Penumbra

Penumbra, Inc.

44th Annual J.P. Morgan
Healthcare Conference

Safe Harbor

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

Except for historical information, certain statements in this presentation and oral statements accompanying this presentation are forward-looking in nature and are subject to risks, uncertainties and assumptions about us. Our business and operations are subject to a variety of risks and uncertainties and, consequently, actual results may differ materially from those projected by any forward-looking statements. Factors that could cause actual results to differ from those projected include, but are not limited to: failure to sustain or grow profitability or generate positive cash flows; failure to effectively introduce and market new products; delays in product introductions; significant competition; inability to further penetrate our current customer base, expand our user base and increase the frequency of use of our products by our customers; inability to achieve or maintain satisfactory pricing and margins; manufacturing difficulties; permanent write-downs or write-offs of our inventory or other assets; product defects or failures; unfavorable outcomes in clinical trials; inability to maintain our culture as we grow; fluctuations in foreign currency exchange rates; potential adverse regulatory actions; and the potential impact of any acquisitions, mergers, dispositions, joint ventures or investments we may make. These risks and uncertainties, as well as others, are discussed in greater detail in our filings with the Securities and Exchange Commission ("SEC"), including our Annual Report on Form 10-K for the year ended December 31, 2024 filed with the SEC on February 18, 2025. There may be additional risks of which we are not presently aware or that we currently believe are immaterial which could have an adverse impact on our business. Any forward-looking statements are based on our current expectations, estimates and assumptions regarding future events and are applicable only as of the dates of such statements. We make no commitment to revise or update any forward-looking statements in order to reflect events or circumstances that may change.

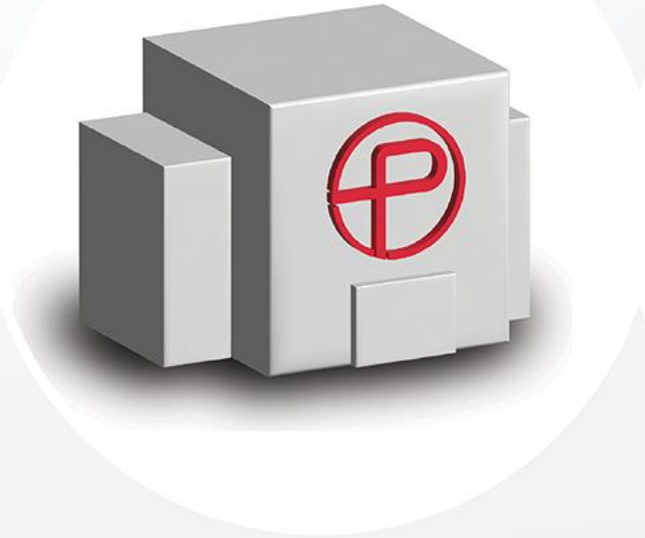
TRADEMARKS

We use CAVT, Indigo, Lightning Bolt, Lightning Flash, PAC400, PC400, Penumbra P logos, Penumbra SMART COIL, POD400, POD, RED, Ruby, SENDit, Swift, SwiftPAC, SwiftSET, STORM-PE logo, and other marks as trademarks in the United States and other countries. Solely for convenience, trademarks and trade names referred to in this presentation, including logos, artwork and other visual displays, may appear without the ® or ™ symbols, but such references are not intended to indicate in any way that we will not assert, to the fullest extent under applicable law, our rights or the rights of the applicable licensor to these trademarks and trade names.

SOURCES

1. 1) See sources 2–6 below
2. 1) Internal industry research using Definitive Healthcare, 2) Internal industry research using Guidepoint Qsight, 3) The Sage Group ALI final report, 4) Gilliland C, Shah J, Martin J. Acute limb ischemia. *Tech Vasc Intery Radiol.* 2017;20(4):274–280
3. 1) Internal industry research using Definitive Healthcare, 2) Internal industry research using Guidepoint Qsight, 3) Internal industry research with DRG
4. 1) Internal industry research using Definitive Healthcare, 2) Internal industry research with DRG, 3) Ozsu S, Karaman K, Mentese A, et al. Combined risk stratification with computerized tomography /echocardiography and biomarkers in patients with normotensive pulmonary embolism. *Thromb Res.* 2010 Dec;126(6):486–92. doi: 10.1016/j.thromres.2010.08.021, 4) Becattini C, Agnelli G, Vedovati MC, et al. Multidetector computed tomography for acute pulmonary embolism: diagnosis and risk stratification in a single test. *Eur Heart J.* 2011 Jul;32(13):1657–63. doi: 10.1093/eurheartj/ehr108, 5) Jiménez D, Kopecna D, Tapson V, et al. Derivation and validation of multimarker prognostication for normotensive patients with acute symptomatic pulmonary embolism. *Am J Respir Crit Care Med.* 2014 Mar 15;189(6):718–26. doi: 10.1164/rccm.201311-2040OC, 6) Gul EE, Can I, Guler I, et al. Association of pulmonary artery obstruction index with elevated heart-type fatty acid binding protein and short-term mortality in patients with pulmonary embolism at intermediate risk. *Diagn Interv Radiol.* 2012 Nov-Dec;18(6):531–6. doi: 10.4261/1305-3825.DIR.5827-12.3, 7) Mansencal N, Joseph T, Vieillard-Baron A, et al. Diagnosis of right ventricular dysfunction in acute pulmonary embolism using helical computed tomography. *Am J Cardiol.* 2005 May 15;95(10):1260–3. doi: 10.1016/j.amjcard.2005.01.064
5. 1) NIH – Incidence of Emergency Department Visits for ST-Elevation Myocardial Infarction, 2) Medical Science Monitor – Relation of Angiographic Thrombus Burden with Severity of Coronary Artery Disease in Patients with ST Segment Elevation Myocardial Infarction, 3) Harskamp RE, Williams JB, de Winter RJ, et al. Saphenous vein graft failure and clinical outcomes: toward a surrogate end point in patients following coronary artery bypass surgery? *Am Heart J.* 2013 May;165(5):639–643. doi: 10.1016/j.ahj.2013.01.019, 4) Modi K, Soos MP, Mahajan K. Stent Thrombosis. [Updated 2021 Sep 24]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing, 5) Bouleti C, Newton N, Germain S. The no-reflow phenomenon: state of the art. *Arch Cardiovasc Dis.* 2015 Dec;108(12):661–674. doi:10.1016/j.acvd.2015.09.006, 6) Internal industry research using Guidepoint Qsight, 7) SCAI, National Incidence of Heart Attacks Decline 50% Since 2004, Yet Underrepresented Groups Remain at Highest Risk, 8) Hakan, et al. National Incidence of Heart Attacks Decline 50% Since 2004, Yet Underrepresented Groups Remain at Highest Risk, 9) Cleveland Clinic, 10) Karaaslan ÖÇ, Çöteli C, Özilhan MO, et al. The predictive value of MAPH score for determining thrombus burden in patients with non-ST segment elevation myocardial infarction. *Egypt Heart J.* 2022 Aug 15;74(1):60. doi: 10.1186/s43044-022-00299-1, 11) Internal estimate for % of high-thrombus NSTEMI considered addressable
6. 1) 'Heart Disease and Stroke Statistics—2022 Update: A Report From the American Heart Association (Page e391), 2) https://www.cdc.gov/stroke/facts.htm, 3) https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6584910/, 4) WFITN Presentation by Emory, 5) Internal estimate for the progression of strokes to be considered treatable
7. 1) Internal industry research using Definitive Healthcare
8. 1) Rai AT, Halak AA, Lakhani DA, et al. Population-based estimates suggest middle meningeal artery embolization for subdural hematomas could significantly expand the scope of neurovascular therapies. *J Neurointerv Surg.* 2025 Mar 17;17(4):438–443. doi: 10.1136/jnis-2024-021686

Our Company



Headquartered
in Alameda

~4,500
Employees

Products
Manufactured
in California

Products Available
in 100+ Markets

Manufacturing

Alameda, CA

260,000

Manufacturing
Square Footage

Roseville, CA

300,000

Manufacturing
Square Footage

Costa Rica

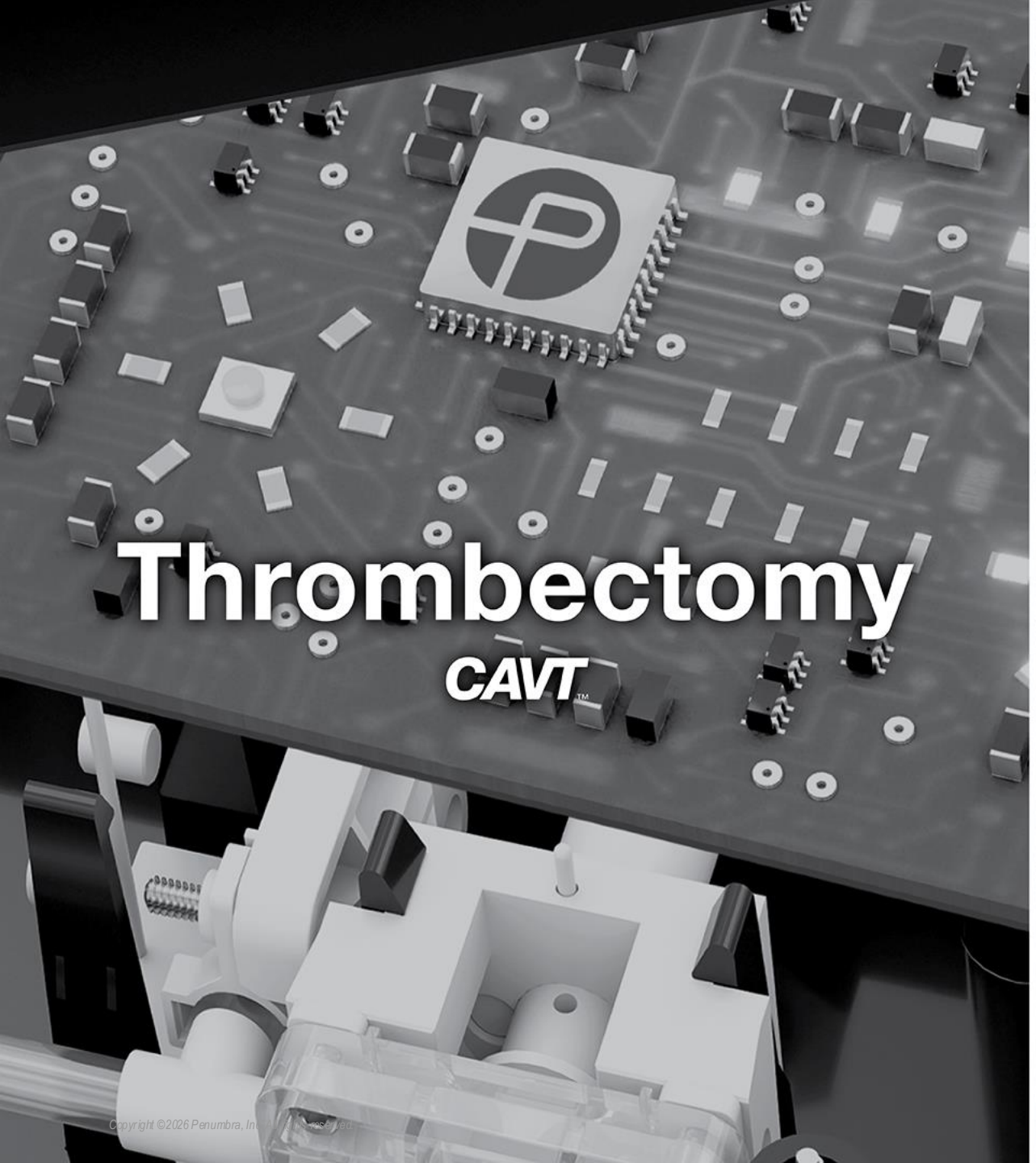
330,000

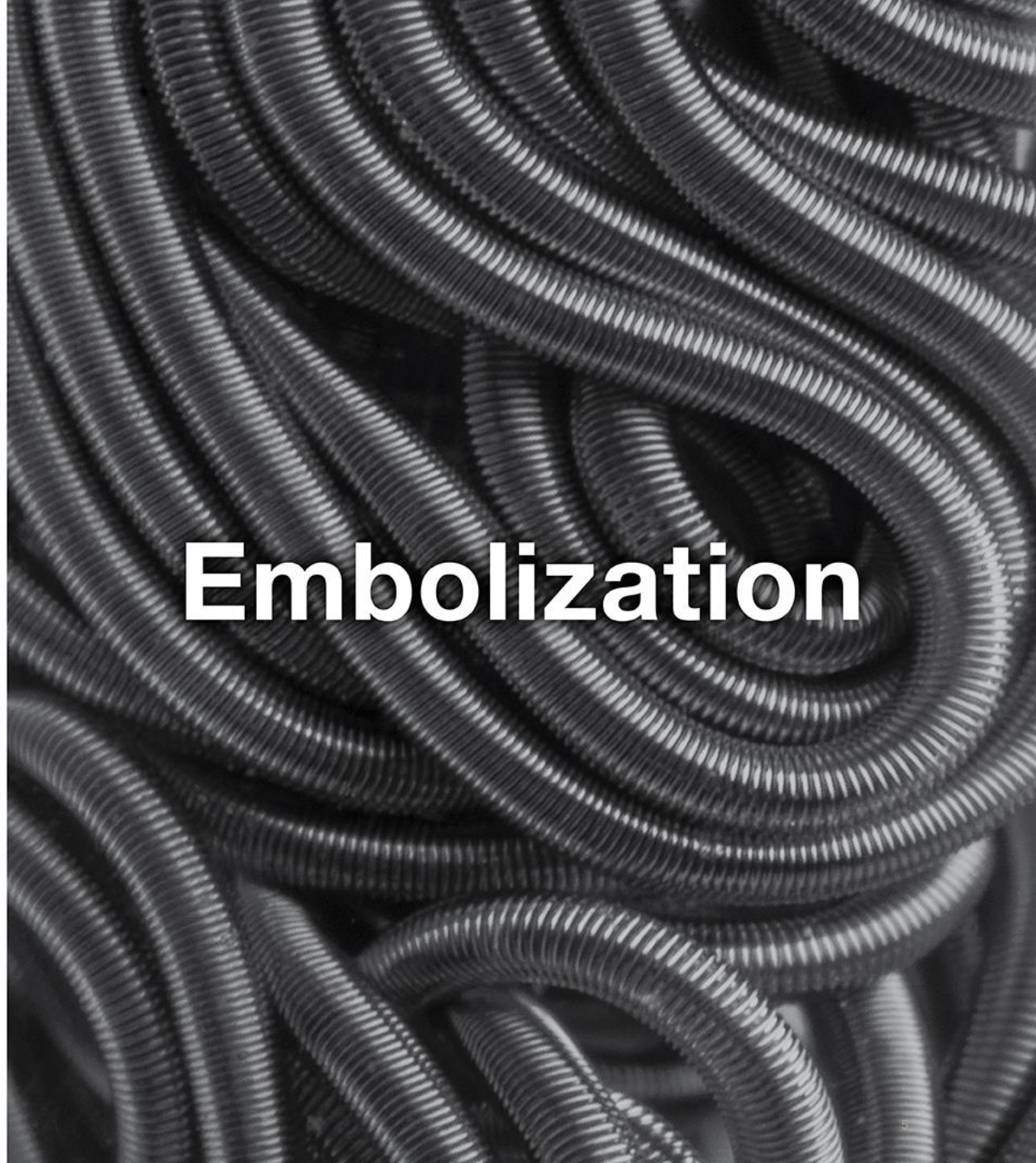
Manufacturing
Square Footage
(Due to open mid-2027)

Option for an Additional

330,000

Manufacturing
Square Footage





Thrombectomy

Total Annual U.S. Market Opportunity[1]

1,250,000+

Arterial Patients[2]	Venous / DVT Patients[3]	PE Patients[4]	Coronary Patients[5]	Stroke Patients[6]
259K	**351K**	**157K**	**289K**	**200K**

Thrombectomy Technology

STORM-PE RCT

CAVT Proven by Level 1 Evidence

Objective: Evaluate the efficacy and assess the safety of treating acute, intermediate-high risk pulmonary embolism with anticoagulation plus CAVT™ Computer Assisted Vacuum Thrombectomy with the Indigo™ Aspiration System Lightning Flash™ versus anticoagulation alone.

Design: 100 patients randomized 1:1 to CAVT plus anticoagulation (CAVT arm) or anticoagulation alone (AC arm); 22 U.S. and international sites.

Primary Endpoint (Δ RV/LV)

The CAVT arm demonstrated a significantly greater reduction in right heart strain compared to the AC arm

RV/LV Reduction Baseline to 48 Hours[a]

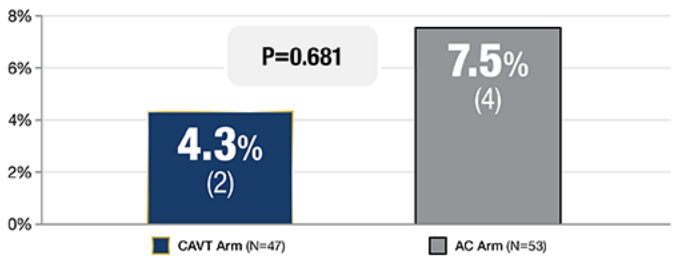
29.7% Relative Reduction

13.1% Relative Reduction

Safety

The CAVT arm safety rate was comparable to the AC arm, with numerically fewer Major Adverse Events (MAE)[b] in the CAVT arm[c]

Composite MAE ≤ 7 Days (%, n)



Major Bleeding[d]
(BARC 3a–5)

CAVT Arm	AC Arm
2.1% (1/47)	1.9% (1/53)

P>0.999

Procedural Data • *CAVT* Arm

Time[e] (median)	mPAP Reduction (mean)
Device: 25 min; Procedure: 56 min	27.3%

Technical Success[f]	Device Related Transfusion
100%	0%

Change in Thrombus Burden at 48 Hours

Significantly larger reduction in mean RMMS in the CAVT arm (2.7×)

6-Minute Walk Test (6MWT)[6]

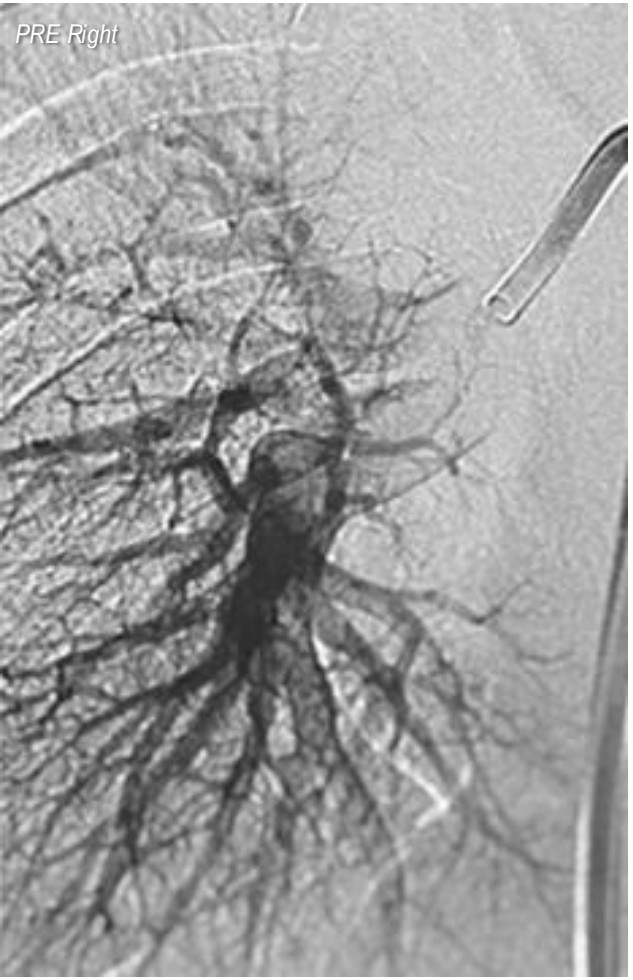
Patients in the CAVT arm **walked significantly farther at 90 days** and near normalized, walking 94% of their predicted walk distance

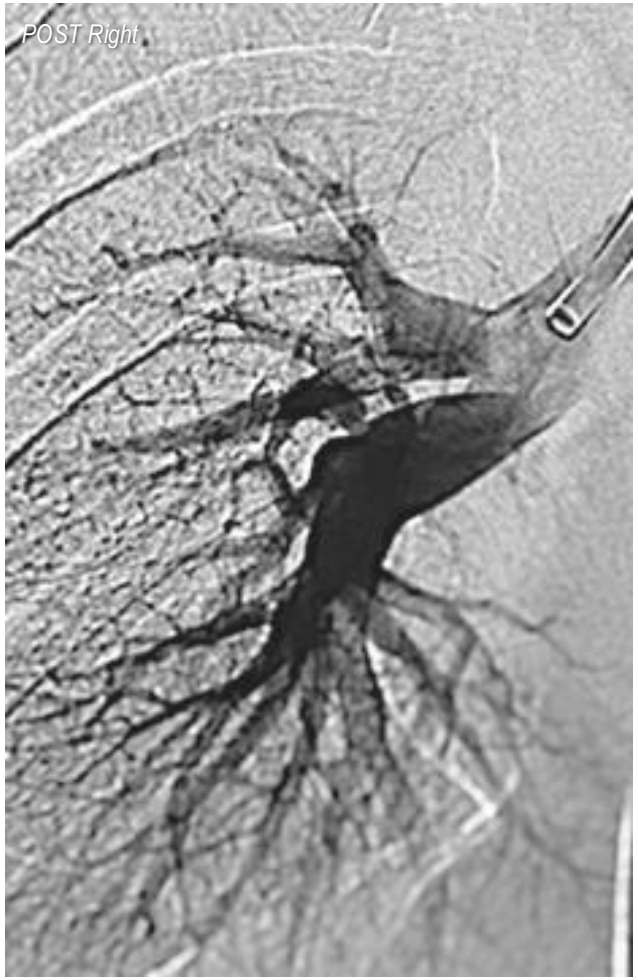
a. STORM-PE demonstrated superiority to anticoagulation utilizing Lightning Flash 1.0 and 2.0. Efficacy was predefined as the difference between treatment arms in change of RV/LV ratio from baseline to 48 hrs. b. MAEs within 7 days included: clinical deterioration necessitating rescue therapy, PE-related mortality, symptomatic recurrent PE, and major bleeding. c. STORM-PE was not powered to detect differences in safety. d. Type 3a was not considered major bleeding if it was related to an expected decrease in hemoglobin level due to fluid administration and if transfusion was less than 2 units. e. IQR for Device and Procedure time were [15.0, 41.0] and [42.0, 96.0], respectively. f. Technical Success was defined as ability of catheter to access clot and perform aspiration.

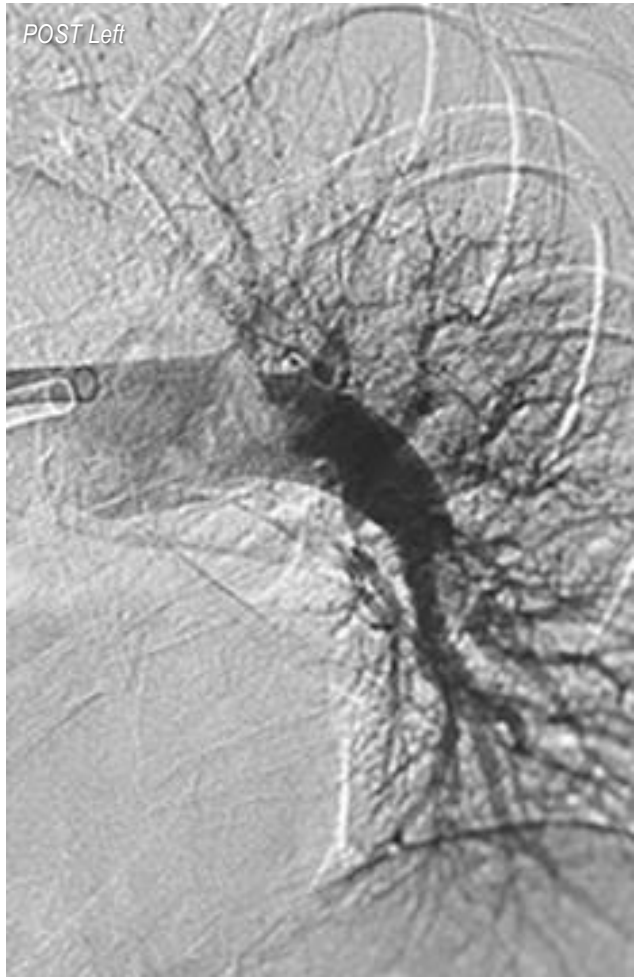
Bilateral / Saddle Pulmonary Embolism

Lightning Flash® 3.0

Device Time: ~1 min



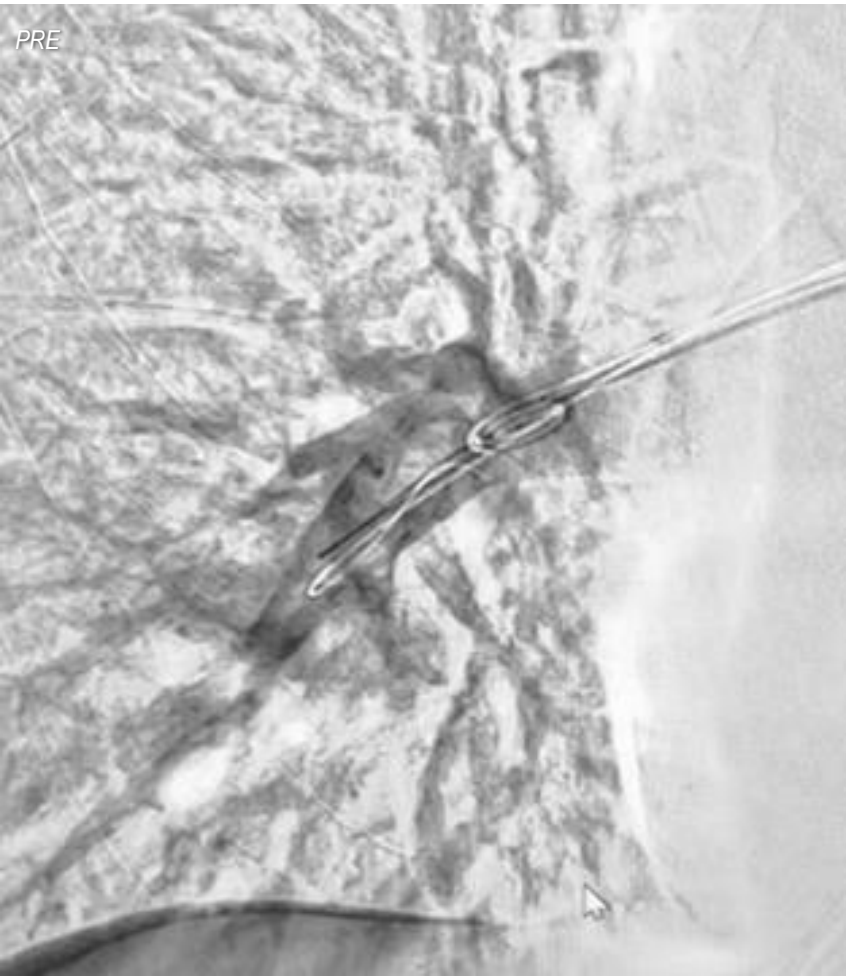


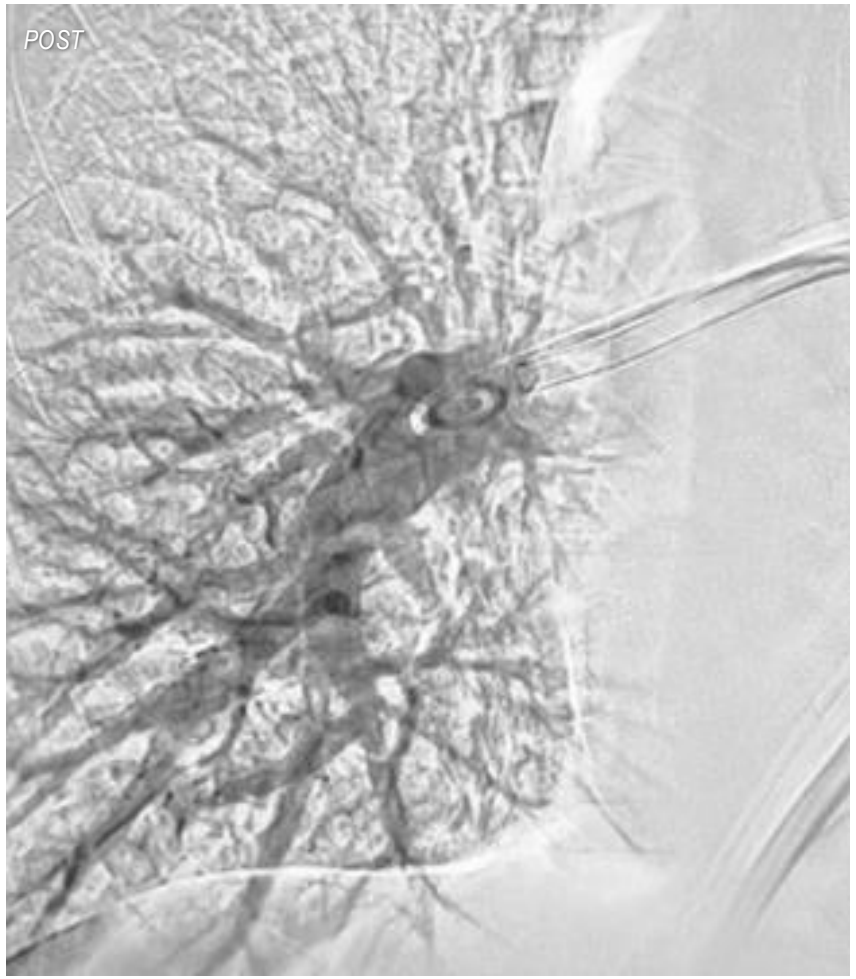


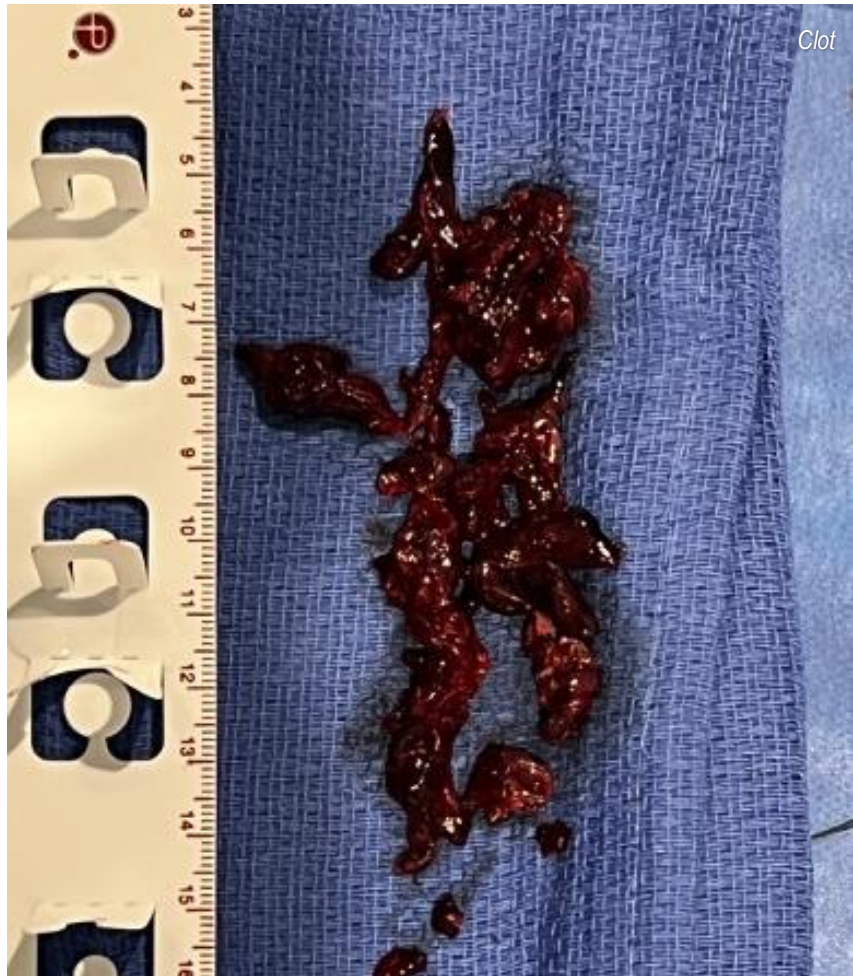
Pulmonary Embolism

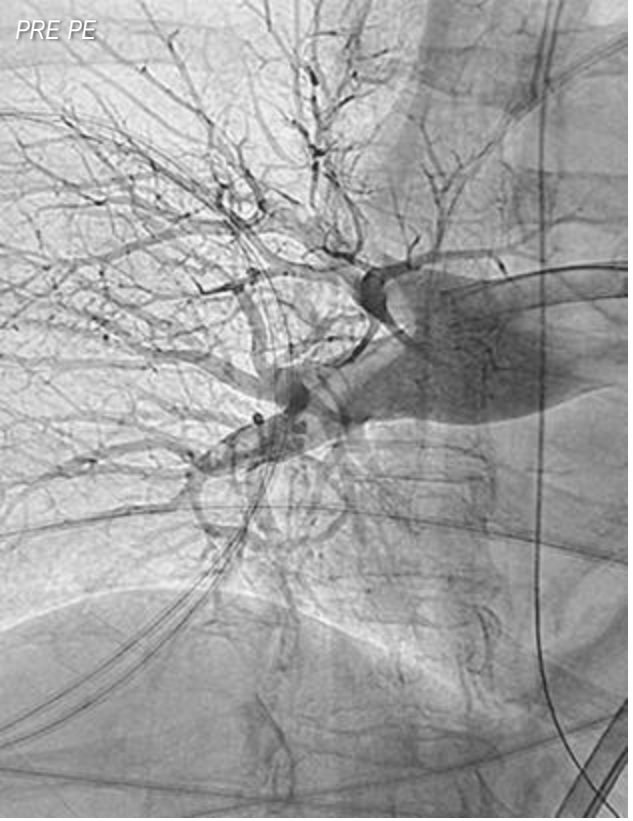
Lightning Flash 3.0

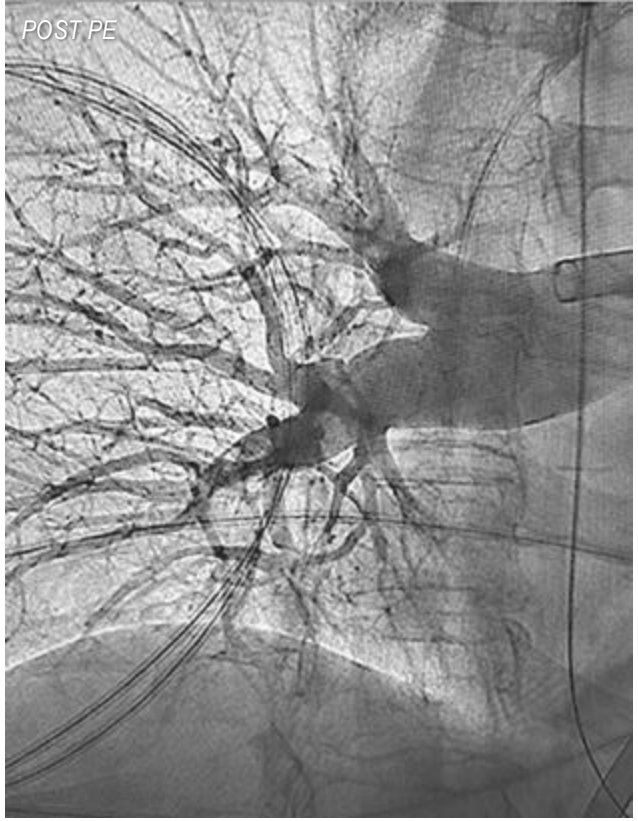
Device Time: 3 min

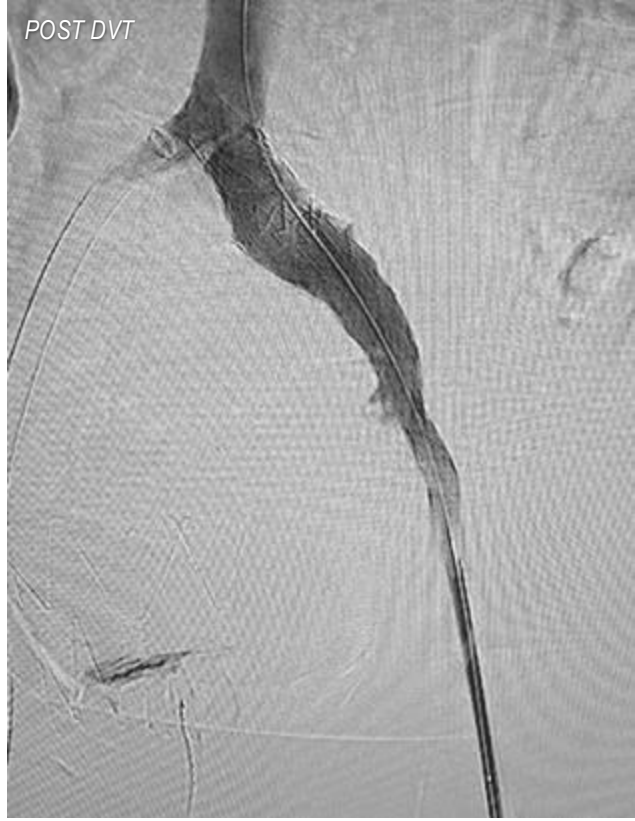












Pulmonary Embolism & DVT

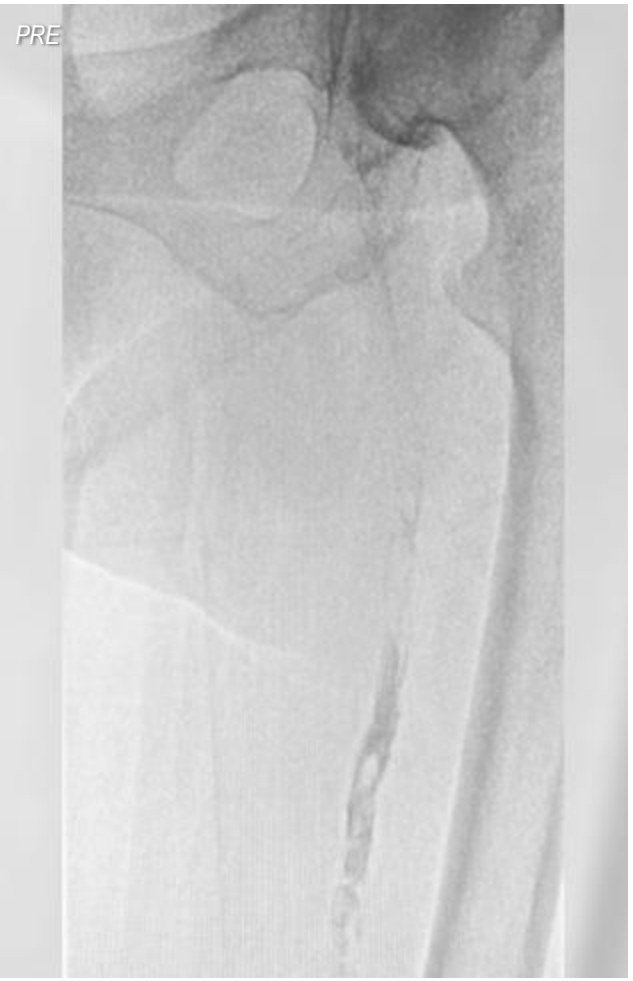
Lightning Flash 3.0

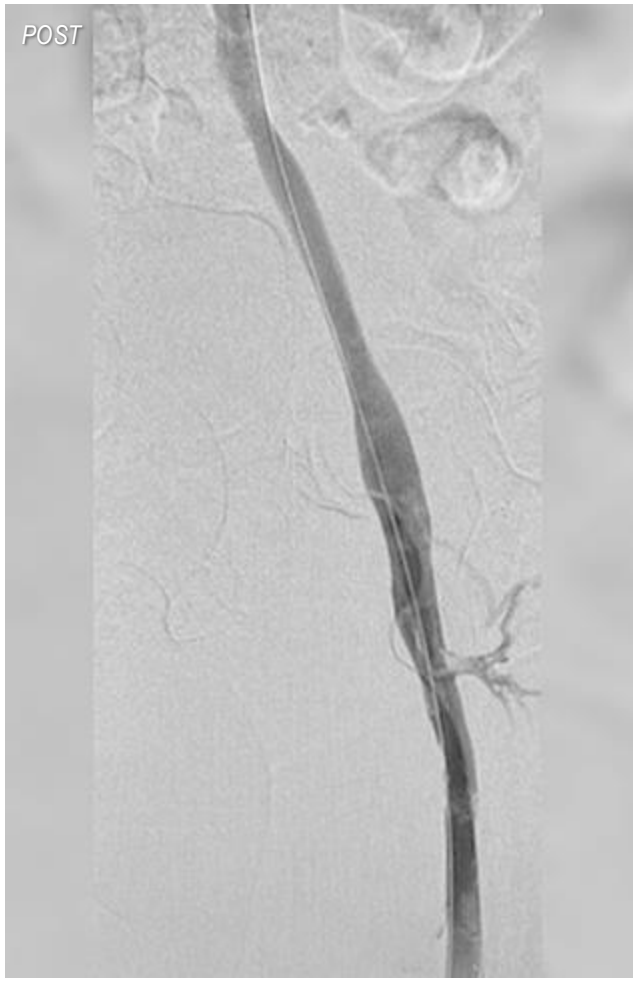
Device Time: 15 seconds PE, 5 min DVT

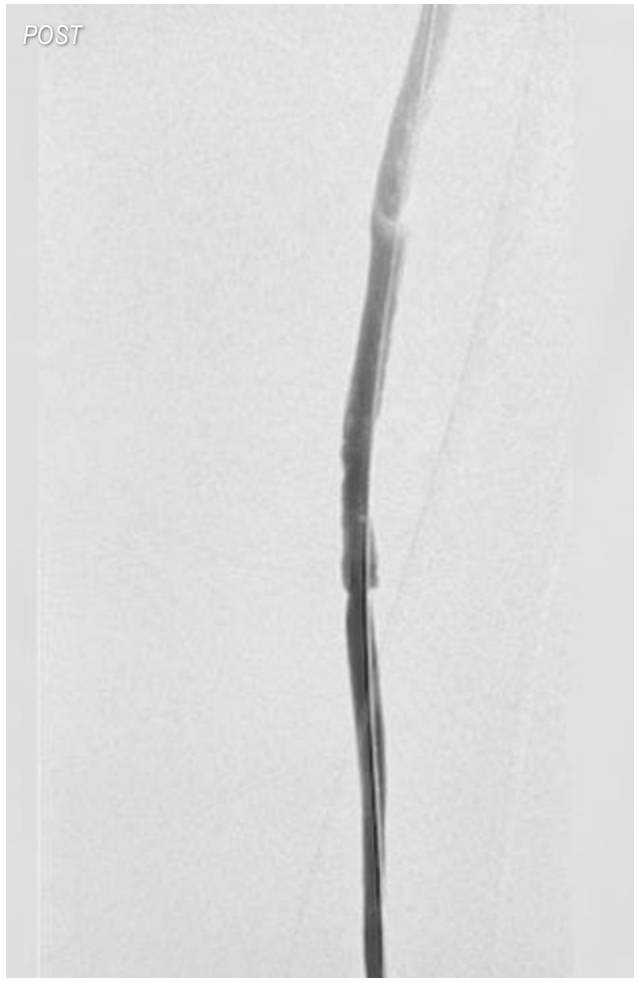
DVT (Femoral)

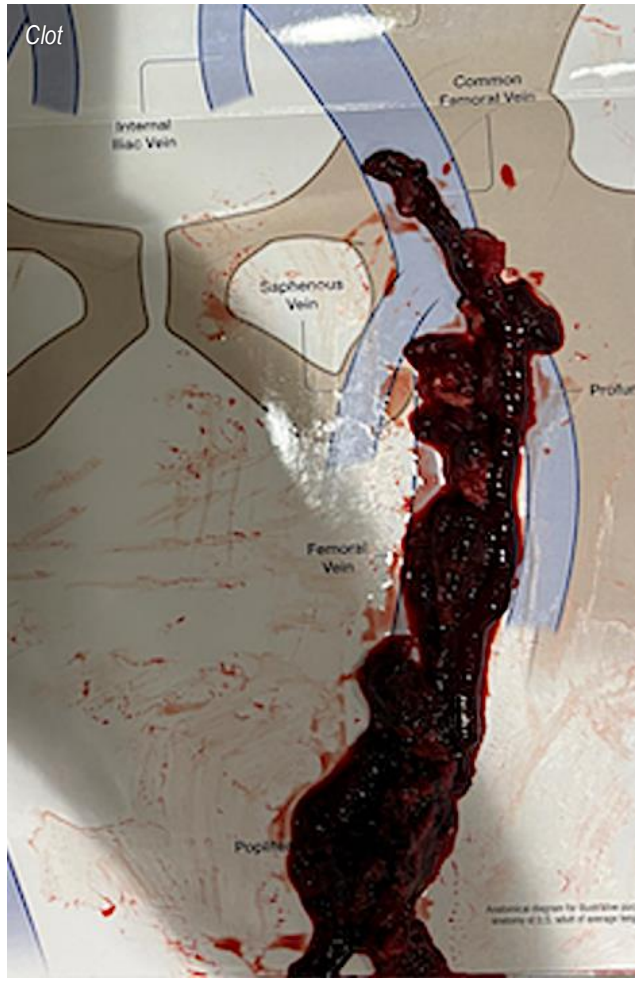
Lightning Flash 3.0

Device Time: < 2 min



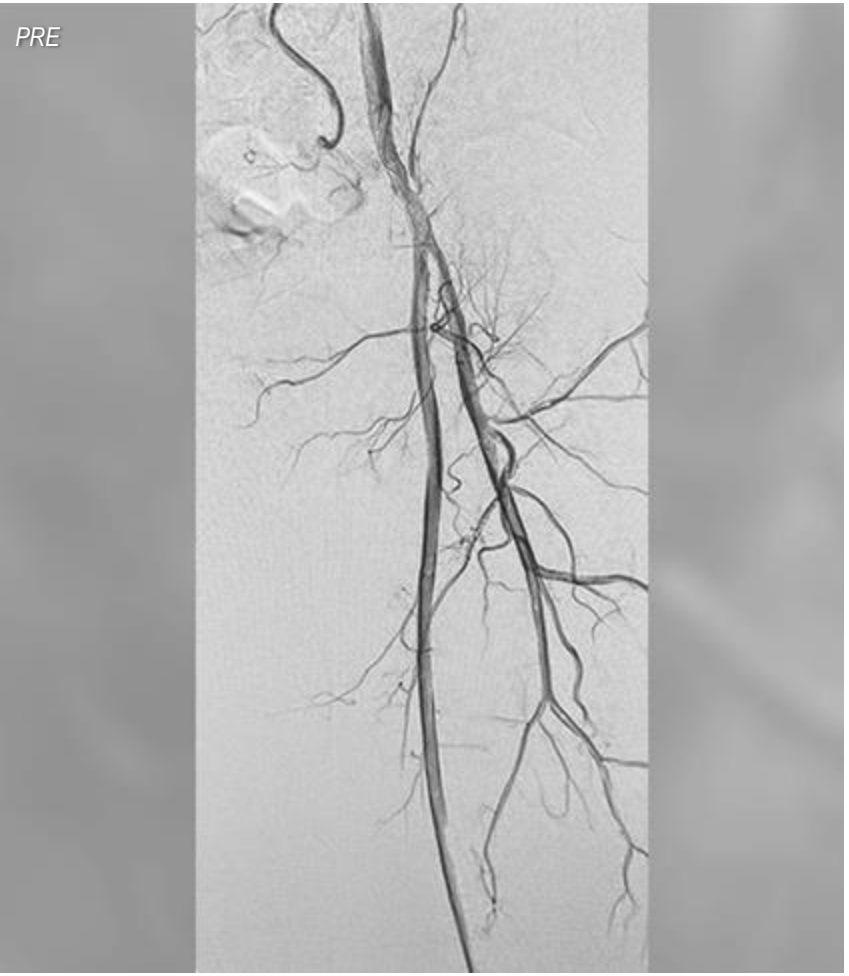


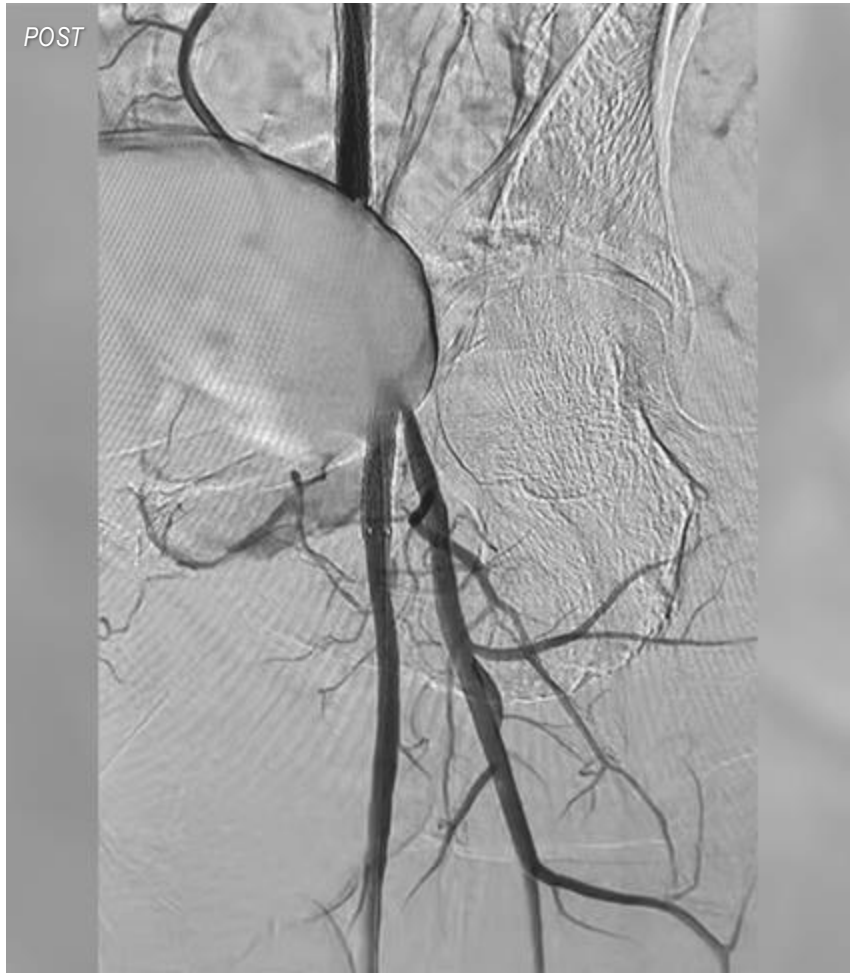




Arterial (Common Femoral, Profunda & Popliteal)

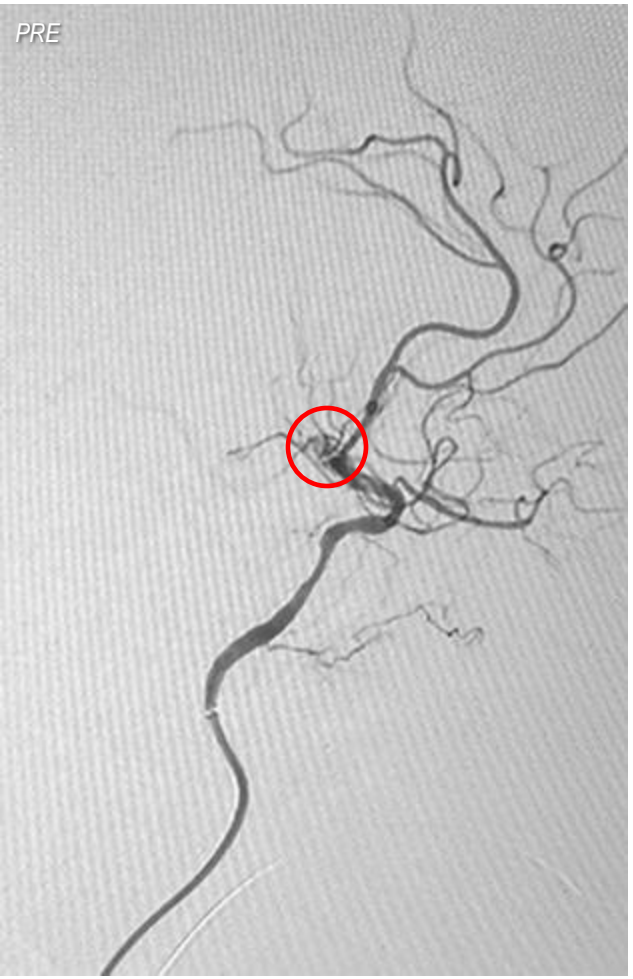
Lightning Bolt® 7
Device Time: 10 min

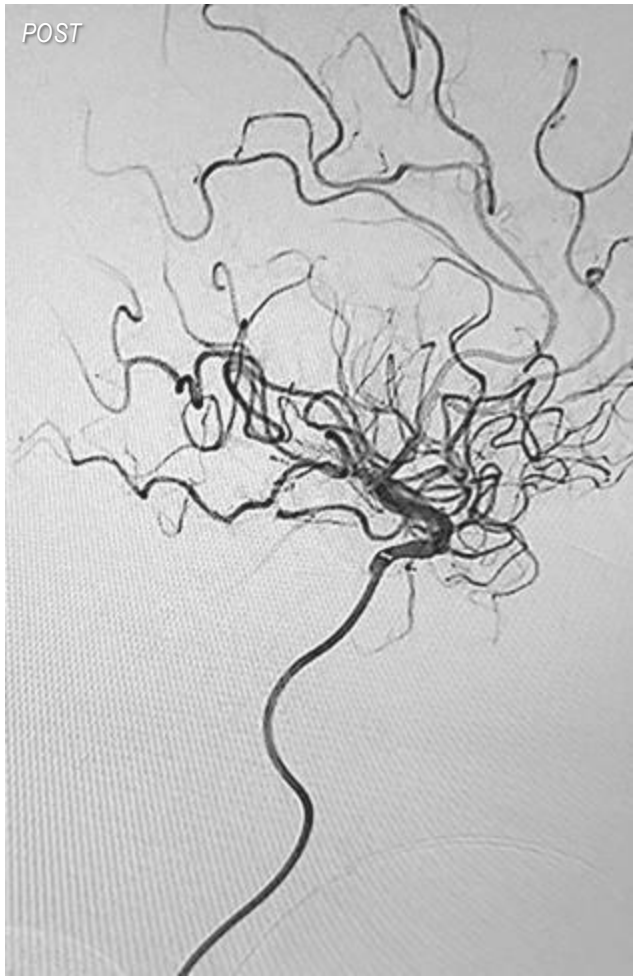


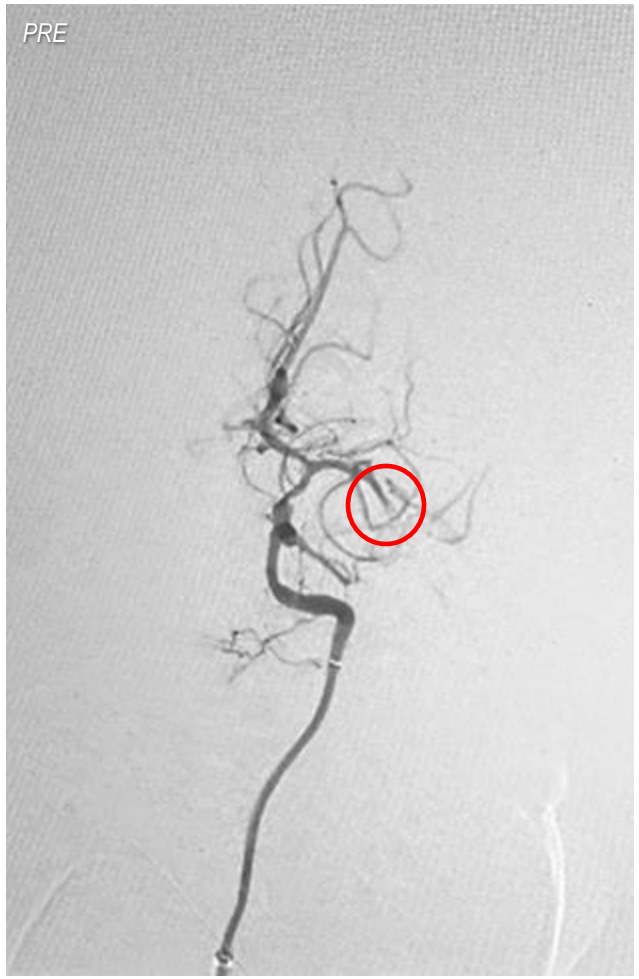


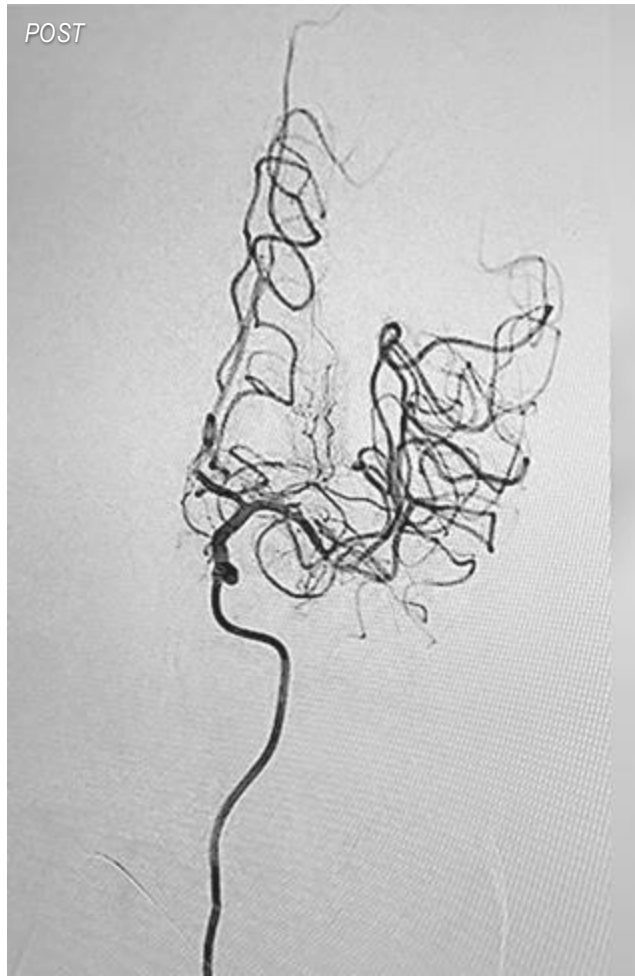
Stroke (M1 Occlusion)

RED® 72 SILVER LABEL with SENDit® Technology



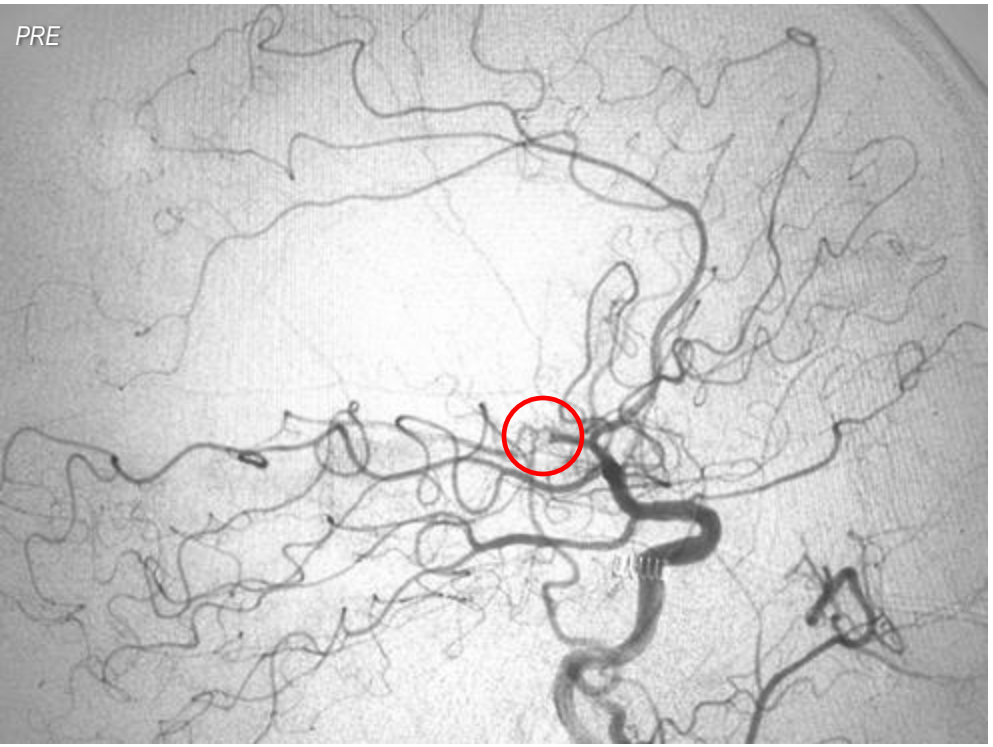


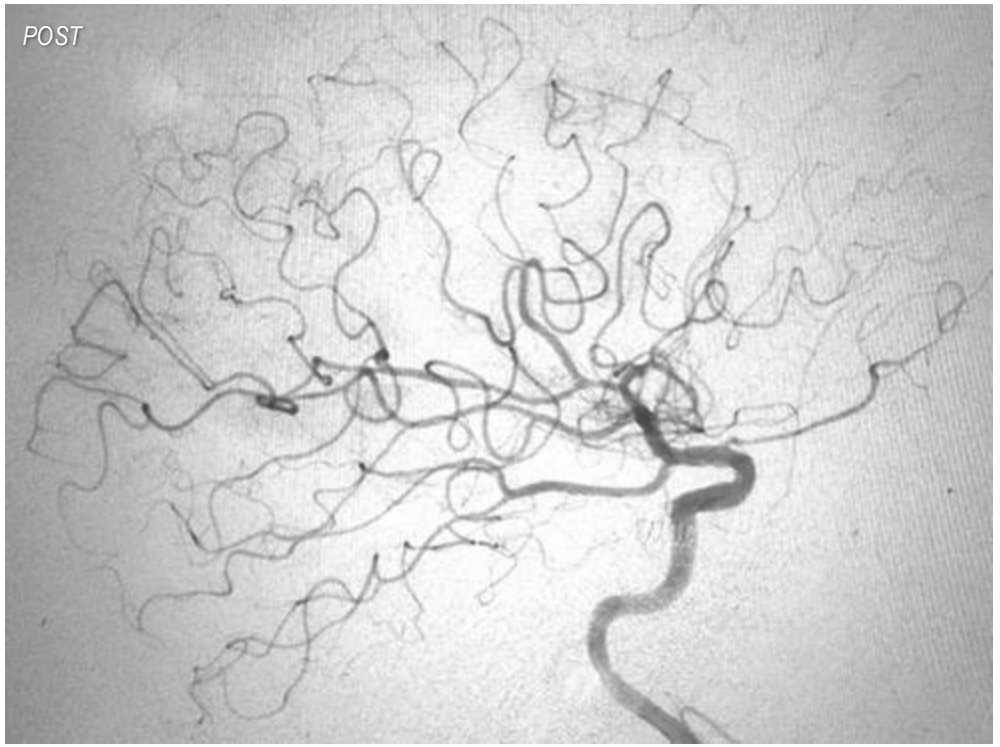


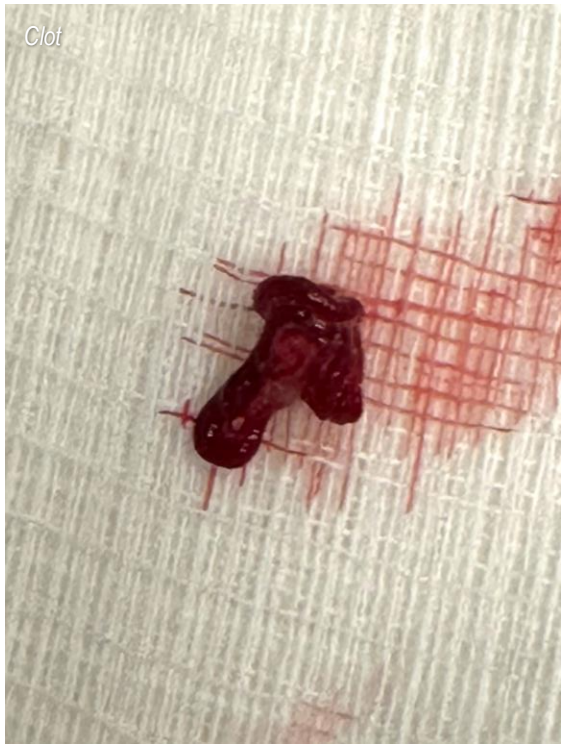


Stroke (M2 Occlusion)

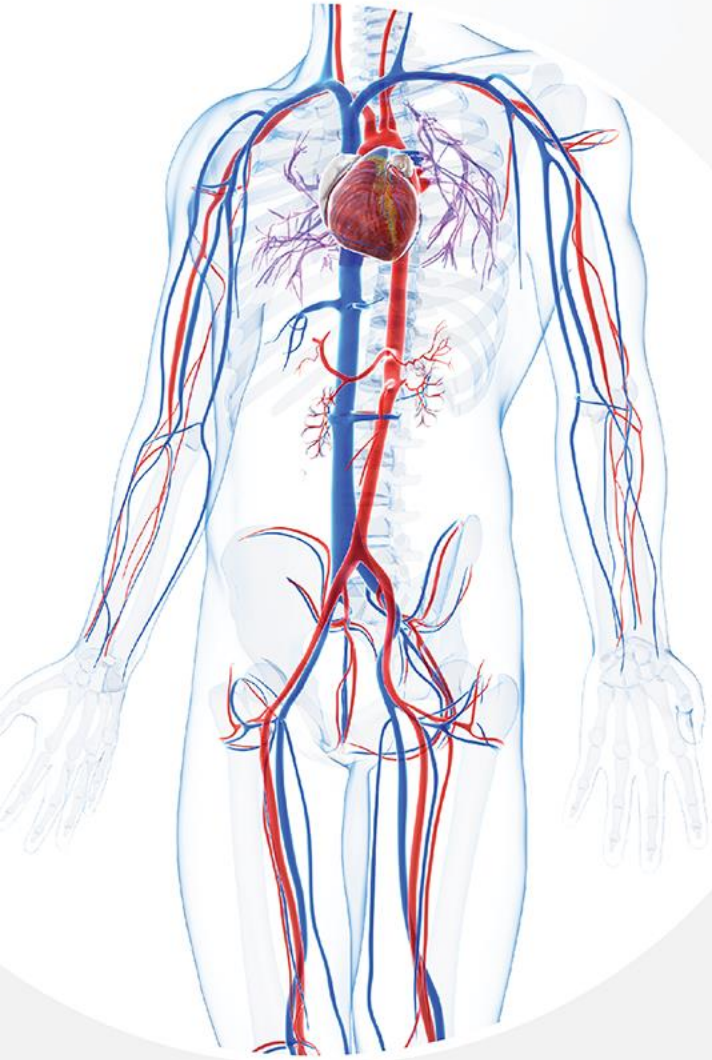
RED 43







Embolization



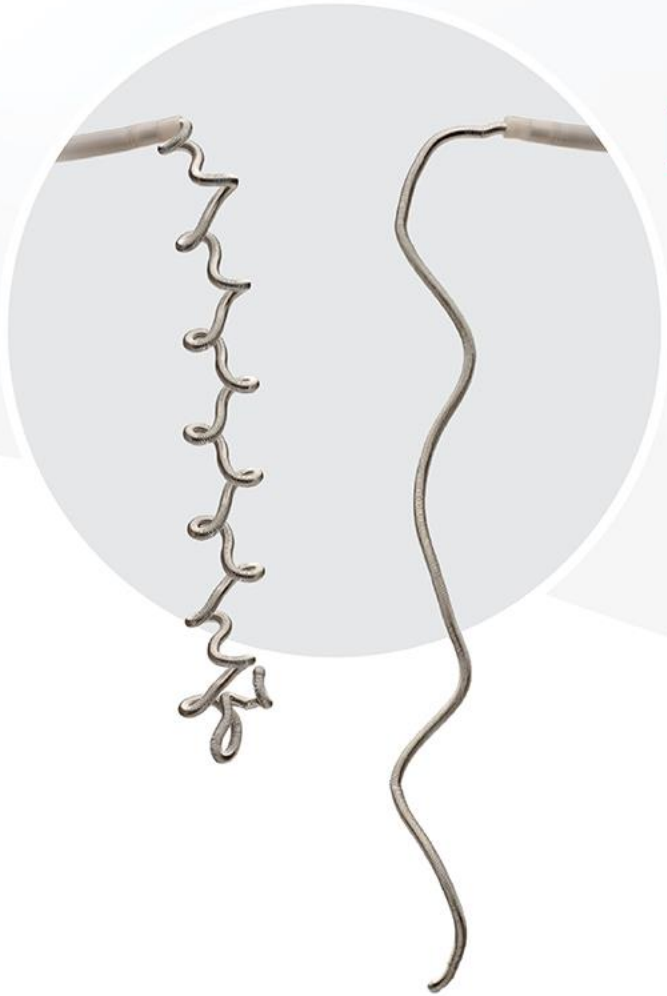
Peripheral Procedures[7]

175K

MMAe Patients[8]

140K

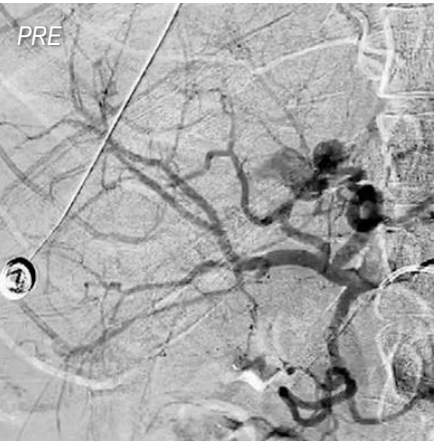
Embolization Technology

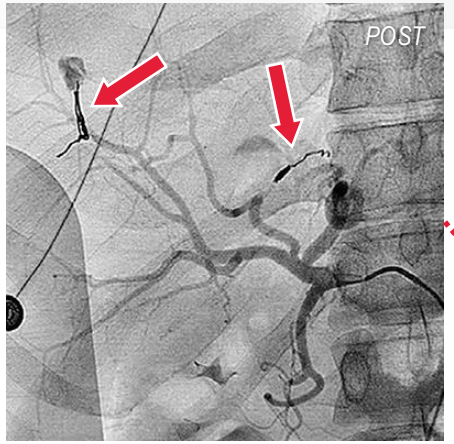


Ruby™ Coil • POD™ • Packing Coil
LP System • XL System • SwiftPAC™
SwiftSET™ • PC400™ • POD400™ & PAC400™
Penumbra SMART COIL™

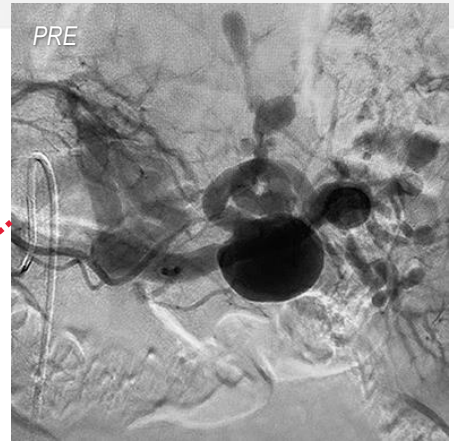
Peripheral Embolization

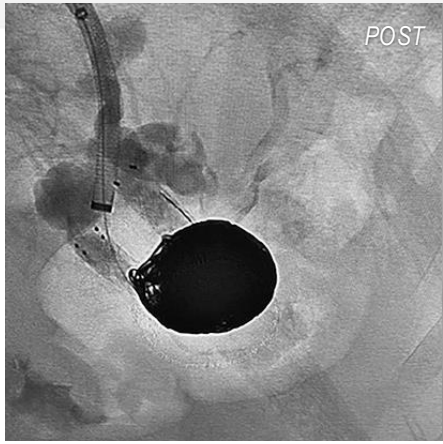
Hepatic Bleed – LP System



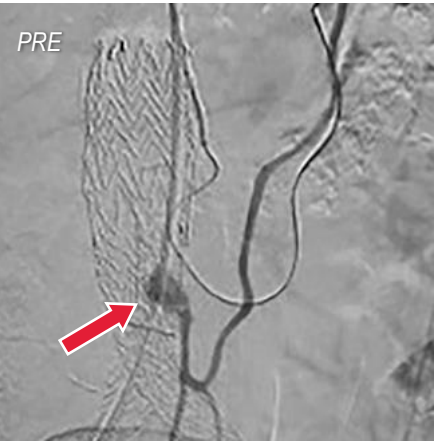


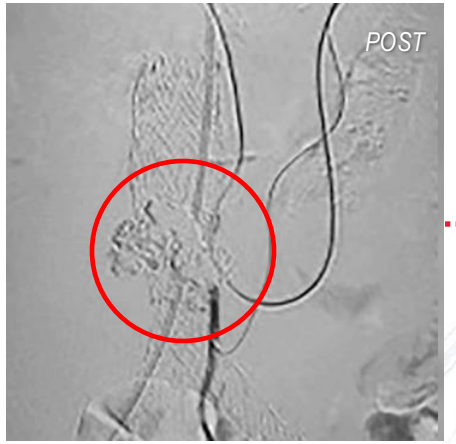
Distal Splenic Aneurysms – 020 System

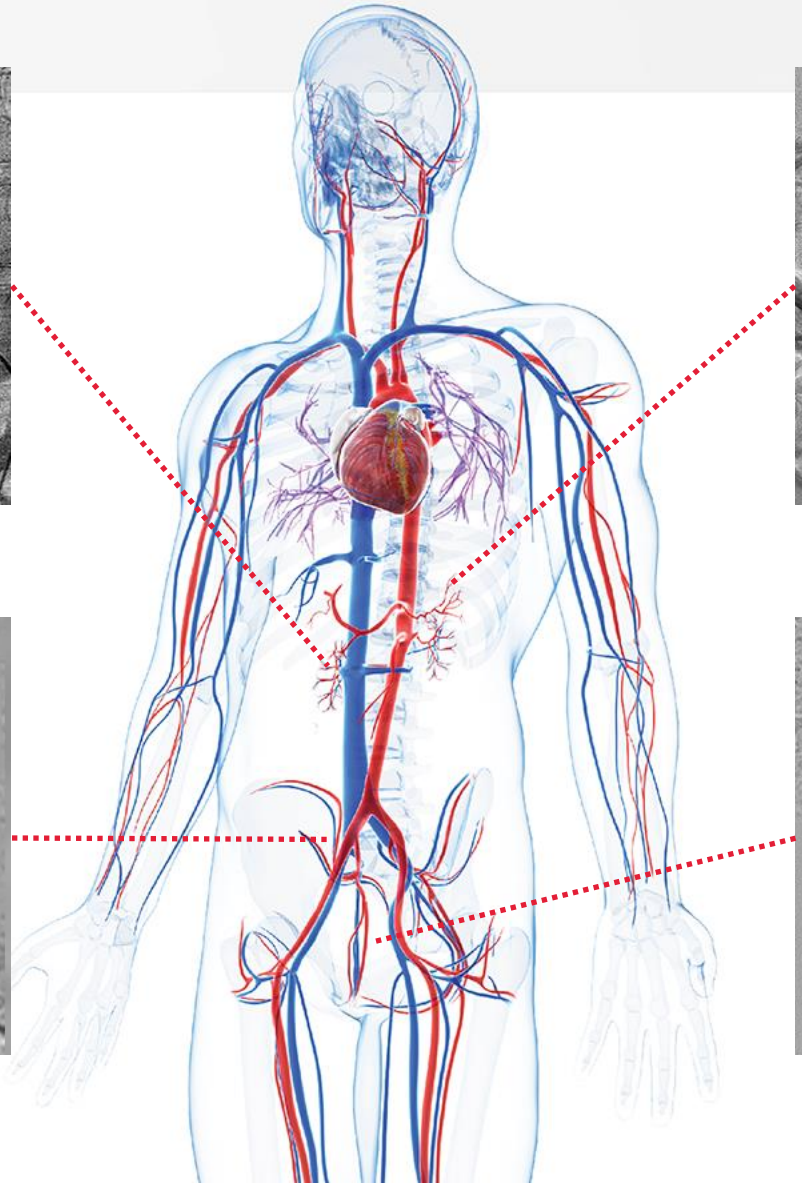




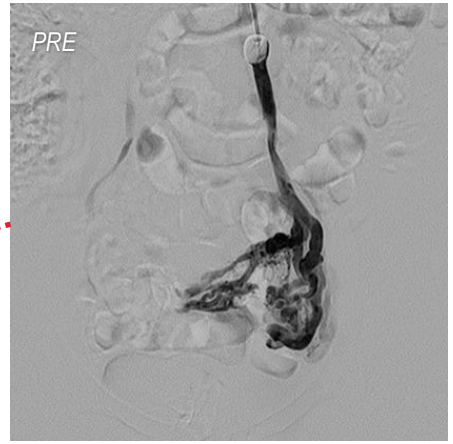
Type II Endoleak – XL System

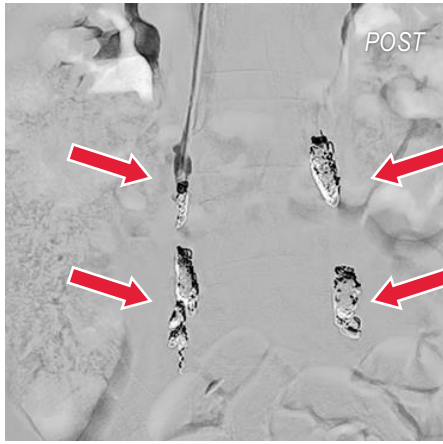






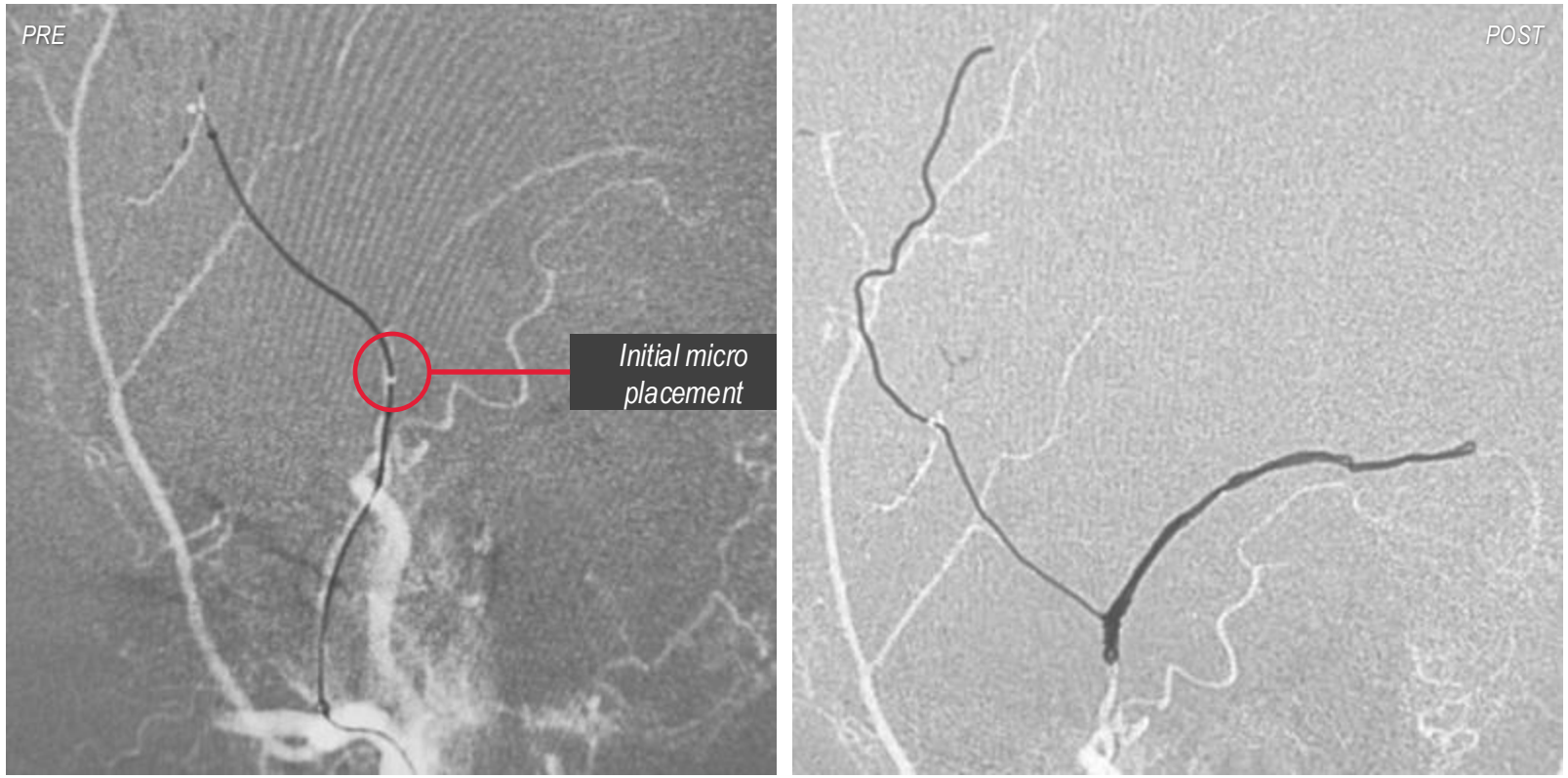
Pelvic Congestion Syndrome – XL System





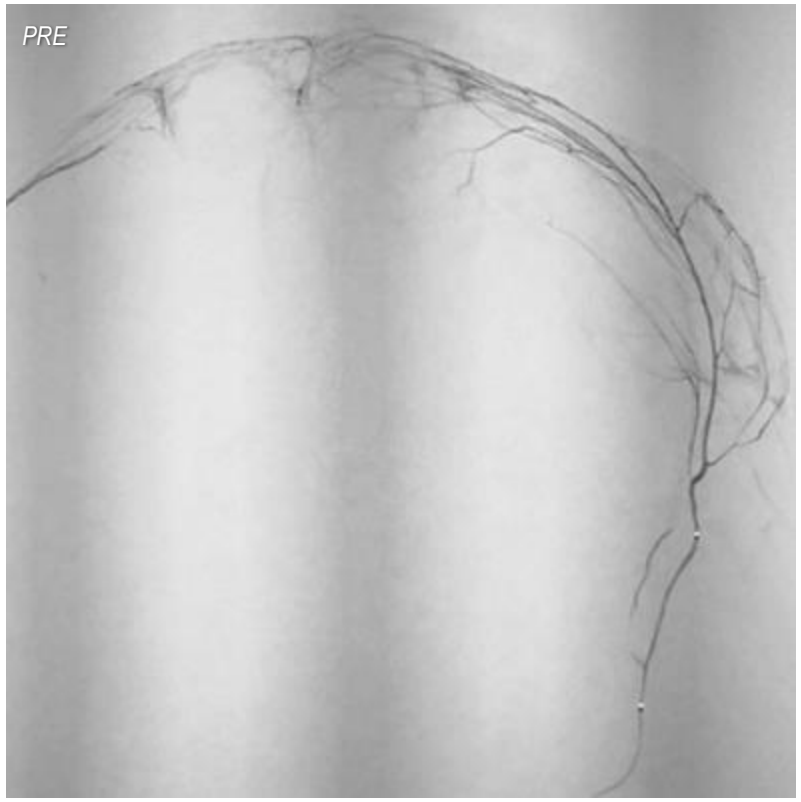
MMA Embolization

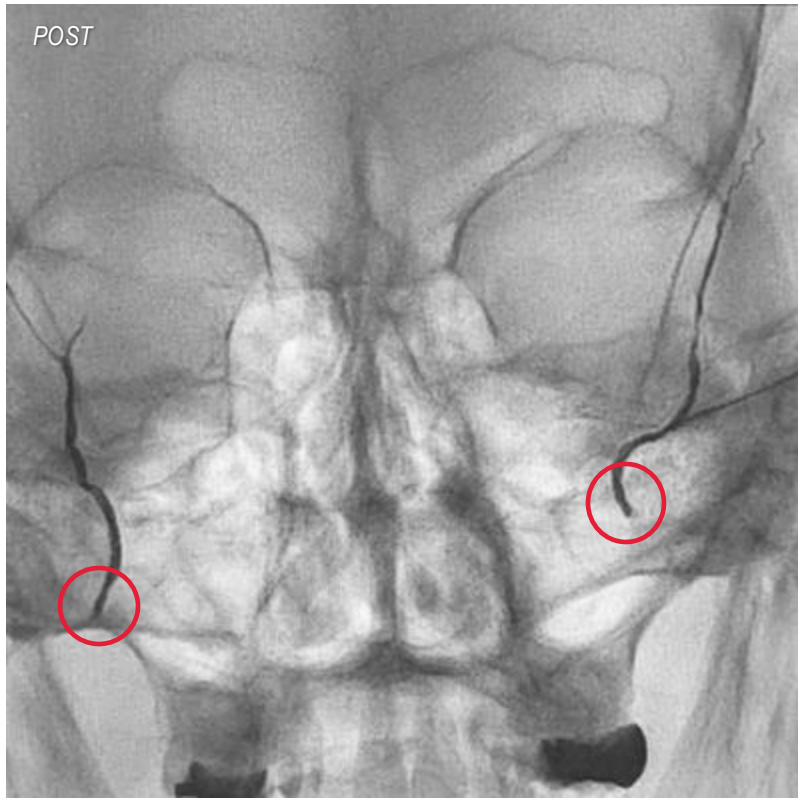
SwiftPAC



Bilateral MMA Embolization

SwiftPAC & SwiftSET





Penumbra

Thank you