contrast media; acute occlusion; air embolism; arteriovenous fistula; death; device malfunction; distal embolization; emboli; false aneurysm formation; hematoma or hemorrhage at access site; inability to completely remove thrombus; infection; hemorrhage; ischemia; kidney damage from contrast media; neurological deficits including stroke; vessel spasm, thrombosis, dissection, or perforation; intimal disruption; myocardial infarction; emergent surgery; fibrillation; hypotension; respiratory failure; peripheral thromboembolic events.

PENUMBRA ENGINE - Intended Use

The PENUMBRA ENGINE is intended as a vacuum source for Penumbra Aspiration Systems.



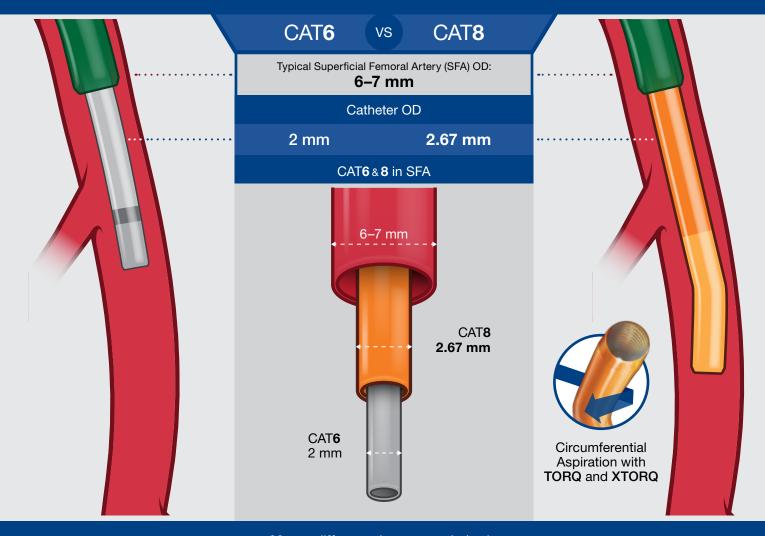
Penumbra Europe GmbH

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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

Product availability varies by country. Images used with permission. Consents on file at Penumbra, Inc. Individual results may vary depending on a variety of patient-specific attributes. Tests performed and data on file at Penumbra, Inc. Bench test results may not be indicative of clinical performance. The opinions and clinical experiences presented herein are for informational purposes only. The results may not be predictive for all patients. Renderings for illustrative purposes only. Individual results may vary depending on a variety of patient-specific attributes. Procedural and operative techniques and considerations are illustrative examples from physician experience. Physicians' treatment and technique decisions will vary based on their medical judgment. Photographs taken by and on file at Penumbra, Inc. Please contact your local Penumbra representative for more information.

Indigo System Power Aspiration with CAT8



Use largest non-occlusive catheter for maximum power aspiration

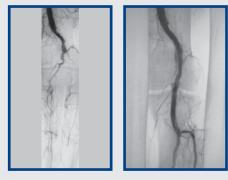
.63 mm difference in puncture hole size

2.82 mm

• CAT8
3.45 mm

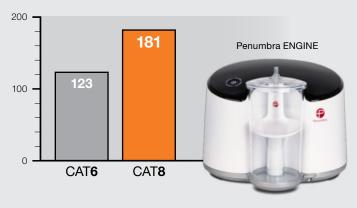
CAT8 has ~150% the power of CAT6°

Aspiration of Thrombus from Popliteal with CAT6 & 8



Dr. Theodosios Bisdas, Athens Medical Center, Athens, Greece

Aspiration Volume (mL in 20 sec)^a



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Vessel diameters used are common clinical measurements. Renderings are for illustrative purposes only. The clinical results presented herein are for informational purposes only, and may not be predictive for all patients. Images used with permission. Consent on file at Penumbra, Inc. Individual results may vary depending on a variety of patient-specific attributes.

Ordering Information

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Indigo S	Indigo Separators				
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SEP8	Separator 8	.072 (1.83)	150	CAT8	
SEP6	Separator 6	.055 (1.40)	175	CAT6	
SEP5	Separator 5	.045 (1.14)	175	CAT5	
SEP3	Separator 3	.028 (.71)	190	CAT3	
SEPD	Separator D	.072 (1.83)	90	CATD	

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