Endovascular Arterial Thrombo-Embolectomy Devices: Percutaneous mechanical thrombectomy (PMT)

What's The Difference Between Them:

Jeti, Penumbra, AngioJet, Pounce, Etc.:

What's Coming Down The Road

- Loay Kabbani MD, FACS, FSVS, FAHA
- Henry Ford Health

Introduction

Acute limb ischemia is common
- 1–1.5 individuals per 10,000 individuals per year

Henry Ford Hospital
233 patients
251 lower limbs
2016-2020

Acute Limb-threatening Ischemia (ALI)

Patients with Acute Lower Limb Ischemia Continue to Have Significant Morbidity and Mortality

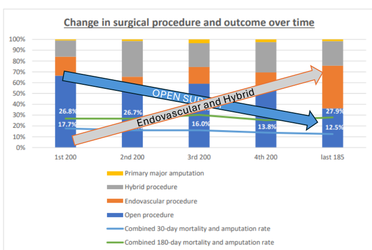
Kaitlyn Dobesh,[1] Abdul Kader Natour,[2] Loay S. Kabbani,[1] Ali Rteil,[1] Alice Lee,[1] Timothy J. Nypaver,[1] Mitchell Weaver,[1] and Alexander D. Shepard,[1] Detroit, Michigan, and Rochester, Minnesota

Background: The treatment of acute lower limb ischemia (ALLI) has evolved over the last several decades with the availability of several new treatment modalities. This study was undertaken to evaluate the contemporary presentation and outcomes of ALLI patients.
Methods: We retrospectively analyzed data from a prospectively collected database of all patients who presented to our tertiary referral hospital with acute ischemia of the lower extremity between May 2016 and October 2020. The cause of death was obtained from the Michigan State Death Registry.
Results: During the study period, 233 patients (251 lower limbs) were evaluated for ALLI. Seventy-three percent had thrombotic occlusion, 24% had embolic occlusion, and 3% due to a low flow state. Rutherford classification of ischemia severity was 7%, 49%, 40%, and 4% for Rutherford grade I, IIA, IIB, and III, respectively. Five percent underwent primary amputations, and 6% received medical therapy only. The mean length of stay was 11 ± 9 days. Nineteen percent of patients were readmitted within 30 days of discharge. At 30 days postoperatively, mortality was 9% and limb loss was 19%. On multivariate analysis, 1 or no vessel runoff to the foot postoperatively was associated with higher 30-day limb loss. Patients with no run-off vessels postoperatively had significantly higher 30-day mortality. Cardiovascular complications accounted for most deaths (48%). At 1-year postoperatively, mortality and limb loss reached 17% and 34%, respectively.
Conclusions: Despite advances in treatment modalities and cardiovascular care, patients presenting with ALLI continue to have high mortality, limb loss, and readmission rates at 30 days.

Outcomes	(%)
30-day limb-loss, n (%)	19
1-year mortality, n (%)	17

Dobesh K, et al AVS 2024

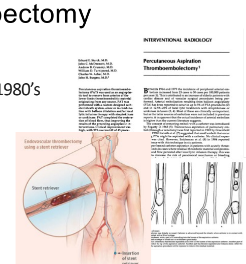
985 patients



Stoklasa et al J clinical Med 2023

Percutaneous Thrombectomy

- Available in the United States since 1980's
- Cerebral revascularization in acute ischemic stroke advanced catheter technology 2000's



Starck Radiology 1985

Eur J Vasc Endovasc Surg (2020) 59, 173–218

CLINICAL PRACTICE GUIDELINE DOCUMENT

Editor's Choice – European Society for Vascular Surgery (ESVS) 2020 Clinical Practice Guidelines on the Management of Acute Limb Ischaemia

Martin Björck, Jonothan J. Earnshaw, Stefan Acosta, Frederico Bastos Gonçalves, Frederic Cochennec, E.S. Debus, Robert Hinchliffe, ...

Recommendation 33		
For patients with acute limb ischaemia, aspiration and mechanical thrombectomy should be considered.		
Class	Level	References
IIa	C	Kwok *et al.* (2018),[141] Zehnder *et al.* (2000),[147] Byrne *et al.* (2014),[148] Kronlage *et al.* (2017)[152]

Percutaneous Thrombectomy

- Resolve the occlusion and restore patency during the index procedure
  - Utilization in severe cases of ischemia
  - Reduce LOS
  - Possibly more complete thrombus removal in appropriate cases.

Percutaneous Thrombectomy Devices

Aspiration

Mechanical Thrombectomy

Adjuncts

Percutaneous Thrombectomy

Aspiration

1. Plain Od Catheter Aspiration (POCA)
2. Indigo aspiration (Penumbra, Inc.)
3. Export AP asp (Medtronic)
4. Control mechanical thr system (Control Medical Tec
5. QuickClear mechanical thrombect system (Philips)

14 devices

Adjuncts

1. Balloon Maceration
2. stenting

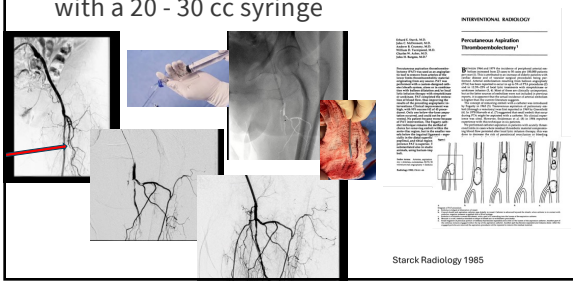
Mechanical Thrombectomy

- Waterjet catheters
  1. AngioJet (Boston Scientific)
  2. JETi thrombectomy system (Abott)
- Basket embolectomy
  1. Pounce (Surmodics)
  2. Artix (Inari)
  3. ICHOR (iCHOR Vascular)
  4. C Thrombectomy System (Velsalio)
  5. h suction devices with aspiration capabilit
  6. Thrombectomy System (Truvic)
  7. Jet Team (Boston Scientific)
  8. Rotarex (Bard Medical)

Percutaneous Thrombectomy

- Aspiration
  - Plain Old Catheter Aspiration (POCA)
  - Export AP aspiration catheter (Medtronic)
  - Indigo aspiration system (Penumbra, Inc.)
  - Control mechanical thrombectomy system (Control Medical Technology)
  - QuickClear mechanical thrombectomy system (Philips)

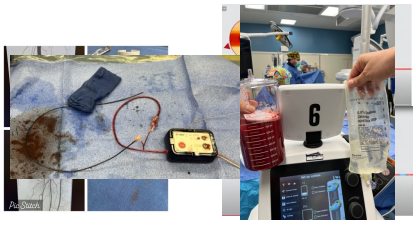
Plain Old Catheter Aspiration (POCA) with a 20 - 30 cc syringe



Starck Radiology 1985

INDIGO® Aspiration System (LIGHTNING BOLT®) Pneumbra

INDIGO® Aspiration System (LIGHTNING BOLT®) Pneumbra



Indigo aspiration sys
Pneumbra

- **Prism Trial-2015**
  - Complete or near-complete revascularization 77%
- **Stride Trial-2024**
  - TIMI 2/3 score 96%
  - Modified SVS runoff score was improve in 71%
- Others report a 51% to 53.3% technical success rates
- Older device (new--> lightning Bolt)
- New trial coming out


CLINICAL STUDY

Utility of a Power Aspiration–Based Extraction Technique as an Initial and Secondary Approach in the Treatment of Peripheral Arterial Thromboembolism: Results of the Multicenter PRISM Trial

Richard R. Saxon, MD, James F. Benenati, MD, Corey Teigen, MD, George L. Adams, MD, MHS, and Luke E. Sewell, MD, for the PRISM Trialists

CLINICAL STUDY

Aspiration Thrombectomy versus Conventional Catheter-Directed Thrombolysis as First-Line Treatment for Naxtatrogenic Acute Lower Limb Ischemia

Safety and efficacy of mechanical aspiration thrombectomy for patients with acute lower extremity ischemia

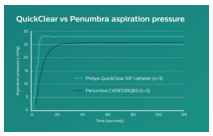
Single-center experience with indigo aspiration thrombectomy for acute lower limb ischemia

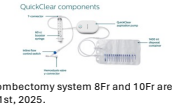
Export AP aspiration catheter (Medtronic)

- Launched in 2013
- 6 / 7 F system
- Used in Coronaries, but may be used in the tibial arteries
- Manual suction
- Monorail system

Philips **QuickClear 6 F**
Mechanical thrombectomy system

- Launched in September 2020
- Small device allows it to be placed easily on the table next to the patient





QuickClear Mechanical thrombectomy system 8Fr and 10Fr are discontinued as of January 1st, 2025.

Philips-QuickClear-brochure.pdf

Control Mechanical Thrombectomy Aspirator
Control Medical

- Launched for venous use in 2021
- 5 f – 11 F platforms
- Aspirates 275 Ml at a time
- Initially approved for venous but also used for arterial

Percutaneous Mechanical Thrombectomy (PMT)

- Water-jet Catheters
- Basket Embolectomy
- Mechanical With Suction Devices With Aspiration Capabilities

Percutaneous Mechanical Thrombectomy (PMT)

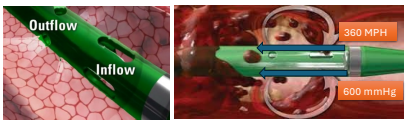
- Water-jet Catheters
  - AngioJet (Boston Scientific)
  - Jeti thrombectomy system (Abott)
- Basket Embolectomy
  - Pounce (Surmodics)
  - Artix (Inari)
  - iCHOR (iCHOR Vascular)
  - PVASC Thrombectomy system (Velsalio)
- Mechanical With Suction Devices With Aspiration Capabilities
  - Prodigy Thrombectomy System (*Truvic)*
  - Jetstream (Boston Scientific)
  - Rotarex (Bard Medical)

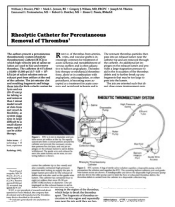
Percutaneous Mechanical Thrombectomy (PMT)

- **Water-jet Catheters**
  - AngioJet (Boston Scientific)
  - Jeti thrombectomy system (Abott)

AngioJet Boston Scientific

- First described in 1992 -Possis Medical
- Works on the premise of Bernoulli's principle





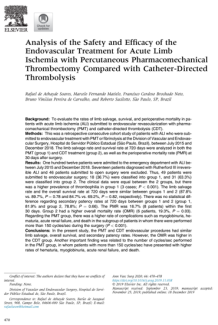
Drasler WJ et al Radiology 1992

AngioJet Boston Scientific

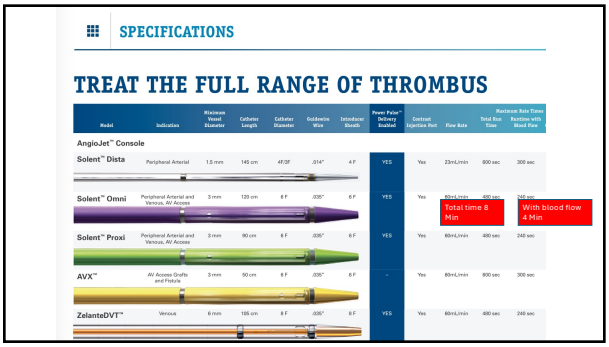
- PEARL Registry
  - (PEripheral Use of AngioJet Rheolytic Thrombectomy with a variety of catheter Lengths)
- Observational
- Procedure success was achieved 83%
  - 52% were completed without the need for adjunctive CDT.
- Infra-popliteal involvement did worse
  - (77% success vs 86 %)

Complication of AngioJet

- Longer duration- Hemolysis
  - Hematuria
  - Myoglobinuria
  - Acute renal failure
  - Death.



Analysis of the Safety and Efficacy of the Endovascular Treatment for Acute Limb Ischemia with Percutaneous Pharmacomechanical Thrombectomy Compared with Catheter-Directed Thrombolysis



JETi Abbott

Abbot. In Service JETi Thrombectomy System. *Marketing presentation.*

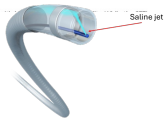
JETi Abbott

From the Society for Vascular Surgery

Single-center experience with the JETi Hydrodynamic Thrombectomy System for acute limb ischemia

Hassan Chamseddine, MD,[a] Alexander Shepard, MD,[a] Loay Kabbani, MD,[a] Timothy Nypaver, MD,[a] Mitchell Weaver, MD,[a] Yasaman Kavousi, MD,[a] Andi Peshkepija, MD,[a] Alice Lee, DO,[a] Chaitanya Dandu, MD,[b] Omar Kafri, BS,[a] and Kevin Orofino, MD[a] *Detroit, MI, and New Haven, CT*

ABSTRACT



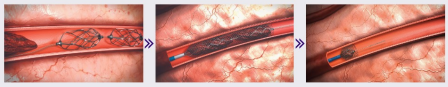
- 6 Fr and 8 Fr system
- 82% success rate with out need for adjuvant therapy

Abbott. In Service JETi Thrombectomy System. *Marketing presentation.*

Percutaneous mechanical thrombectomy (PMT)

- Mechanical thrombectomy
  - Waterjet Catheters
  - **Basket embolectomy**
    - Pounce (Surmodics)
    - Artix (Inari)
    - iCHOR (iCHOR Vascular)
    - PVASC Thrombectomy system (Velsalio)

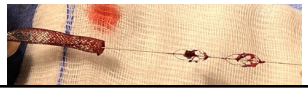
Pounce Thrombectomy Surmodics



The basket wire is delivered distal to the location of the thrombus, deploying two nitinol self-expanding baskets.

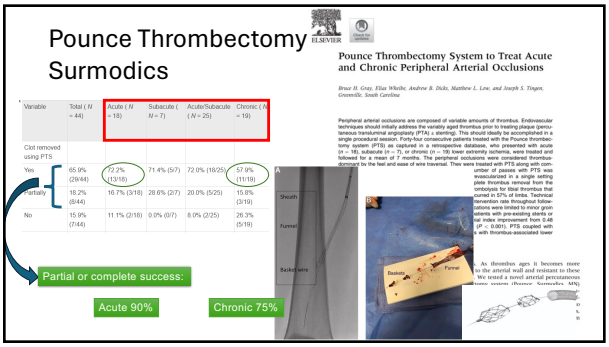
The baskets capture the clot and are retracted into a nitinol collection funnel.

With the clot entrained, the system is retracted into a minimum 7 Fr guide sheath through which the clot is withdrawn and removed from the body.



Pounce Thrombectomy Surmodics

Pounce Thrombectomy Surmodics



Pounce Thrombectomy System to Treat Acute and Chronic Peripheral Arterial Occlusions

Bruce H. Gray, Elias Wheike, Andrew B. Dicks, Matthew L. Low, and Joseph S. Tingen, Greenville, South Carolina

Variable	Total (*N* = 44)	Acute (*N* = 18)	Subacute (*N* = 7)	Acute/Subacute (*N* = 25)	Chronic (*N* = 19)
Clot removed using PTS					
Yes	65.9% (29/44)	72.2% (13/18)	71.4% (5/7)	72.0% (18/25)	57.9% (11/19)
Partially	18.2% (8/44)	16.7% (3/18)	28.6% (2/7)	20.0% (5/25)	15.8% (3/19)
No	15.9% (7/44)	11.1% (2/18)	0.0% (0/7)	8.0% (2/25)	26.3% (5/19)

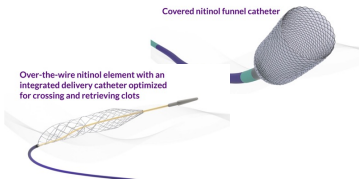
Partial or complete success:

Acute 90%

Chronic 75%

Artix Inari

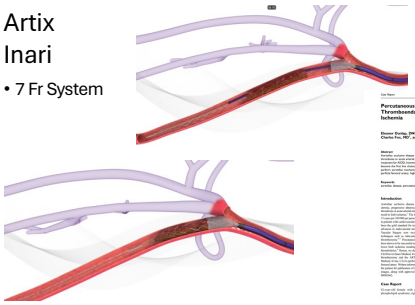
- 7 Fr System



Artix Arterial Thrombectomy System Case Summary:
LLE ALI Treated by Dr. Jonathan Bowman on 10/19/24
Vascular Surgery: Norwalk Hospital *First In-Human Case*

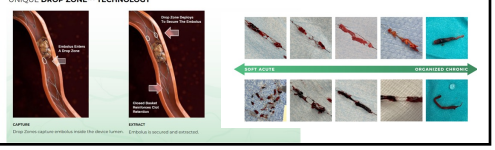
Artix
Inari

- 7 Fr System

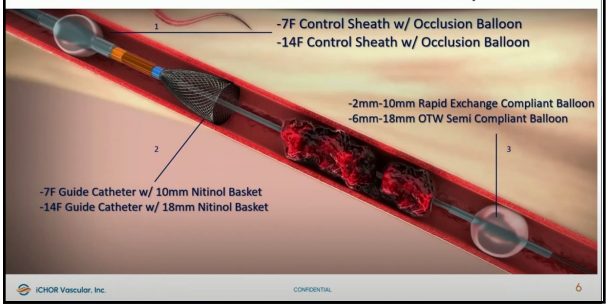


PVASC THROMBECTOMY SYSTEM
Vesalio

- Launched September 4, 2024



iCHOR Arterial (7F) and Venous (14F) Vascular Systems 1,2,3

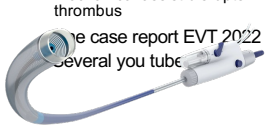


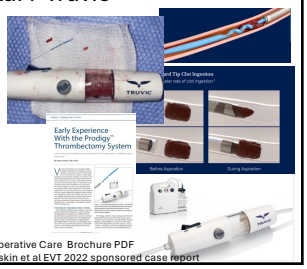
Percutaneous mechanical thrombectomy (PMT)

- Mechanical thrombectomy
  - Waterjet catheters
  - Basket embolectomy
  - **Mechanical with aspiration capabilities**
    - Jetstream (Boston Scientific)
    - Rotarex (Bard Medical)
    - Prodigy Thrombectomy System (*Truvic)*

Prodigy Thrombectomy System
Imperative Care Vascular / Truvic

- Based off neuro-embolectomy system
- Beveled Tip (more surface area)
- 5,6,8 Fr
- Mechanical assist disrupts thrombus





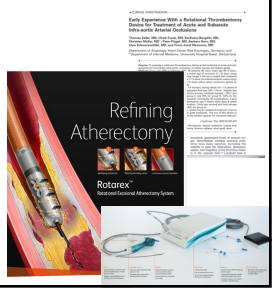
Imperative Care Brochure PDF
Raskin et al EVT 2022 sponsored case report

Jetstream
Boston Scientific

- Rotational atherectomy device
- 7 Fr system

The Straub Rotarex S thrombectomy device Bard Medical

- Rotational mechanical thrombectomy
- Uses modifying beveled tip, a rotating abrading vortex, and a continuous active aspiration with fixed inner serrated cylinder
- 6-Fr and 8-Fr



Conclusion

- Multiple endovascular devices are currently available for minimally invasive treatment of ALI.
- The body of clinical evidence for these devices is rapidly growing
  - Increased use of these devices in the treatment of patients with ALI.

Percutaneous Mechanical Thromboembolectomy in Acute and Subacute Lower Limb Ischemia: How I Do It

- Prefer an antegrade ipsilateral approach
- mechanical thrombectomy --"bigger is better"
  - Popliteal 8-Fr
  - Tibials 6-Fr

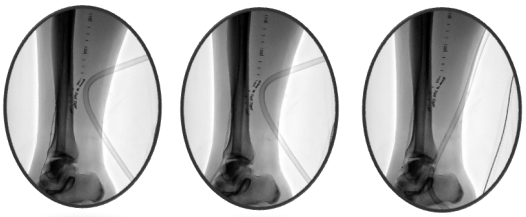
Percutaneous Mechanical Thromboembolectomy in Acute and Subacute Lower Limb Ischemia: How I Do It

- Aspiration catheter can be guided by a wire into the target vessel
- Engage clot with out the wire
- Suction is applied and the catheter is engaged.
  - Back and forth trying to break up the clot while aspirating blood back into the catheter.
  - May need to removed the catheter
  - May need to remove the sheath over a wire
- Angiogram and repeat

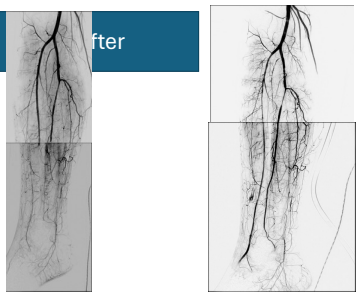
Percutaneous Mechanical Thromboembolectomy in Acute and Subacute Lower Limb Ischemia: How I Do It

- Avoiding distal embolization
  - The thrombus ends within the lumen of the popliteal artery
    - The very distal portion may be spared from using the mechanical device and should undergo aspiration embolectomy instead.
    - A protection device may be placed in case enough length remains below the distal thrombus.
    - Inflatable tourniquet around the calf and inflate it above the systolic blood pressure while mechanical thrombectomy is performed.
  - The tibiofibular trifurcation is involved
    - In this case, mechanical thrombectomy can be performed within the popliteal artery without any further precautions.

Hybrid with SFA cutdown

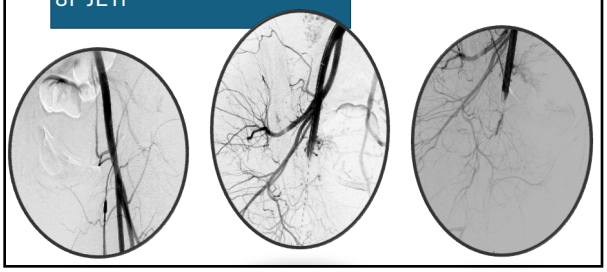


Before fter

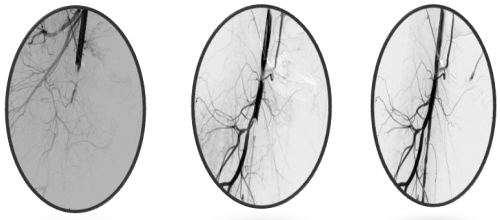


Limb salvage with TMA

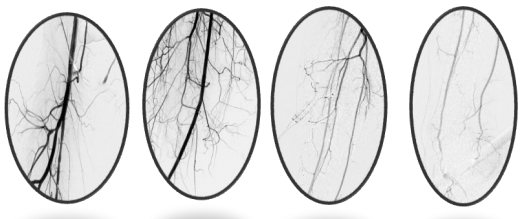
8F JETi



8F JETi



8F JETi



Complications

- Most frequently, a downward embolization
  - usually solved by further aspiration.
- Severe arterial spams of the lower leg arteries
  - Local application of spasmolytic medication
- Arterial perforation
  - Prolonged balloon dilatation
  - Covered stents
  - Coil embolization
- Severe hypotension
  - Termination of the procedure
- Groin hematomas

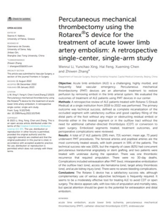
CONCLUSION

- Multiple endovascular devices are currently available for the minimally invasive treatment of ALI. The body of clinical evidence for these devices is rapidly growing, which has led to increased use of these devices in the treatment of patients with ALI.

Company Name	Philips	Imperative Care Vascular	Boston Scientific Corporation	ICHOR Vascular Inc.	Penumbra, Inc. (Peripheral Vascular)	Abbott	Surmodics, Inc.	Control Medical Technology
Product Name	QuickClear mechanical thrombectomy system	Prodigy Thrombectomy System - Catheter	AngioJet Solent Dista Thrombectomy Catheter	ICHOR 7	Indigo System Separators: SEP12, SEP7, SEP8, SEP7D, SEPD, SEP6, SEP5, SEP3, SEPC4	Jeti-6 Fr	Pounce Thrombectomy System	Control 5F Mechanical Thrombectomy System
Sheath Compatibility (F)	6,	5, 6, 8	4	7 F (part of the system)	-	6	7 (minimum)	5
Guidewire Compatibility (inch)	0.035	0.014-0.035	0.014	0.014	-	0.010-0.038 (OTW) or none	0.035	0.035
Working Length (cm)	130, 85	50, 117, 137, 160	145	45, 90, 150			135	135
Mode of Operation	Sterile, all-in-one, single-use, aspiration catheter and battery-operated vacuum aspiration pump; 8-F and 10-F catheters are provided with an obturator that assists with the insertion of the + expand	Designed to remove thrombus from the peripheral vasculature using continuous aspiration; targets aspiration from the Vascular generator and through the Prodigy Hotshot controller + expand	High-velocity water jets enclosed in catheter utilize the Bernoulli	Removal of vascular occlusions using a compliant Rx balloon as the primary mechanism of action with supportive aspiration to sweep, aspirate or snare thrombus, acute clot, or embolic + expand		l saline jet just within the r tip breaks up thrombus t emboli while removing ombus through aspiration	Comprised of three components: a delivery catheter, a basket wire, and a funnel catheter; the basket wire is delivered distal to the location of the thrombus, deploying two nitinol self- + expand	Mechanical aspirator, 5-F catheter, and dilator
US FDA Indicated Use	Fresh, soft emboli and thrombi from the vessels of the peripheral arterial and venous systems (10 F venous only application)	Indicated for the removal of fresh, soft emboli and thrombi from vessels of the peripheral arterial and venous systems; not for use in the coronaries, pulmonary vasculature, or the neurovasculature	Breaking apart and removing thrombus from upper and lower extremity peripheral arteries ≥ 1.5 mm in diameter and for use with the AngioJet Ultra Power Pulse Kit for the control and selective + expand	Indicated for the nonsurgical removal of emboli and thrombi from blood vessels; intended for the peripheral vasculature and is not intended for use in the coronary or neurovasculature	The Indigo aspiration catheters and separators are indicated for the removal of fresh, soft emboli and thrombi from vessels of the peripheral arterial and venous systems and for the treatment of + expand	For all peripheral venous and arterial vasculature	Intended for the nonsurgical removal of thrombi and emboli from the peripheral arterial vasculature	Indicated for the removal of fresh, soft emboli and thrombi from vessels in the peripheral vasculature

The Straub Rotarex S thrombectomy device

- 17 patients
- 100% technical success
- 85% needed adjuvant therapy
  - angioplasty
  - Stent
  - Thrombolysis
- Complications:
  - 2 patients (12%) had artery perforation
  - 1 patient had distal embolization



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Percutaneous mechanical thrombectomy using the Rotarex®S device for the treatment of acute lower limb artery embolism: A retrospective single-center, single-arm study

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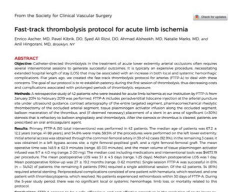
Objective: Acute limb embolism (ALE) is a challenging, highly morbid, and frequently fatal vascular emergency. Percutaneous mechanical thrombectomy (PMT) devices are an alternative treatment to restore perfusion by removing emboli in the limb arterial system. We evaluated the outcomes of treatment of ALE patients using PMT devices in our center.
Methods: A retrospective review of ALE patients treated with Rotarex S (Straub Medical) at a single institution from 2018 to 2022 was performed. The primary outcome was technical success, defined as complete recanalization of the occluded segment with satisfactory outflow and good capillary filling of the distal parts of the foot without any major or obstructing residual emboli or thrombi either in the treated segment or in the outflow tract without the need for additional catheter-directed thrombolysis (CDT) or conversion to open surgery. Embolized segments treated, treatment outcomes, and perioperative complications were reviewed.
Results: A total of 17 ALE patients (29% men, 71% women; mean age, 73 years) underwent PMT procedures. The femoral arteries and popliteal arteries are the most commonly treated vessels, with both present in 59% of the patients. The technical success rate was 100%, but the majority of cases (82%) had concurrent percutaneous transluminal angioplasty or stent grafting, and two patients were treated with urokinase during the operation. There was one thrombotic recurrence that required amputation. There were no 30-day deaths. Complications included extravasation after PMT (two), intraoperative embolization of the outflow tract (one), access site hematoma (one), target artery thrombosis (one), and acute kidney injury (one). There were no severe bleeding complications.
Conclusions: The Rotarex S device has a satisfactory success rate, although complementary use of various adjunctive techniques is frequently required. It seems to be a moderately effective tool for treating ALE to avoid CDT or open surgery. The device appears safe, with low risks of amputation and mortality rates, but special attention should be given to the potential for extravasation and distal embolism.

KEYWORDS
acute lime embolism, acute lower limb ischemia, percutaneous mechanical thrombectomy (PMT), catheter-directed thrombolysis (CDT), endovascular

Anjiojet Fast Track Protocol

- AngioJet
  - +thrombus maceration with balloon angioplasty
  - +/- followed by stenting for refractory stenosis (≥30%)
- Successful thrombus clearance 100%
- Median LOS 1 day
- 81% of patients required only 1 session.



From the Society for Clinical Vascular Surgery

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Fast-track thrombolysis protocol for acute limb ischemia

Enrico Ascher, MD, Pavel Kibrik, DO, Syed Ali Rizvi, DO, Ahmad Alsheekh, MD, Natalie Marks, MD, and Anil Hingorani, MD, *Brooklyn, NY*

ABSTRACT

Objective: Catheter-directed thrombolysis in the treatment of acute lower extremity arterial occlusions often requires several interventional sessions to generate successful outcomes. It is typically an expensive procedure, necessitating extended hospital length of stay (LOS) that may be associated with an increase in both local and systemic hemorrhagic complications. Five years ago, we created the fast-track thrombolysis protocol for arteries (FTTP-A) to deal with these concerns. The goal of our protocol is to re-establish patency during the first session of thrombolysis, thus decreasing costs and complications associated with prolonged periods of thrombolytic exposure.

Methods: A retrospective study of 42 patients who were treated for acute limb ischemia at our institution by FTTP-A from January 2014 to February 2019 was performed. FTTP-A includes periadventitial lidocaine injection at the arterial puncture site under ultrasound guidance, contrast arteriography of the entire targeted segment, pharmacomechanical rheolytic thrombectomy of the occluded arterial segment, tissue plasminogen activator infusion along the occluded segment, balloon maceration of the thrombus, and (if deemed necessary) placement of a stent in an area of significant (≥30%) stenosis that is refractory to balloon angioplasty and thrombolysis. After the stenosis or thrombus is cleared, patients are prescribed an oral anticoagulant agent.

Results: Primary FTTP-A (50 total interventions) was performed in 42 patients. The median age of patients was 67.2 ± 12.2 years (range, 41-98 years), and 54.8% were male; 59.5% of the procedures were performed on the left lower extremity. Initial arterial access was obtained through the common femoral artery in 39 of 42 cases (92.9%); in the remaining 3 cases, it was obtained in a left bypass access site, a right femoral-popliteal graft, and a right femoral-femoral graft. The mean operative time was 148.9 ± 62.9 minutes (range, 83-313 minutes), and the mean volume of tissue plasminogen activator infused was 9.7 ± 4.0 mg (range, 2-20 mg). The median cost including medications and interventional tools was $4673.19 per procedure. The mean postoperative LOS was 3.1 ± 4.5 days (range, 1-25 days). Median postoperative LOS was 1 day. Mean postoperative follow-up was 27 ± 19.2 months (range, 0-62 months). Single-session FTTP-A was successful in 81% (n = 34/42) of patients; the remaining 8 patients (19%) required a single additional session. Of the 42 patients, 34 (81%) required arterial stenting. Periprocedural complications consisted of one patient with hematuria, which resolved, and one patient with thrombocytopenia, which resolved. No patients experienced rethrombosis within 30 days of FTTP-A. During the 5-year study period, there was no significant local or systemic hemorrhage, limb loss, or mortality related to this protocol.

Conclusions: FTTP-A appears to be a safe, efficacious, and cost-effective procedure in the resolution of acute lower extremity arterial occlusions. (J Vasc Surg 2021;73:950-9.)

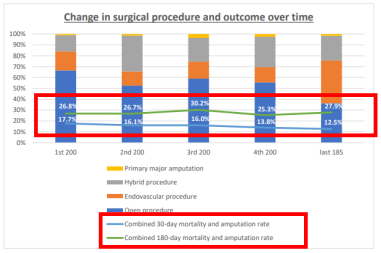
Keywords: Fast-track thrombolysis; Acute limb ischemia; Catheter-directed thrombolysis; Pharmacomechanical thrombectomy; AngioJet; Tissue plasminogen activator; Stenting

Angiojet
Boston Scientific

- Uses pressurized saline to provide active aspiration and lytic delivery
- Can distribute tPA using its Power Pulse mode

Drasler WJ et al Radiology 1992

985 patients



Stoklasa et al J clinical Med 2023

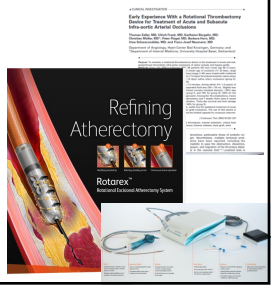
Prodigy Thrombectomy System
By Truvic

- Based off neuro-embolectomy system
- Beveled Tip (more surface area)
- Mechanical assist disrupts thrombus
- One case report EVT 2022
- Several you tube videos

Imperative Care Brochure PDF
Raskin et al EVT 2022 sponsored case report

The Straub Rotarex S thrombectomy device
Bard Medical

- Rotational mechanical thrombectomy
- Uses modifying beveled tip, a rotating abrading vortex, and a continuous active aspiration with fixed inner serrated cylinder
- 6-Fr and 8-Fr

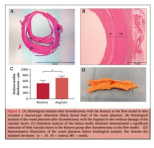


The Rotarex S thrombectomy device
Bard Medical

- 147 patients
- Primaery success with Roterex alone 69%
- With adjuvant therapy success 90%

Angiojet Vs Roterex

- macro-emboli and vascular injuries were detected more in the Rotarex group



Jetstream
Boston Scientific

- Rotational atherectomy device
- 7 Fr system