

Upstream Access

Multidirectional Vascular Access Device

11.12.24



Katherine McMackin MD

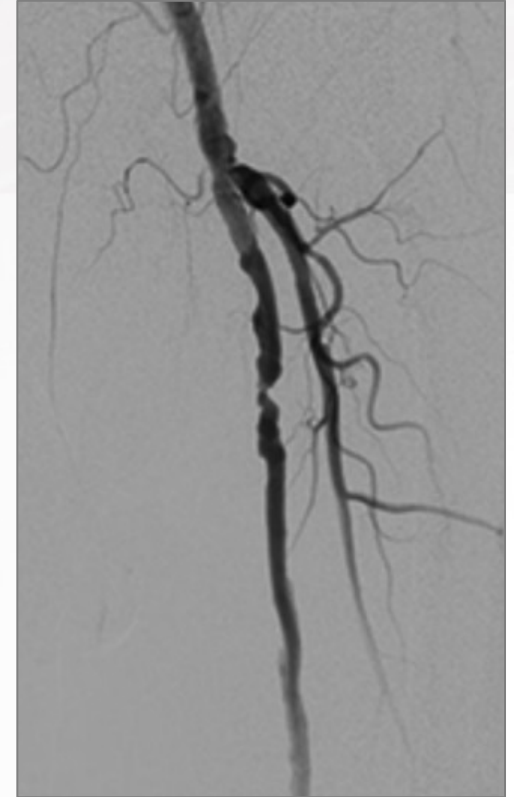
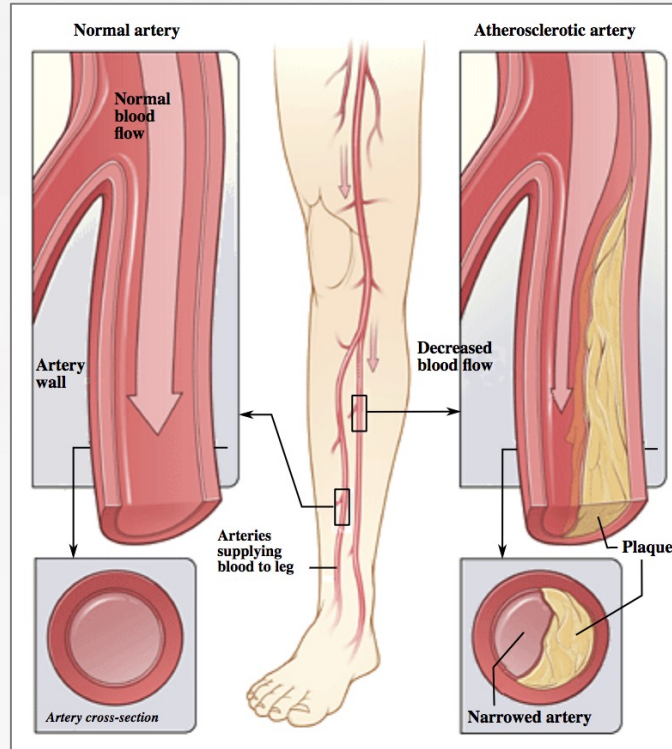
Assistant Professor of Surgery
Vascular and Endovascular Surgeon
Cooper Medical School of Rowan
University



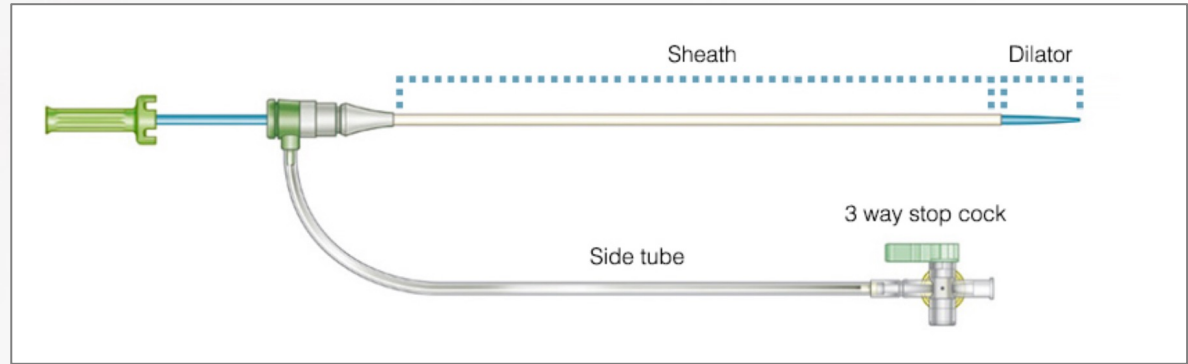
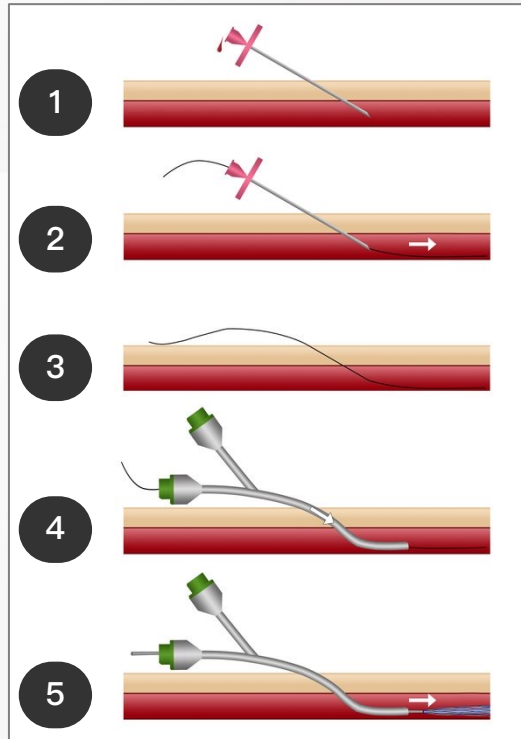
Jeffrey Carpenter MD

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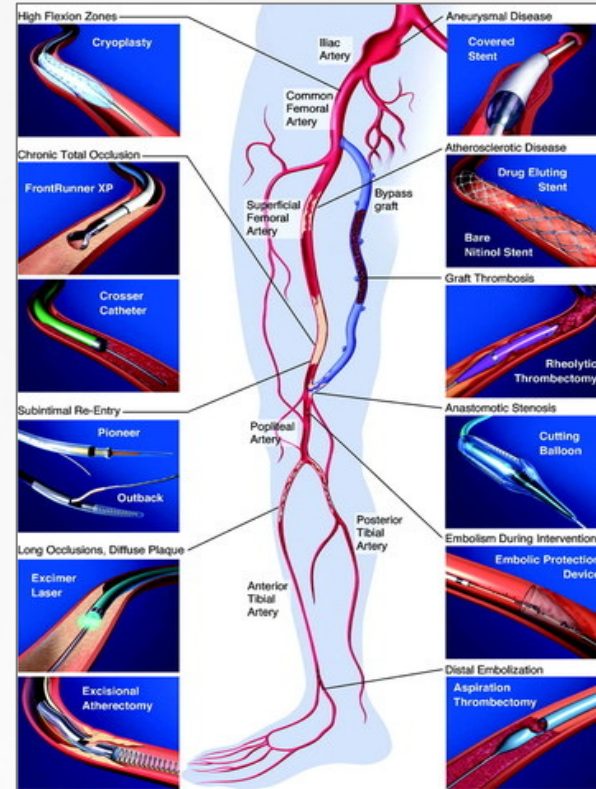
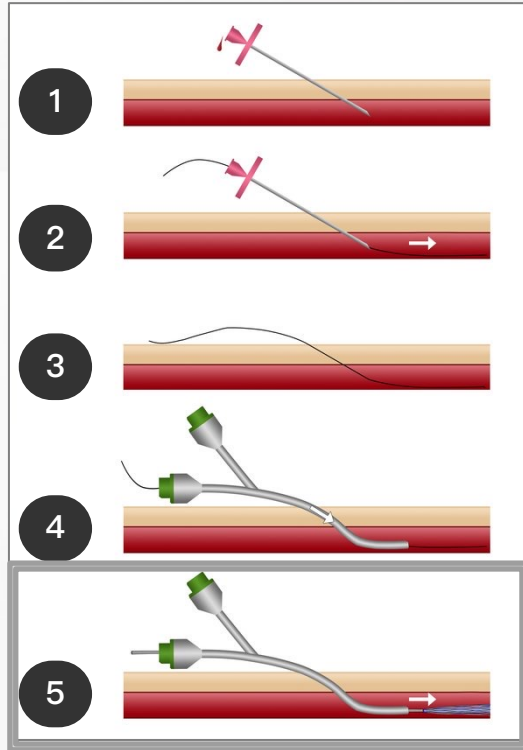
Minimally invasive procedure to diagnose and treat disease of the blood vessels



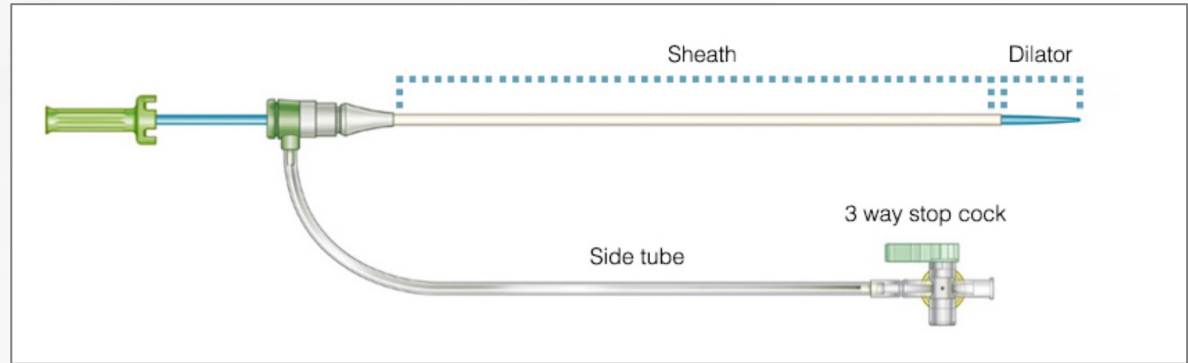
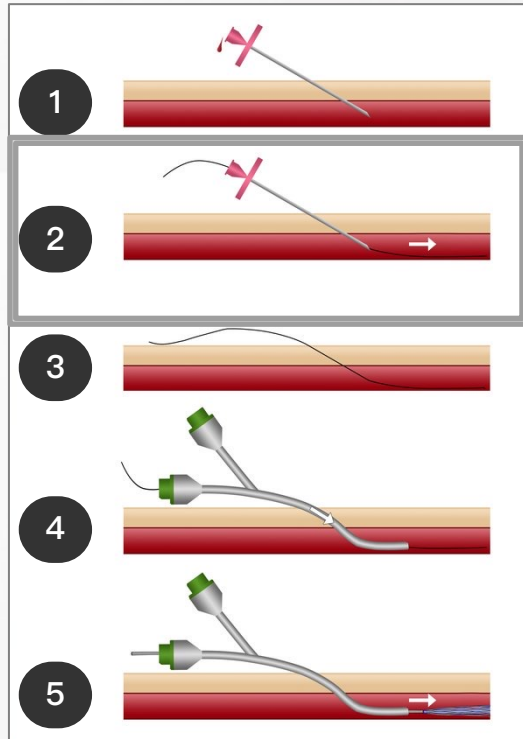
Blood Vessel Access

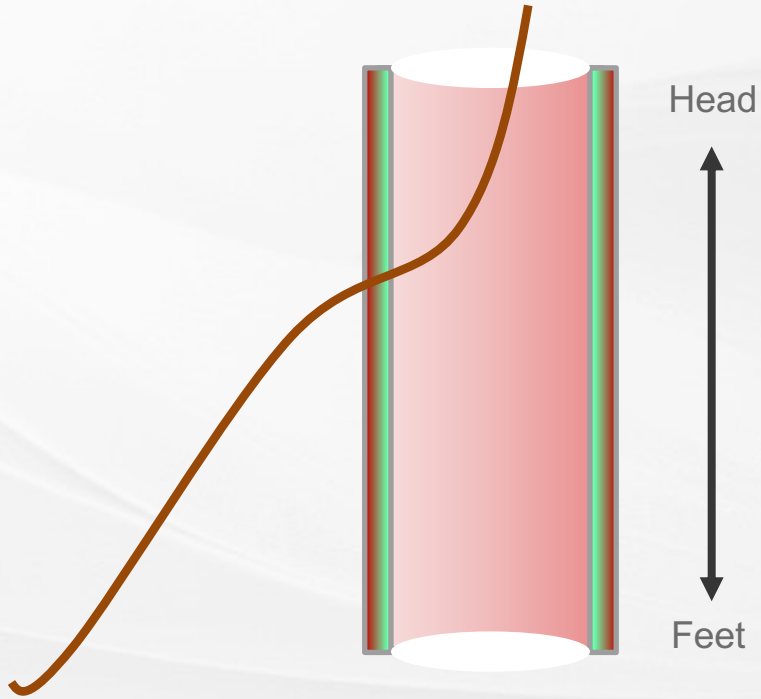


Blood Vessel Access



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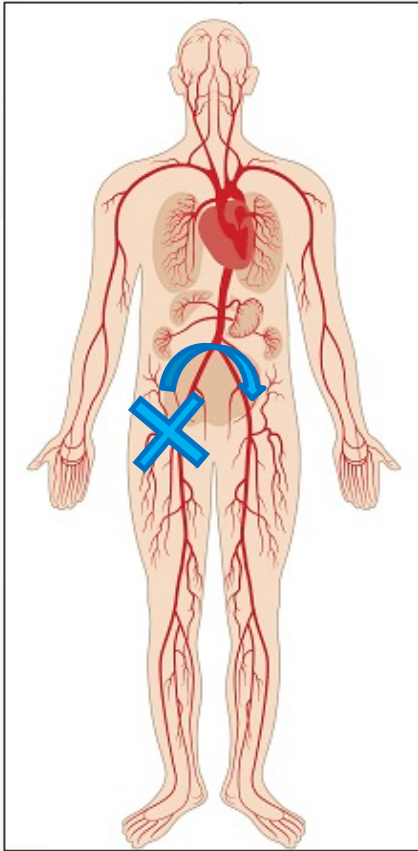




Current vascular access is unidirectional

Vascular disease is not

Fundamental Problem



Inefficiencies in Treatment

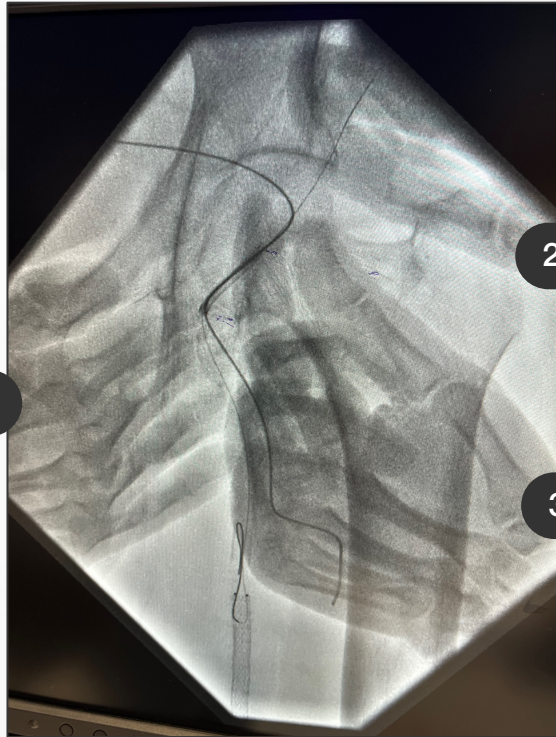
The unidirectional design of standard devices limits simultaneous treatment of both legs. Patients must either come back for a second procedure to treat the contralateral leg or a second point of access must be obtained doubling the access complication rate.

Complications from Access Methods

Access is the number one complication across all endovascular procedures. Access complications occur in 5–8% of angiograms

Challenges in Device Placement

Variability in patient anatomy, such as obesity and scarring, complicates vascular access. Antegrade access is an increasingly used method of obtaining access so the target leg can be accessed instead of accessing the contralateral leg.



Inefficiencies in Treatment

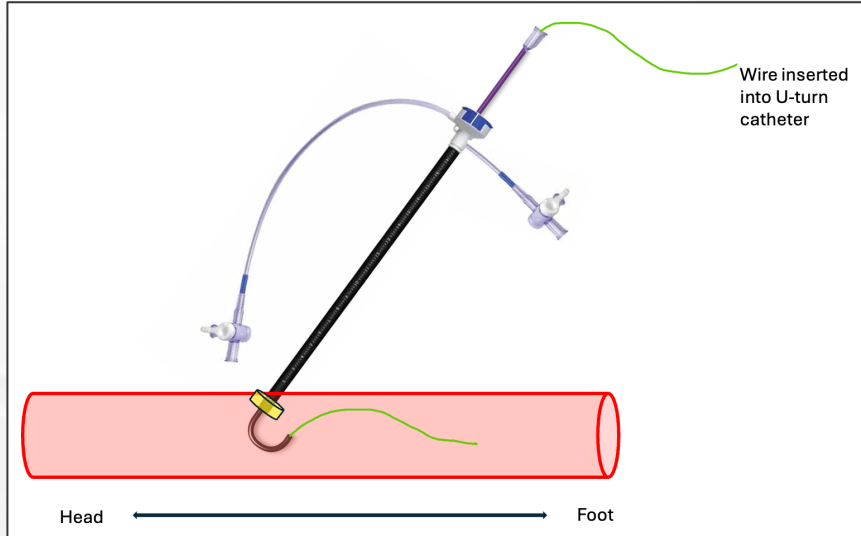
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Multidirectional Access Device

Allows for access in any direction of the vessel

Sheath is anchored into vessel preventing accidental loss of access

Solution



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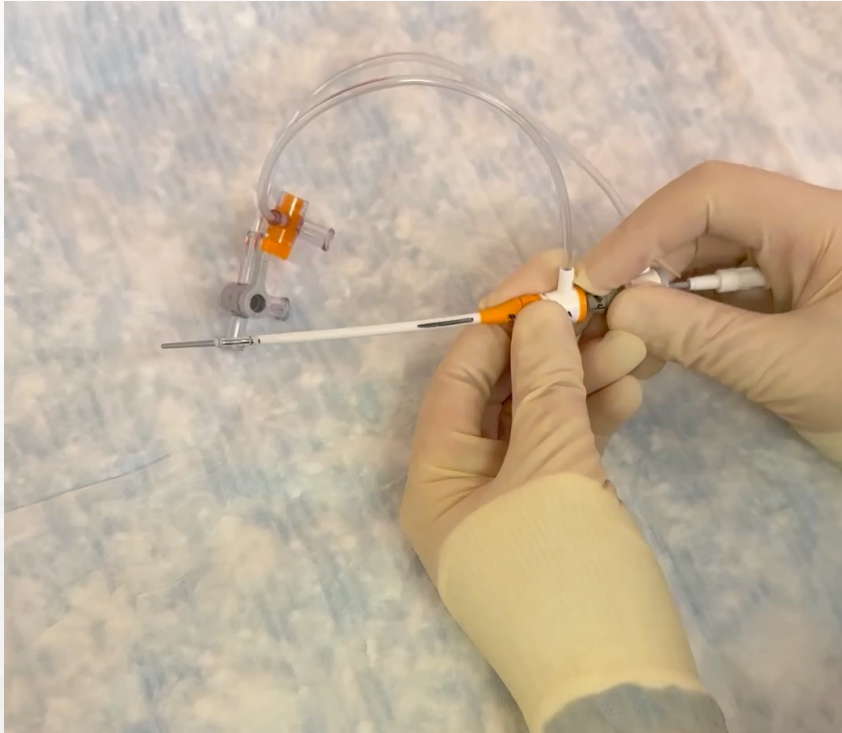


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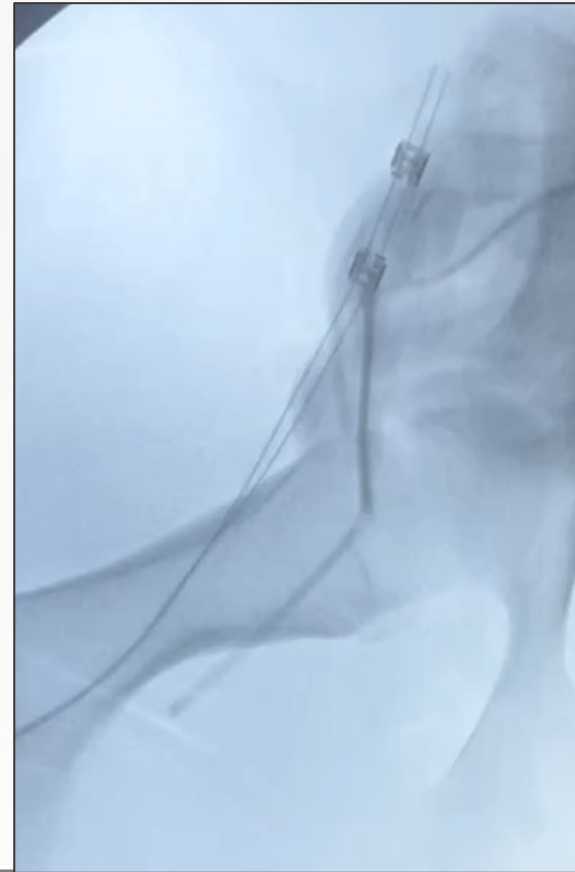


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Market Analysis and Growth Potential

01

Trend towards
Minimally Invasive
Procedures

02

Diversity of Specialties
in this Space

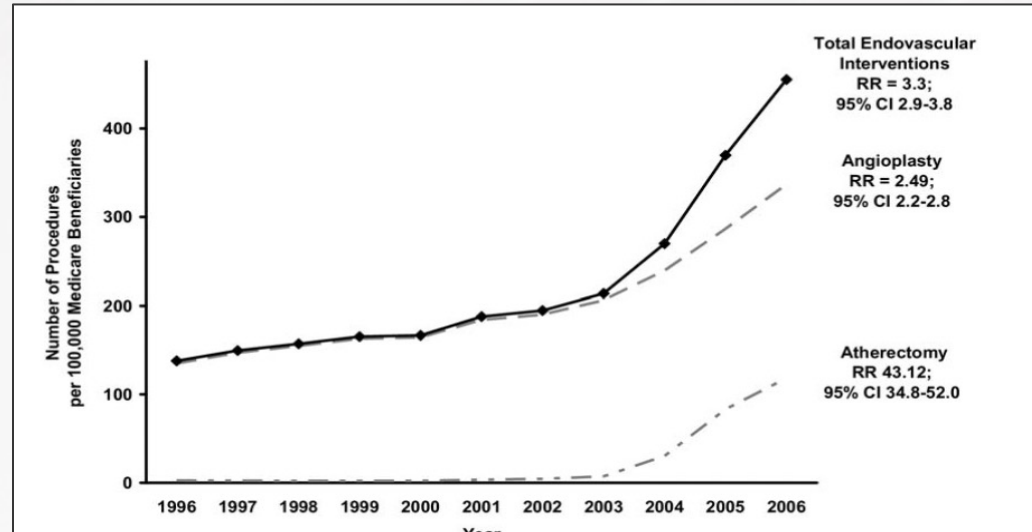
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Use in Multiple types
of Procedures

01

Trend towards Minimally Invasive Procedures

In the past 20 years the rate of endovascular procedures has has exponential growth and there is a continual push to offer patients minimally invasive options for to treat their disease



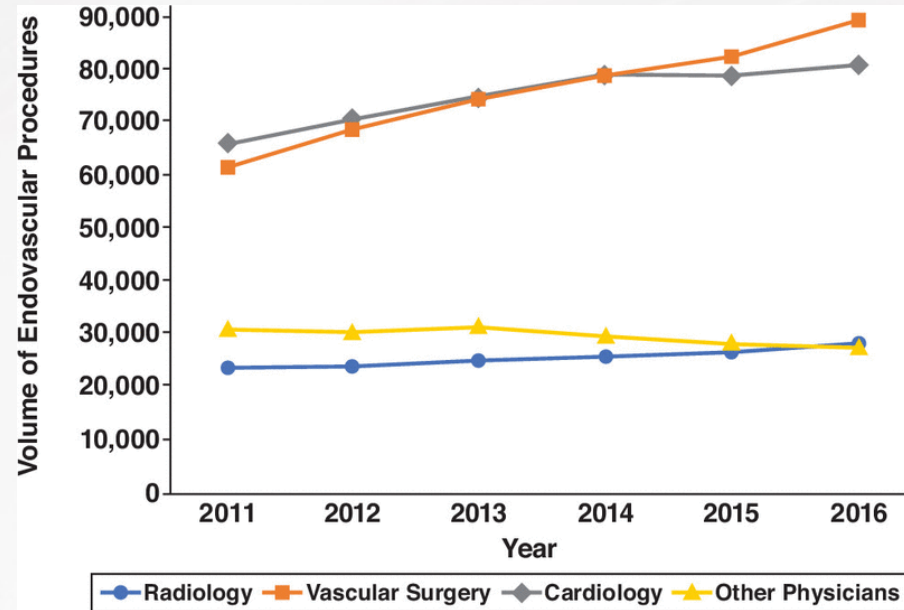
Goodney et al National trends in lower extremity bypass surgery, endovascular interventions, and major amputations JVS 50.1 July 2009, 54-60

02

Diversity of Specialties in this Space

Multiple specialties perform endovascular procedures

- Cardiology
- Interventional Radiology
- Vascular Surgery
- Other Interventional Subspecialties



Source: American Journal of Roentgenology. 2020;214: 962-966. 10.2214/AJR.19.21967

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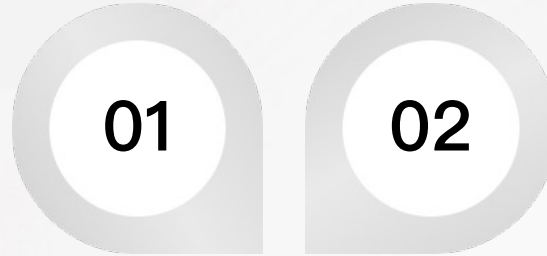
03

Use in Multiple Types of Procedures

Market Analysis and Growth Potential

Peripheral Arterial Disease

250,000 Procedures Per Year
\$10,000–\$25,000 per Intervention
TAM 10.0 Billion



Dialysis Access

350,000 Procedures Per Year
\$1,800–\$5,200 Per Intervention
TAM 3.4 Billion

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NSF I-CORP Customer Discovery



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NSF I-CORP Customer Discovery

NSF
I-Corps
Hub
Northeast
Region

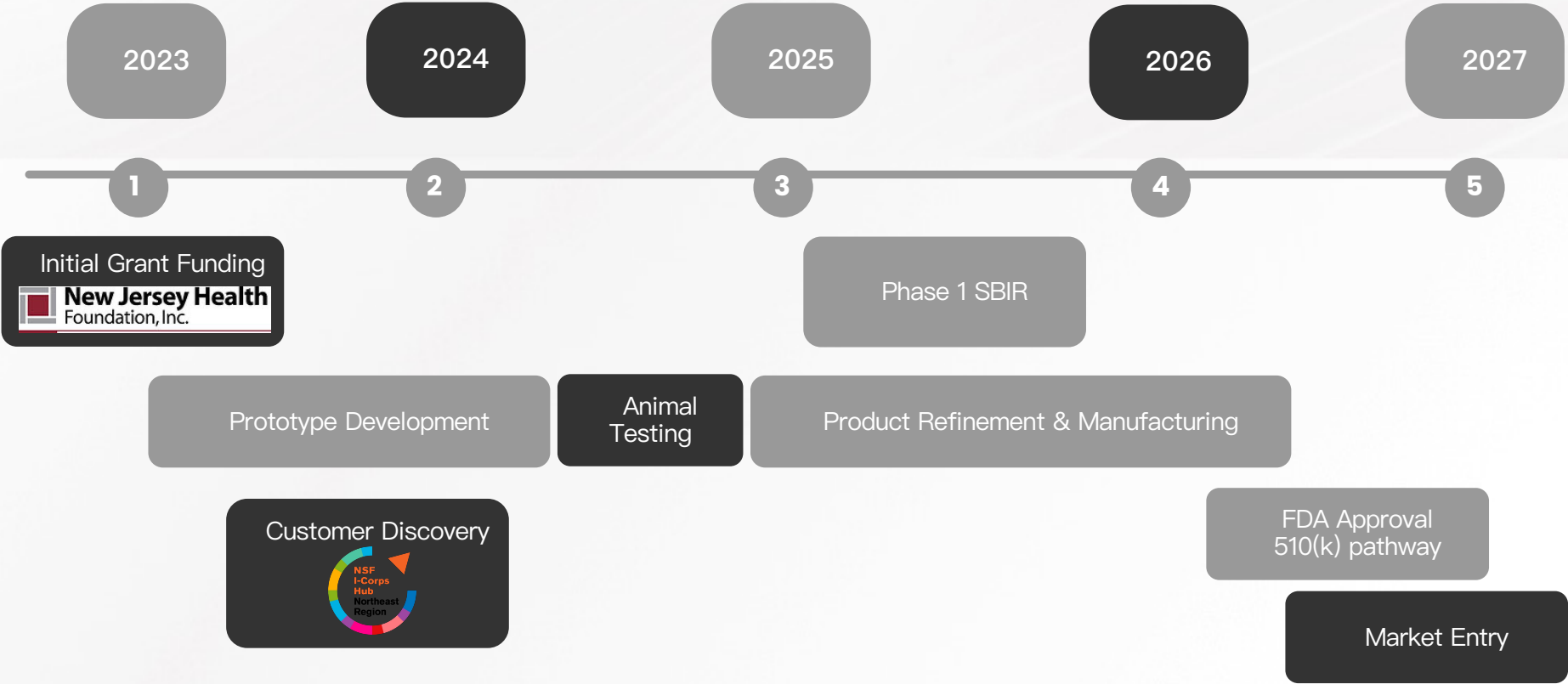
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DVT

900,000 Patients with Deep Vein
Thrombosis Diagnosis Per Year
TAM 4.6 Billion



Innovation Timeline and Future Directions

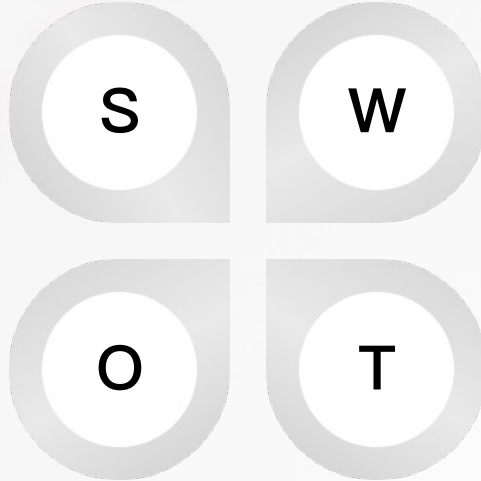


Strengths

- Applicable to first step of interventional procedures
 - Picket fence IP
- Facilities to test in house decreasing cost

Opportunities

- Many potential licensees
 - Familiar technology components
 - Expanding Market
- Applicable across disease pathologies and physician specialties



Weaknesses

- Early stage
- SBIR funding pending
- Competitive market
- New approach, requires adoption

Threats

- Lots of innovation in the vascular interventional space
- Benefit must be worth the cost
- Must make case more efficient



Thank You

