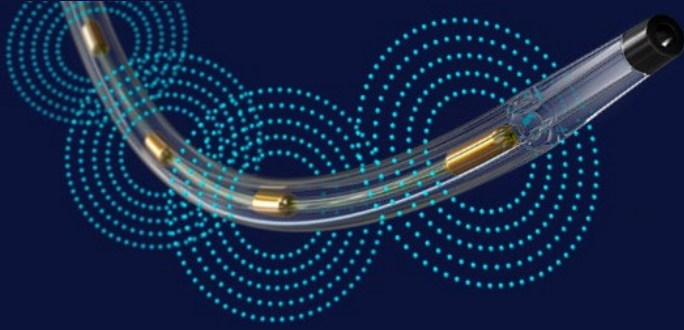




THIS IS WHY WE EKOS™

WHY EKOS

A first-line PE intervention, EKOS uses ultrasound to accelerate clot resolution with the lowest lytic dose and shortest duration.

SAFE

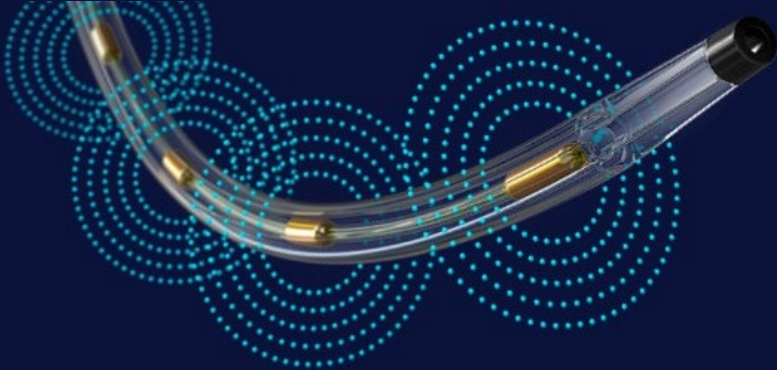
EKOS consistently demonstrates excellent safety outcomes.

SIMPLE

Designed for simplicity: predictable procedure delivering predictable results.

STUDIED

Committed to serving the medical community by boldly advancing PE interventional data, for 10 years & counting



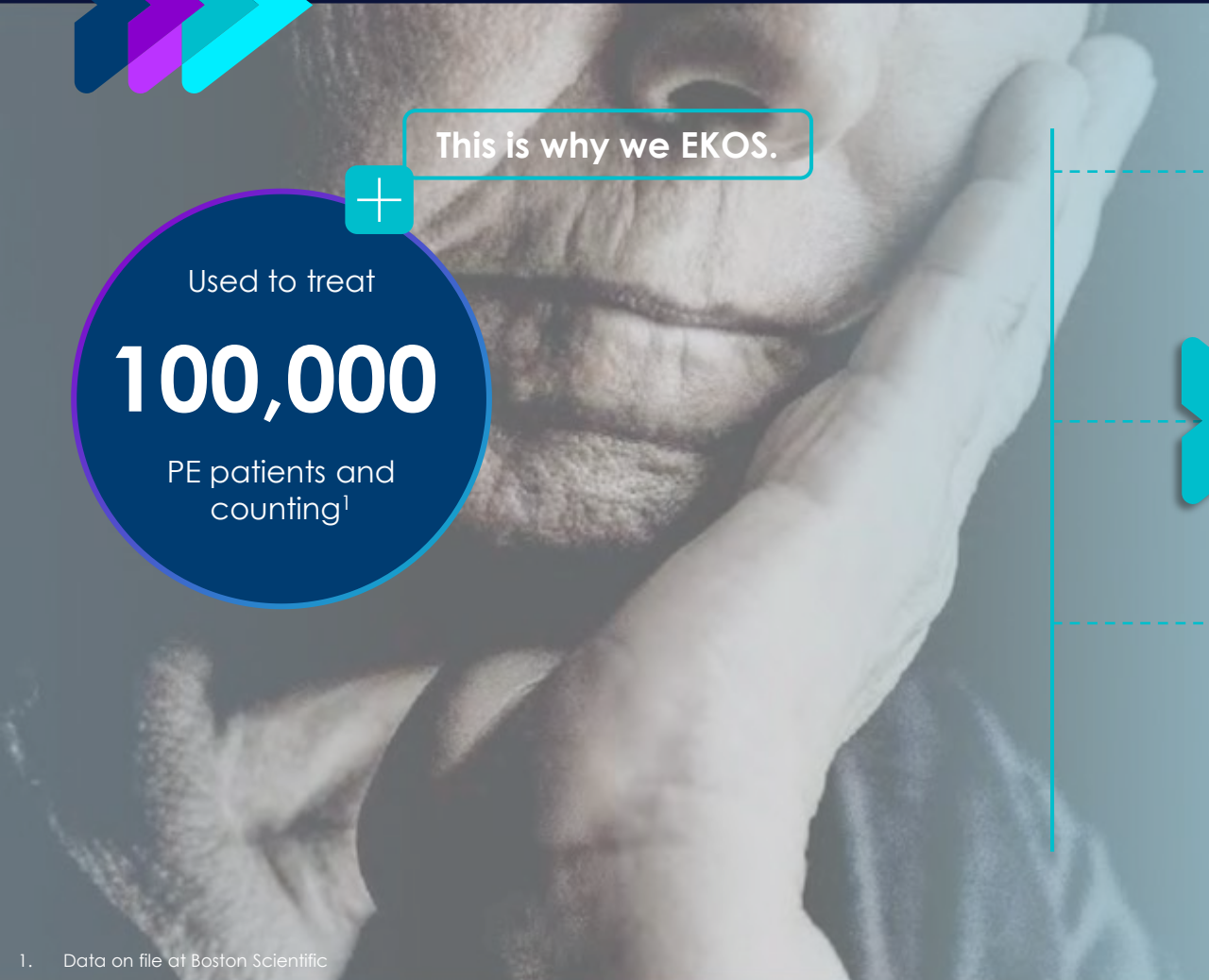
EKOS™
Endovascular System

EKOS stands alone as a first-line PE intervention.





EKOS stands alone as a first-line PE intervention



This is why we EKOS.

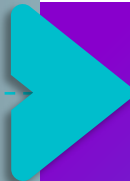


Used to treat

100,000

PE patients and
counting¹

- **Ultrasound Power: Accelerating Clot Resolution**
Low dose. Low duration. EKOS enables fast lysis.



Minimize Procedural Risks

EKOS delivers outstanding outcomes with a safe, predictable procedure.

- **A Toolkit Approach to Treat PE**
Understand the benefits of different interventions and the impacts to patients.

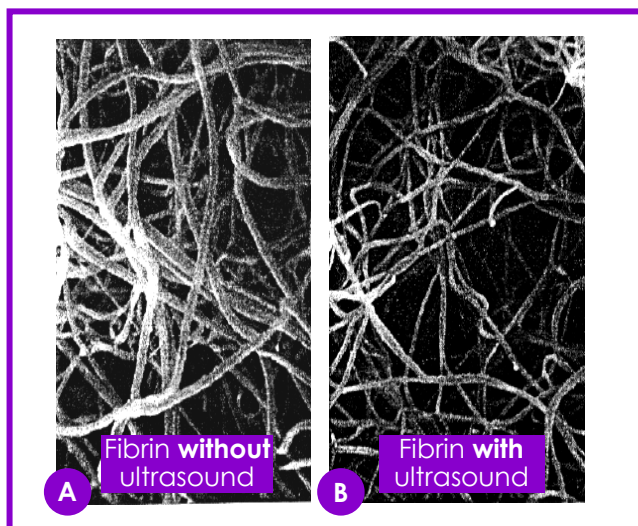
1. Data on file at Boston Scientific



EKOS accelerates clot resolution

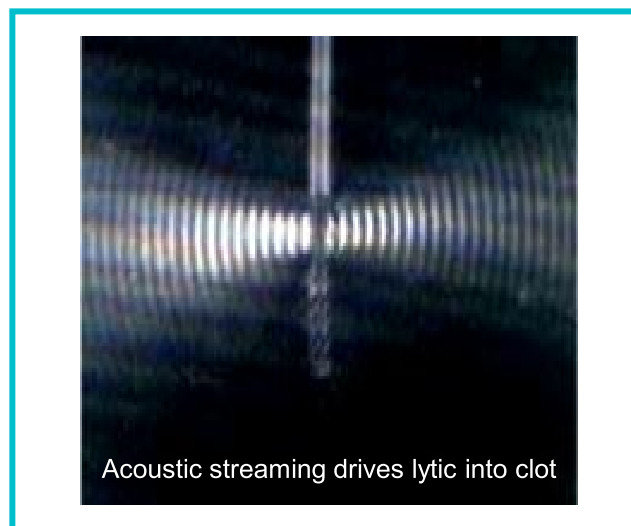
Fibrin Separation¹

Ultrasound energy separates fibrin allowing for deeper penetration of lytic



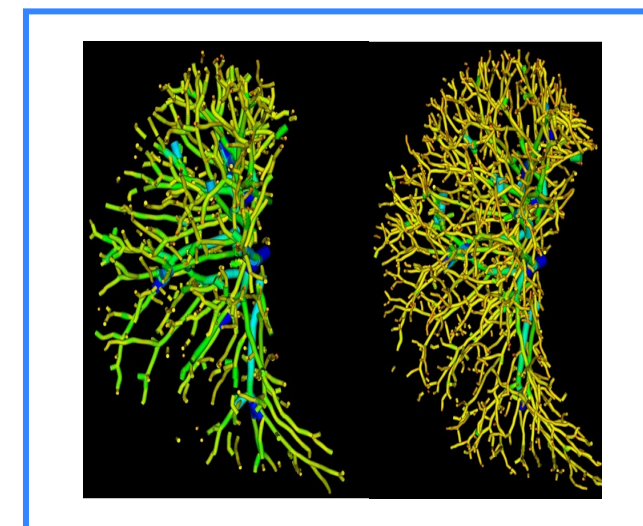
Active Drug Delivery^{2,3}

Drug is actively driven into clot by "acoustic streaming"



Distal Vascular Reperfusion⁴

Unique mechanism of action can improve distal response



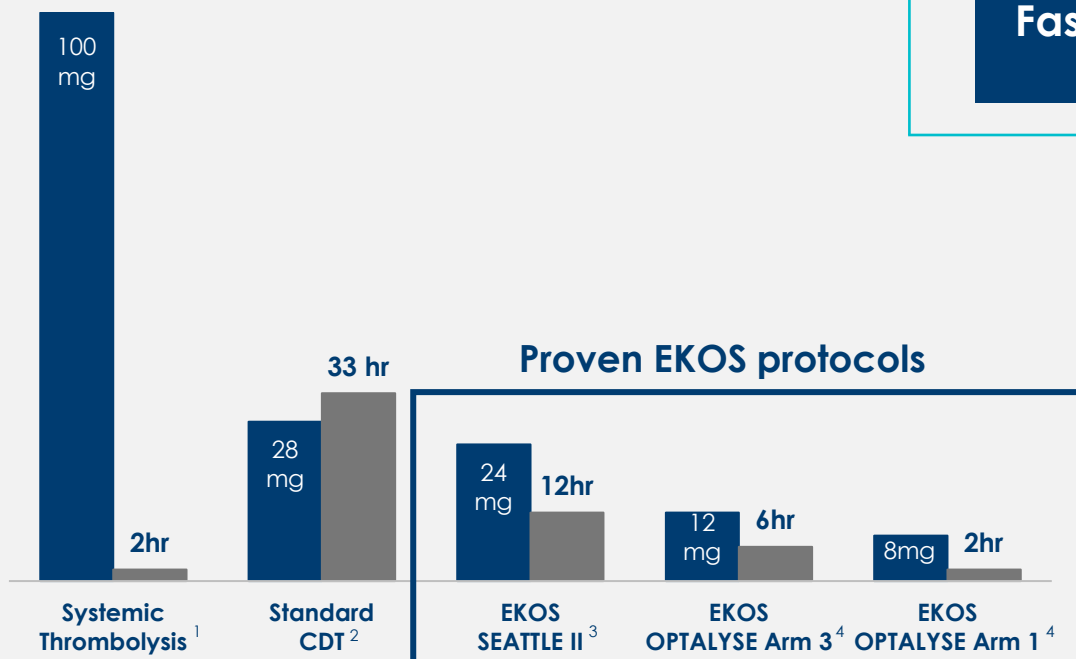
1. Braaten JV et al. Ultrasound reversibly disaggregates fibrin fibers. *Thromb Haemost* 1997;78:1063-8. 2. Francis CW et al. Ultrasound accelerates transport of recombinant tissue plasminogen activator into clots. *Ultrasound in Medicine and Biology* 1995;21(5):419-24. 3. Siddiqi F et al. Ultrasound increases flow through fibrin gels. *Thromb Haemost* 1995;73(3):495-8. 4. Rahaghi F et al. Quantification and significance of pulmonary vascular volume in predicting response to ultrasound-facilitated catheter-directed fibrinolysis in acute PE (SEATTLE-3D). *Circ Cardiovasc Imaging* 2019;12(12):e009903. DOI: 10.1161/CIRCIMAGING.119.009903





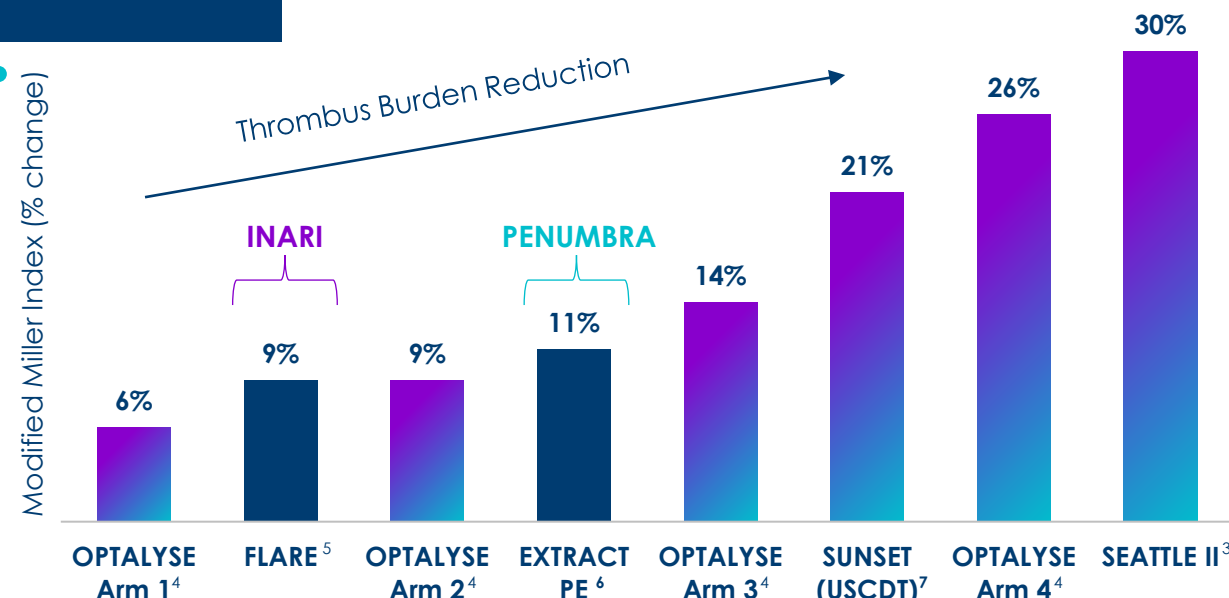
Only EKOS uses ultrasound to achieve results

Lowest Dose, Shortest Duration Therapy



Ultrasound Technology
enables
Fast, Effective Clot Lysis

Effective Thrombus Burden Reduction



1. Konstantinides S et al. Heparin plus alteplase compared with heparin alone in patients with submassive pulmonary embolism. *N Engl J Med*. 2002;347:1143-1150. 2. Kuo W et al. PE response to fragmentation, embolectomy, and catheter thrombolysis (PERFECT). *CHEST* 2015; 148(3):667-673. 3. Piazza G et al. A prospective, single-Arm, multicenter trial of ultrasound-facilitated catheter-directed low-dose fibrinolysis for acute massive and submassive PE (SEATTLE II). *J Amer Coll Cardiol: Cardiovasc Interventions* 2015; 8(10):1382-1392. 4. Tapson VF et al. A randomized trial of the optimum duration of acoustic pulse thrombolysis procedure in acute intermediate-risk pulmonary embolism: the OPTALYSE PE trial. *JACC Cardiovasc Interv*. 2018;11:1401-1410. doi: 10.1016/j.jcin.2018.04.008. 5. Tu T et al. A prospective, single-arm, multicenter trial of catheter-directed mechanical thrombectomy for intermediate-risk acute PE (FLARE). *JACC Cardiovasc Interv*. 2019;12(9):859-869. 6. Sista A et al. Indigo aspiration system for treatment of PE (EXTRACT-PE). *JACC Cardiovasc Interv*. 2021;14(3):319-329. 7. Avgerinos E et al. Randomized trial comparing standard versus ultrasound-assisted thrombolysis for submassive PE (SUNSET PE). *JACC Cardiovasc Interv*. 2021;14(12):1364-1373.



EKOS offers outcomes that can save lives

RV/LV ratio ≥ 0.9 is an independent predictor of mortality^{1,2}

40%

Higher **mortality**
at 3 months¹

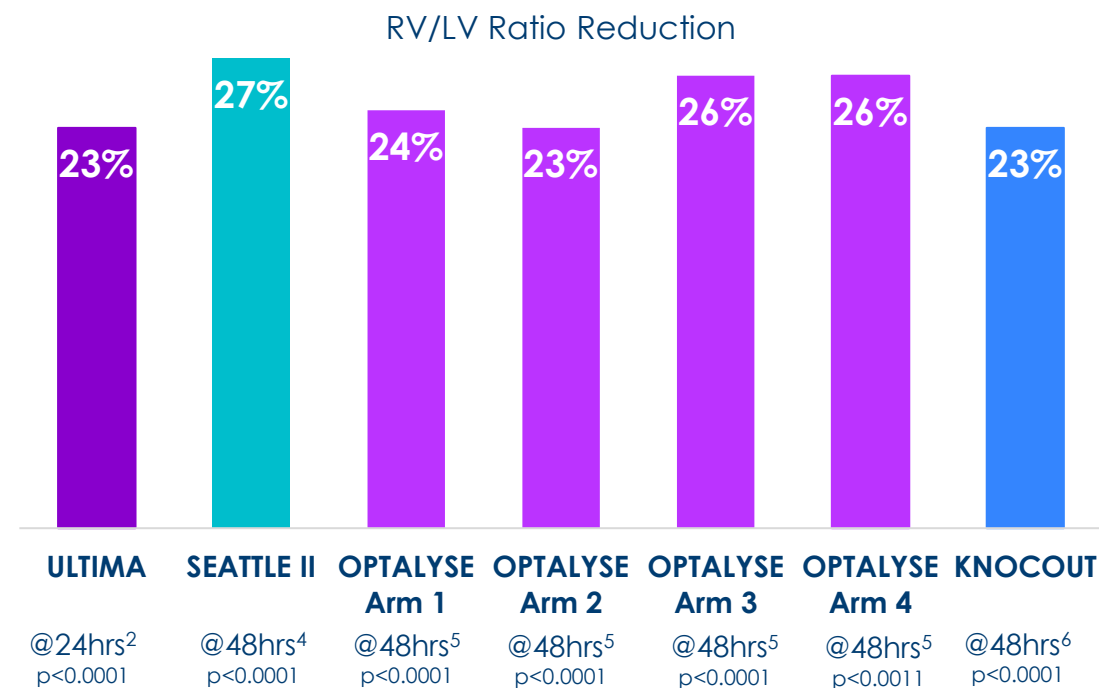
3x

Higher likelihood
of **recurrence**³

RVD is associated with higher mortality even in the absence of hemodynamic instability.

EKOS can restore RV function quickly.

Demonstrated $\geq 23\%$ reduction in RV/LV ratio by 48 hrs^{2,4-6}



1. van der Meer RW, Pattynama PM, van Strijen MJ, et al. Right ventricular dysfunction and pulmonary obstruction index at helical CT: prediction of clinical outcome during 3-month follow-up in patients with acute pulmonary embolism. *Radiology*. 2005;235(3):798-803.
2. Kucher N et al. Randomized, controlled trial of ultrasound-assisted catheter-directed thrombolysis for acute intermediate-risk pulmonary embolism (ULTIMA). *Circulation* 2014;129(4):479-486. 3. Grifoni S, et al. Association of persistent right ventricular dysfunction at hospital discharge after acute pulmonary embolism with recurrent thromboembolic events. *Arch Intern Med*. 2006;166(19):2151-2156. 4. Piazza G et al. A prospective, single-Arm, multicenter trial of ultrasound-facilitated catheter-directed low-dose fibrinolysis for acute massive and submassive PE (SEATTLE II). *J Amer Coll Cardiol: Cardiovasc Interventions* 2015; 8(10):1382-1392. 5. Tapson VF et al. A randomized trial of the optimum duration of acoustic pulse thrombolysis procedure in acute intermediate-risk pulmonary embolism (OPTALYSE). *JACC Cardiovasc Interv*. 2018;11:1401-1410. doi: 10.1016/j.jcin.2018.04.008. 6. Sterling KM et al. Prospective Multicenter International Registry of Ultrasound-Facilitated Catheter-Directed Thrombolysis in Intermediate-High and High-Risk Pulmonary Embolism (KNOCOUT PE). *Circ Cardiovasc Interv*. 2024;17:e013448. doi: 10.1161/CIRCINTERVENTIONS.123.013448.



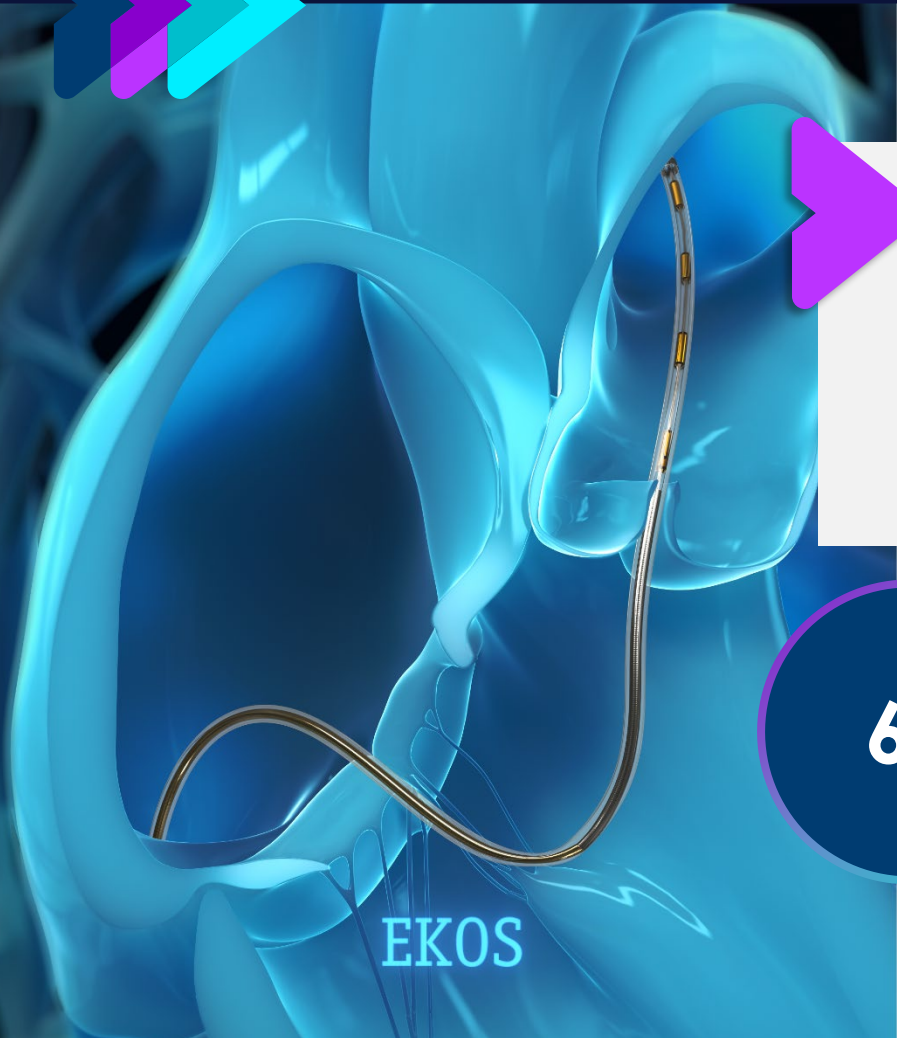
Truths About Procedural Risks



Intervening on a pulmonary embolism with a **large bore device** carries with it **inherent risk**. One must **carefully consider whether the benefits** of a procedure with such a catheter truly **outweigh the risks** of passing the device through the cardiac structures into the pulmonary arteries.



6F



EKOS



Up to
24F



LBMT

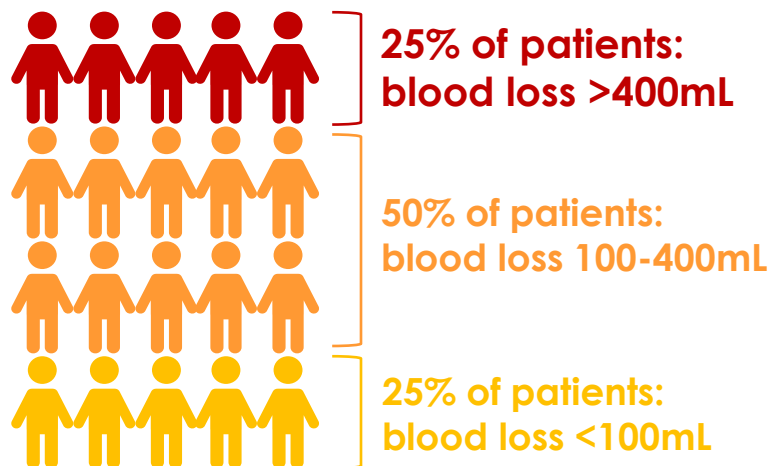


Procedural blood loss with MT is **not trivial**

FlowTrievers™ | Inari™

Estimated Blood Loss

in FLASH Registry¹



EKOS

Minimal blood loss

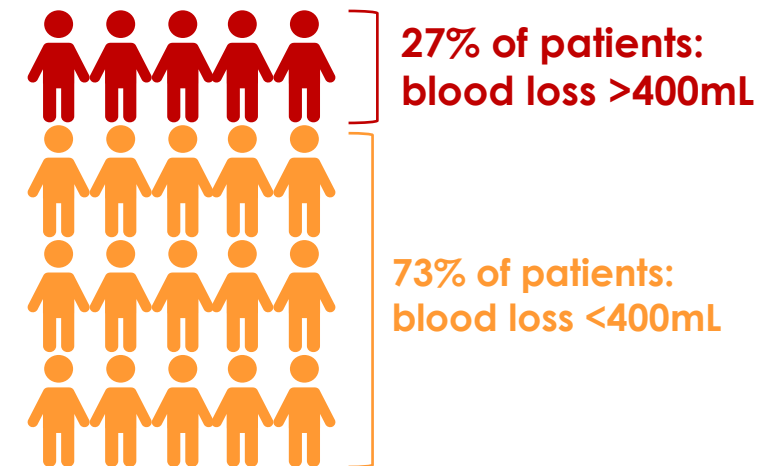
based on EKOS design and MOA



Indigo™ | Penumbra™

Estimated Blood Loss

in EXTRACT-PE Study²



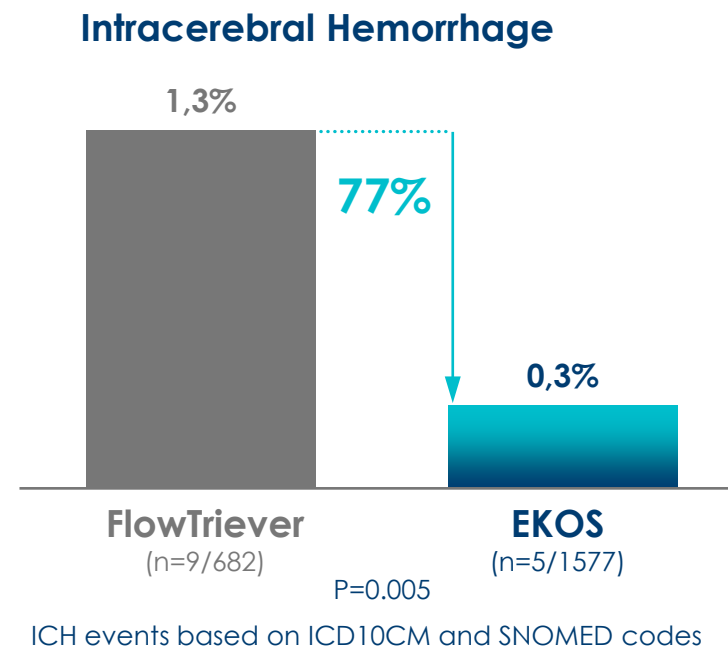
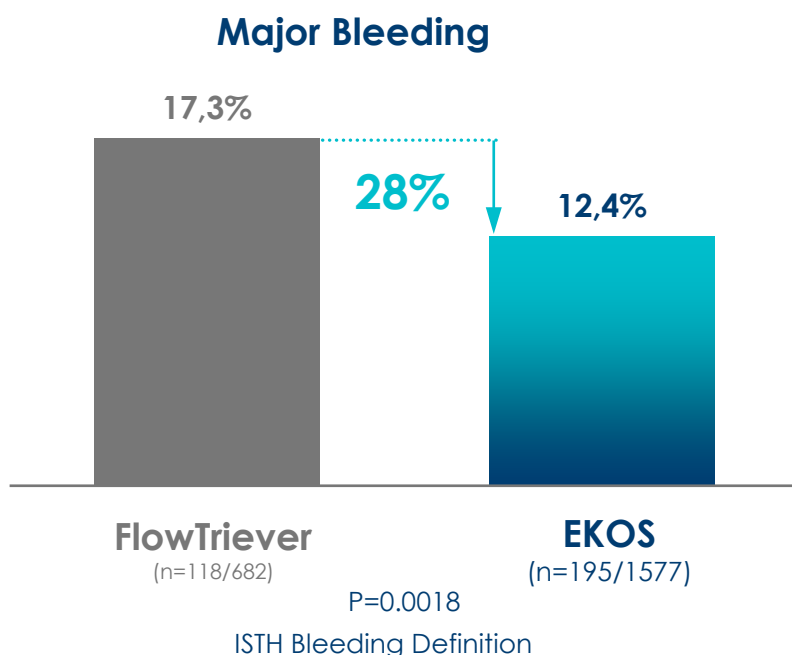
1. FLASH Results Presented at SIR 2021.

2. Sista A et al. Indigo aspiration system for treatment of PE (EXTRACT-PE). *JACC Cardiovasc Interv.* 2021;14(3):319-329



Reality Check: Lower Major Bleeding Rate with EKOS

In the REAL-PE Analysis, patients treated with EKOS had statistically significant lower rates of major bleeding and ICH than those treated with FlowTrievery™.





EKOS: Small profile, less trauma, **large treatment area**



24Fr

5.4Fr



LBMT

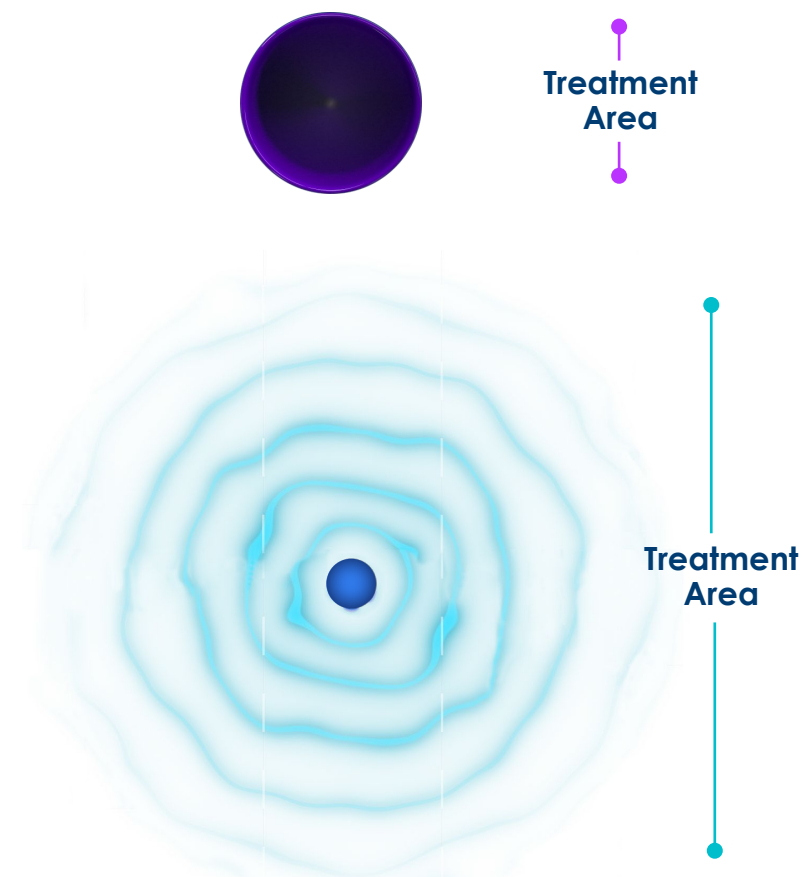
is more invasive
and carries **higher
procedural risks**,
including:

- Blood Loss
- Access Site Complications
- Vessel Damage
- Perforations



EKOS

uses ultrasound to
reach more clot
with less trauma





A Toolkit Approach to Treat PE

sCDT

Standard Catheter Directed Thrombolysis



- No Level-1 clinical data to treat PE
- No standard dose/duration protocols
- Passive drug delivery, limited treatment area

EKOS™

Ultrasound-Accelerated Catheter-Directed Thrombolysis
An intervention designed to save lives



Intermediate and High Risk PE patients



Low lytic dose, short duration protocols



Demonstrated reduction in thrombus burden & RV/LV ratio



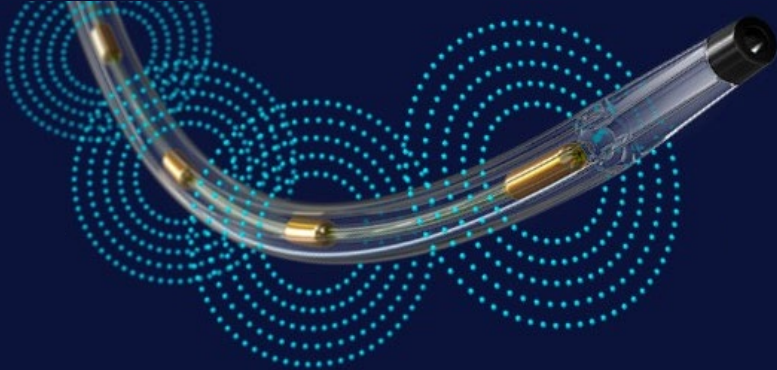
Simple catheter delivery, minimizes patient trauma

LBMT

Large-Bore Mechanical Thrombectomy



- **High Risk PE Patient Subset**
who need *rapid* clot removal despite potential for:
 - Blood loss
 - Structural trauma
- **Absolute contraindication to lytic**



EKOS™
Endovascular System

SAFE.
Excellent safety outcomes. Consistently proven.





EKOS has an excellent safety profile



Low lytic dose.



Low bleeding rates.



Low mortality.

This is why we EKOS



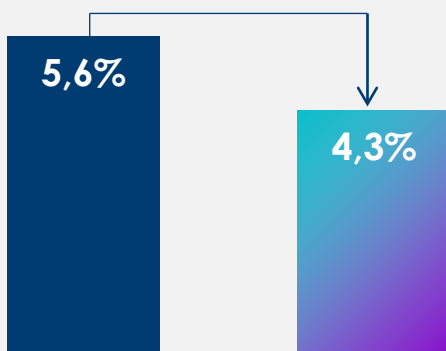
CDT has proven low major bleeding. EKOS has the lowest dose.

PERT Consortium Quality Database

An **independent** multi-center database of patient-level data.¹

5,700
patients

In-Hospital Major Bleeding



**Aspiration
Thrombectomy**

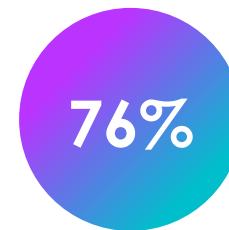
**Catheter
Thrombolysis**

1,233

received catheter-
based therapy

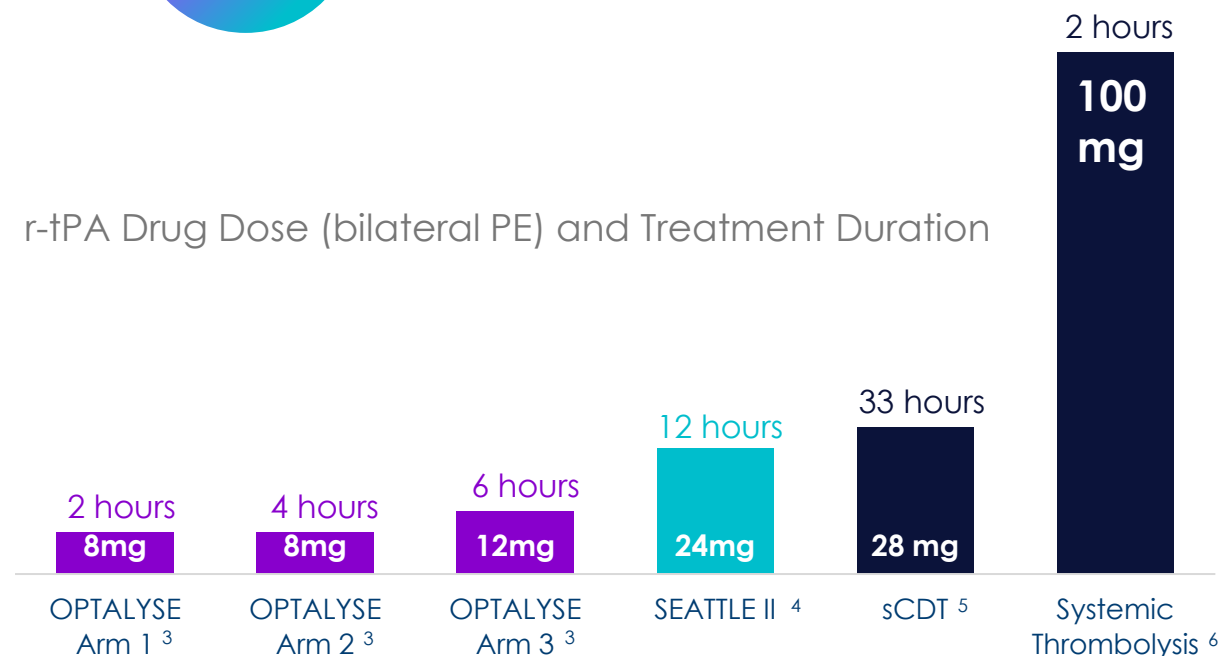
56%

received CDT



Less thrombolytic drug dosage
than systemic thrombolysis²

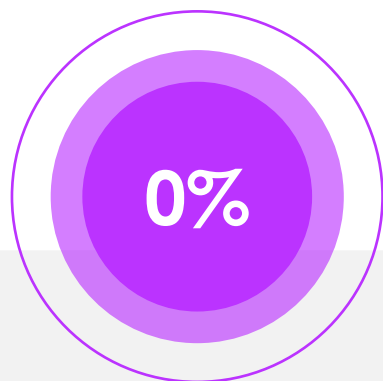
r-tPA Drug Dose (bilateral PE) and Treatment Duration



1. Lookstein R. The PERT Consortium Quality Database. Presented at: PERT, September, 2022. 2. Elder M et al. The Search for the Holy Grail of NEW PE Devices. *EVT*: July 2020 Supplement. 3. Tapson VF et al. A randomized trial of the optimum duration of acoustic pulse thrombolysis procedure in acute intermediate-risk pulmonary embolism: the OPTALYSE PE trial. *JACC Cardiovasc Interv*. 2018;11:1401-1410. doi: 10.1016/j.jcin.2018.04.008. 4. Piazza G et al. A prospective, single-Arm, multicenter trial of ultrasound-facilitated catheter-directed low-dose fibrinolysis for acute massive and submassive PE (SEATTLE II). *J Amer Coll Cardiol: Cardiovasc Interventions* 2015; 8(10):1382-1392. 5. Kuo W et al. PE response to fragmentation, embolectomy, and catheter thrombolysis (PERFECT). *CHEST* 2015; 148(3):667-673. 6. Konstantinides S et al. Heparin plus alteplase compared with heparin alone in patients with submassive pulmonary embolism. *N Engl J Med*. 2002;347:1143-1150.



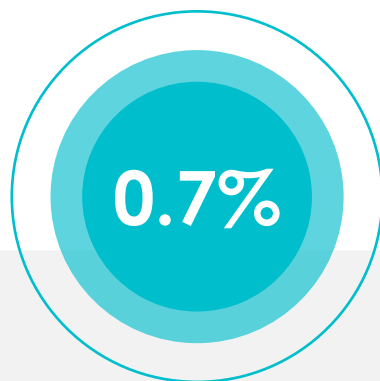
Low major bleeding rates. Proven consistently across all studies.



ULTIMA

Major bleeding at 90 days
ISTH¹

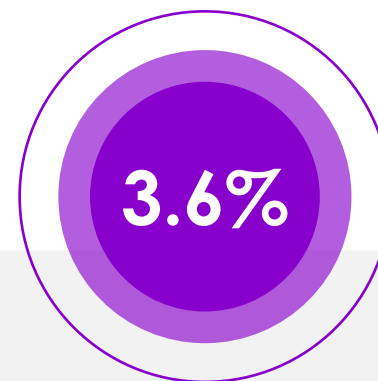
0 ICH



SEATTLE II

Major bleeding within 30 days
GUSTO severe (10% moderate)²

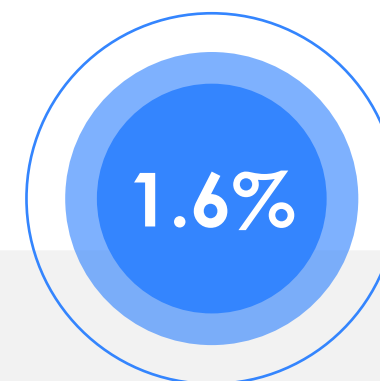
0 ICH



OPTALYSE

Major bleeding within 72 hours
ISTH³

1 ICH



KNOCOUT

Major bleeding at 72 hours
ISTH⁴

0 ICH

1. Kucher N et al. Randomized, controlled trial of ultrasound-assisted catheter-directed thrombolysis for acute intermediate-risk pulmonary embolism (ULTIMA). *Circulation* 2014;129(4):479-486. 2. Piazza G et al. A prospective, single-Arm, multicenter trial of ultrasound-facilitated catheter-directed low-dose fibrinolysis for acute massive and submassive PE (SEATTLE II). *J Amer Coll Cardiol: Cardiovasc Interventions* 2015; 8(10):1382-1392. 3. Tapson VF et al. A randomized trial of the optimum duration of acoustic pulse thrombolysis procedure in acute intermediate-risk pulmonary embolism (OPTALYSE). *JACC Cardiovasc Interv.* 2018;11:1401-1410. doi: 10.1016/j.jcin.2018.04.008. 4. Sterling KM et al. Prospective Multicenter International Registry of Ultrasound-Facilitated Catheter-Directed Thrombolysis in Intermediate-High and High-Risk Pulmonary Embolism (KNOCOUT PE). *Circ Cardiovasc Interv.* 2024;17:e013448. doi: 10.1161/CIRCINTERVENTIONS.123.013448



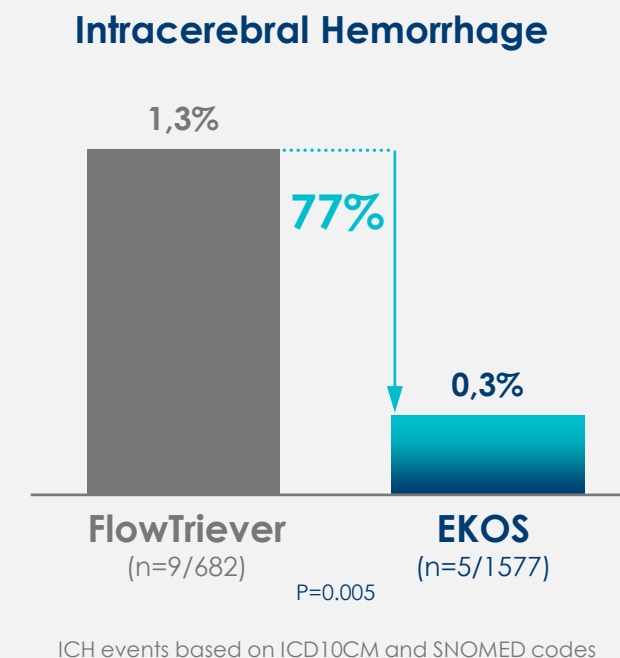
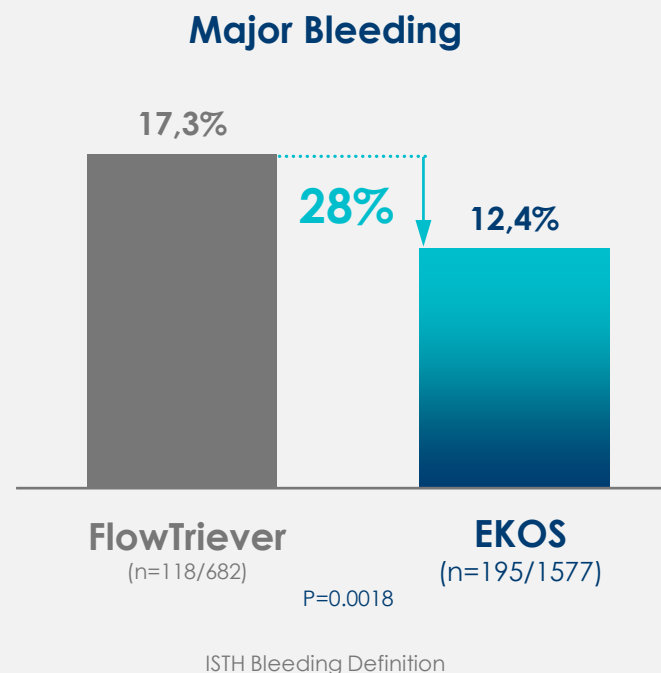
Statistically significant lower rates of major bleeding & ICH

When compared to Inari's FlowTrievers Device

The REAL-PE Analysis: Real World. Real Answers.

REAL-PE studied >2200 real-world PE patients treated with EKOS or FlowTrievers and found:

- Patients treated with EKOS had **statistically significant lower rates of major bleeding and ICH** than those treated with FlowTrievers.
- **All safety events studied trended in favor of EKOS**, including ischemic stroke and in-hospital mortality.





Low mortality rates across all clinical studies And Proven in the Real World.



Mortality Rate

0%

ULTIMA

No deaths up to 90 days¹
N= 59

2.7%

SEATTLE II

30-day mortality all 4 unrelated
to device/procedure²
N=150

2%

OPTALYSE

Long-term mortality rates
at 365 days³
N= 101

1%

KNOCOUT

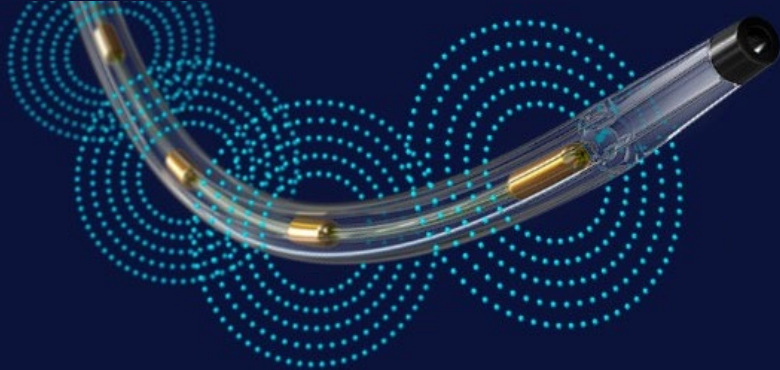
30-day international
multicenter registry⁴
N=489

2.6%

REAL-PE

7-day in-hospital mortality⁵
N=1577

1. Kucher N et al. Randomized, controlled trial of ultrasound-assisted catheter-directed thrombolysis for acute intermediate-risk pulmonary embolism (ULTIMA). *Circulation* 2014;129(4):479-486. 2. Piazza G et al. A prospective, single-Arm, multicenter trial of ultrasound-facilitated catheter-directed low-dose fibrinolysis for acute massive and submassive PE (SEATTLE II). *J Amer Coll Cardiol: Cardiovasc Interventions* 2015; 8(10):1382-1392. 3. Tapson VF et al. A randomized trial of the optimum duration of acoustic pulse thrombolysis procedure in acute intermediate-risk pulmonary embolism (OPTALYSE). *JACC Cardiovasc Interv.* 2018;11:1401-1410. doi: 10.1016/j.jcin.2018.04.008. 4. Sterling KM et al. Prospective Multicenter International Registry of Ultrasound-Facilitated Catheter-Directed Thrombolysis in Intermediate-High and High-Risk Pulmonary Embolism (KNOCOUT PE). *Circ Cardiovasc Interv.* 2024;17:e013448. doi: 10.1161/CIRCINTERVENTIONS.123.013448 5. Monteleone P, et al. Modern Treatment of Pulmonary Embolism (USCDT versus MT): Results from Real-World, Big Data Analysis (REAL-PE). *Journal of the Society for Cardiovascular Angiography & Interventions*; Oct 2023



EKOS™
Endovascular System

SIMPLE.
Designed for Simplicity to deliver predictable results.





Designed for Simplicity

To deliver predictable results.



INTUITIVE
PLATFORM



PREDICTABLE
PROCEDURE



STANDARDIZED
PROTOCOLS

With a short learning curve, EKOS is **appropriate for all interventionists** performing PE procedures.



PE cases can be complex.

Your device doesn't need to be.



SIMPLE PLATFORM

- **Intuitive control unit touch screen** for ease of use.
- Two ports to **simplify bilateral PE**
- Built in battery enables therapy during transit

Contacts

For information on EKOS CU4.0 service plans

CEServiceContracts@bsci.com

For technical support

CETechSupportEMEA@bsci.com or +800 5555 7707

For non-technical requests such as preventive maintenance or electrical safety tests CECustomerServiceEMEA@bsci.com

For returns

CETSReturnsEMEA2@BSCI.COM



Efficient Procedure. Predictable Results.



Minimally-invasive, **15-min endovascular procedure**, clot burden relief on the **first try**



6F catheters make reaching **smaller distal pulmonary vessels** much easier



Low profile for **predictable access site management**



Increased case throughput due to procedure predictability



Proven protocols guide decision making¹



OPTALYSE TRIAL

Arm 1

Arm 2

Arm 3



PROTOCOL

2 mg/hr/cath for 2 hrs

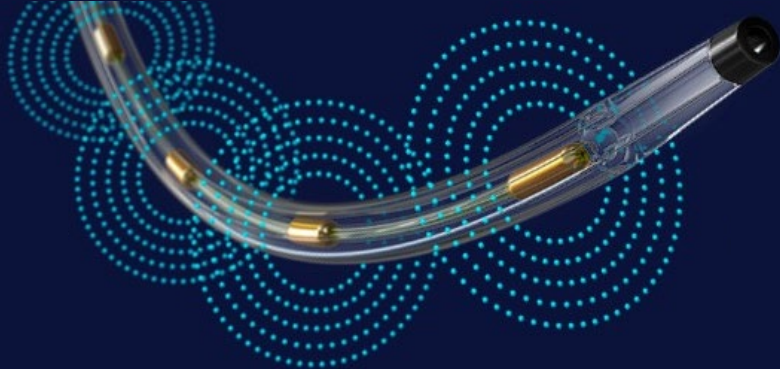
1 mg/hr/cath for 4 hrs

1 mg/hr/cath for 6 hrs



**Clinically-verified protocols
with defined duration
indicate when treatment is
complete**

1. Tapson VF, Sterling K, Jones N, et al. A randomized trial of the optimum duration of acoustic pulse thrombolysis procedure in acute intermediate-risk pulmonary embolism: the OPTALYSE PE trial. JACC Cardiovasc Interv. 2018;11:1401-1410.



EKOS™
Endovascular System

STUDIED.
Committed to advancing PE interventional data,
for a decade and counting.





Building a legacy of quality PE data. For a decade and counting.

3400+ patients

6 clinical studies



EKOS is the **only** PE device
with **long-term outcomes**



Prospective trials validated by
real-world data



Partnering with physicians to
deliver the data you need

ULTIMA

2014, Prospective RCT, n=59

SEATTLE II

2015, Prospective Study, n=150

OPTALYSE

2018, Prospective Study, n=101

KNOCOUT

2021, Prospective Study, n=489

REAL-PE

2023, Real-World EHR Analysis n=2259

HI-PEITHO

2024, Prospective RCT n=406-544

SONIC-PE

Coming Soon!
A collaborative study on EKOS+



Boldy committed to advancing data in PE

ULTIMA

First head-to-head trial in PE intervention and the only RCT to date for interventional strategy

Prospective, RCT vs. Standard of Care, n=50

CONCLUSION:

EKOS was superior to anticoagulation alone without an increase in bleeding complications.¹

OPTALYSE

First long-term data for PE

Prospective, multi-center, parallel-group trial, n=101

CONCLUSION:

Low dose/short duration EKOS protocols showed the same efficacy as previous studies.³

REAL-PE

The largest real-world dataset on advanced PE therapies

Real-world EHR Analysis, n=2259

CONCLUSION:

Patients treated with EKOS had **statistically significant lower rates of major bleeding and ICH** than patients treated with FlowTrier.⁵

2014

2015

2018

2021

2023

2024

SEATTLE II

Largest published prospective trial in interventional treatment of PE

Prospective, multi-center, single-armed trial, n=150

CONCLUSION:

EKOS continued to show efficacy and safety in reducing RV dilation in patients with acute submassive and massive PE.²

KNOCOUT

Confirmed EKOS is safe for ALL physicians

Registry, n=991 retrospective, n=489 prospective patients

CONCLUSION:

EKOS users have shifted their clinical practice toward lower-dose/shorter-duration protocols. Confirmed again safety & efficacy of EKOS.⁴

HI-PEITHO

First interventional PE trial against standard of care

Prospective, multi-center RCT, n=406-544

OBJECTIVE:

To compare the outcomes of **EKOS +AC vs. AC alone** for the treatment of intermediate-high risk.

1. Kucher N et al. Randomized, controlled trial of ultrasound-assisted catheter-directed thrombolysis for acute intermediate-risk pulmonary embolism (ULTIMA). *Circulation* 2014;129(4):479-486. 2. Piazza G et al. A prospective, single-Arm, multicenter trial of ultrasound-facilitated catheter-directed low-dose fibrinolysis for acute massive and submassive PE (SEATTLE II). *J Amer Coll Cardiol: Cardiovasc Interventions* 2015; 8(10):1382-1392. 3. Tapson VF et al. A randomized trial of the optimum duration of acoustic pulse thrombolysis procedure in acute intermediate-risk pulmonary embolism (OPTALYSE). *JACC Cardiovasc Interv.* 2018;11:1401-1410. doi: 10.1016/j.jcin.2018.04.008. 4. Sterling KM et al. Prospective Multicenter International Registry of Ultrasound-Facilitated Catheter-Directed Thrombolysis in Intermediate-High and High-Risk Pulmonary Embolism (KNOCOUT PE). *Circ Cardiovasc Interv.* 2024;17:e013448. doi: 10.1161/CIRCINTERVENTIONS.123.013448. 5. Monteleone P, et al. Modern Treatment of Pulmonary Embolism (USCDT versus MT): Results from Real-World, Big Data Analysis (REAL-PE). *Journal of the Society for Cardiovascular Angiography & Interventions*; Oct 2023.



REAL-PE: A first-of-its-kind study based on EHR data

REAL-PE evaluated safety outcomes in EKOS vs. FlowTrieve™



Patients treated with EKOS had a statistically significant **28% lower rate of major bleeding** and **77% lower rate of ICH** than those treated with FlowTrieve.



All safety events studied trended in favor of EKOS, including ischemic stroke and in-hospital mortality.



Patients experienced equal median lengths of hospital stay (3.6 days), regardless of therapy.

Data for REAL-PE analysis were provided by Truveta

18%

daily clinical care
captured

>100M

de-identified
patient records

>500k

PE patients
Jan '09- May '23

- Real-world and near real-time EHR data from Truveta, which provides EHR data from >30 U.S. health systems & >800 hospitals
- Complete EHR data, not just medical coding, including lab values, images, and test results

1. Monteleone P, et al. Modern Treatment of Pulmonary Embolism (USCDT versus MT): Results from Real-World, Big Data Analysis (REAL-PE). Journal of the Society for Cardiovascular Angiography & Interventions; Oct 2023.



KNOCOUT PE: Proven outcomes for all interventionists¹



Real World, Real Results



64

Centers Across
U.S./Europe



489

Prospective
Patients

0

ICH

1.6%

Major bleed within 72 hours

31%

of patients received
12mg or less of r-tPA



EKOS™

Reflective of contemporary
clinical practice,
KNOCOUT PE
demonstrated the safety
and efficacy of EKOS



OPTALYSE: Demonstrated quality of life improvement

And the only PE device with long-term outcomes.

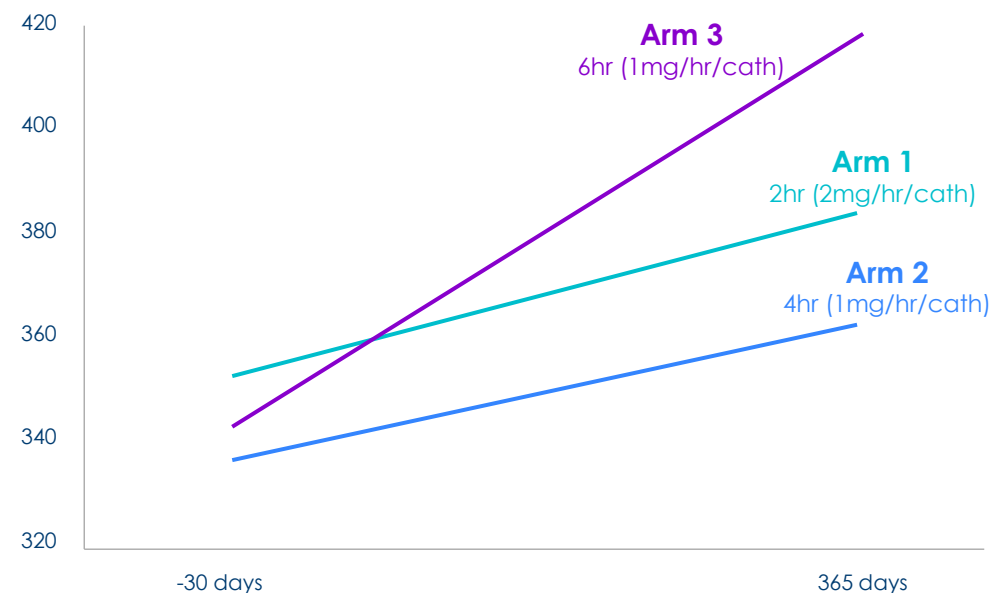
1-Year **OPTALYSE** outcomes with **EKOS** demonstrated significant improvement across dosing protocols in¹:

- RV/LV ratio reduction
- Tricuspid Annular Plane Systolic Excursion (TAPSE)
- RV systolic pressure

only
2%
symptomatic
recurrent PE
at 1 year

only
2%
all-cause
mortality
at 1 year

OPTALYSE 6-minute Walking Test



1. Piazza G et al. One-Year Echocardiographic, Functional, and Quality of Life Outcomes after Ultrasound-Facilitated Catheter-Based Fibrinolysis for PE. *Circ: Cardiovascular Interventions* 2020. 13(8):e009012



HI-PEITHO: First & largest study of its kind in PE

Addressing a critical gap in PE clinical evidence



Designed to **generate the most rigorous, highest level of data**, contributing to the body of evidence for the treatment and outcomes in acute intermediate-high risk PE



Collaborative study in partnership with the **National PERT Consortium** and the **University Medical Center Mainz**



Primary endpoint: 7-day composite of PE-related mortality, PE recurrence, cardiorespiratory decompensation or collapse

406–544
patients

65
centers U.S.
& Europe

Follow-up
through
1 year

EKOS + Anticoagulation vs. Anticoagulation Alone
Designed to Inform Clinicians & Guidelines

This is why we EKOS.™



Intervene with EKOS:

- **A safe choice for your patients.**
- **A simple procedure for you.**
- **Supported by 10+ years of data.**





EKOS™ Endovascular Device

Results from clinical studies are not predictive of results in other studies. Results in other studies may vary. Boston Scientific provided funding to Truveta for REAL-PE data reporting.

All other trademarks are the properties of their respective owners. All photographs taken by Boston Scientific.

CAUTION: The law restricts these devices to sale by or on the order of a physician. Indications, contraindications, warnings and instructions for use can be found in the product labelling supplied with each device or www.IFU-BSCI.com. Products shown for INFORMATION purposes only and may not be approved or for sale in certain countries. This material not intended for use in France. 2023 Copyright © Boston Scientific Corporation or its affiliates. All rights reserved. (copyright statement only required if not otherwise on material) PI-1728903-AB

