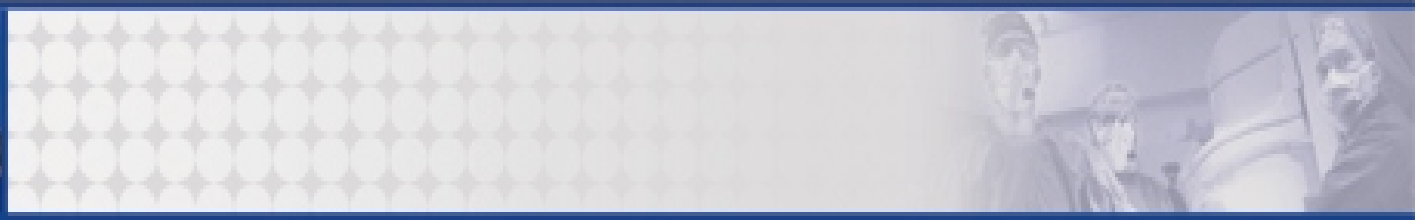
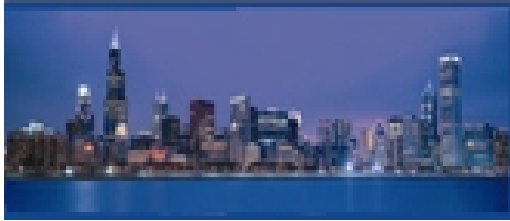


**Plaque Excision  
(Atherectomy) in the  
Infrainguinal Segment:  
Claudication to Limb  
Salvage**

**Amir Motarjeme, M.D.**  
**Midwest Vascular Institute of Illinois**



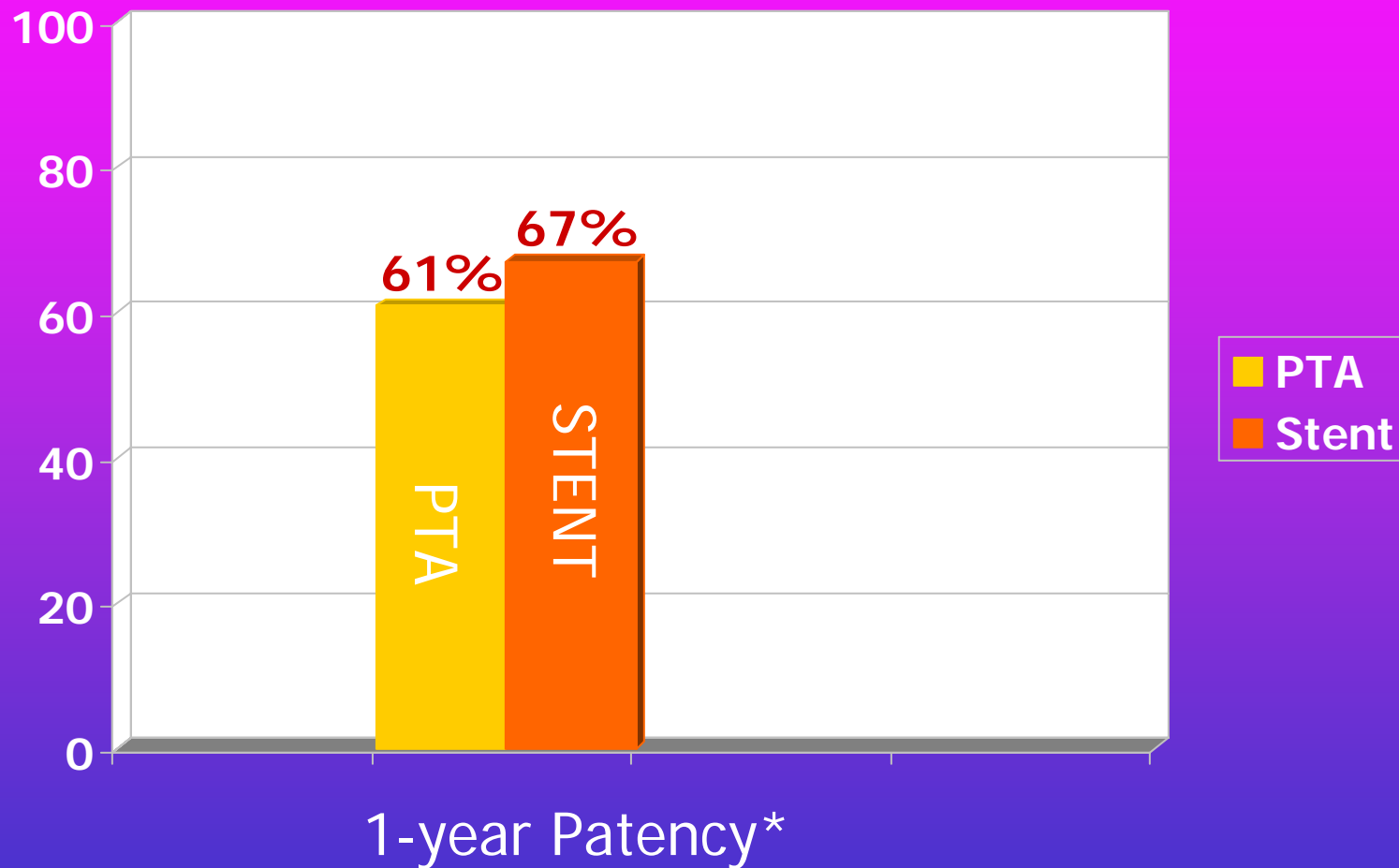
## **Faculty Disclosure**

**Amir Motarjeme, M.D.**

**I hereby disclose that I am a part of Abbott Laboratories  
Speakers Bureau**



# Sub-Optimal Patency Rates with SFA PTA and Stenting



\* Weighted average

TASC, *J Vasc Surg*, Jan 2000

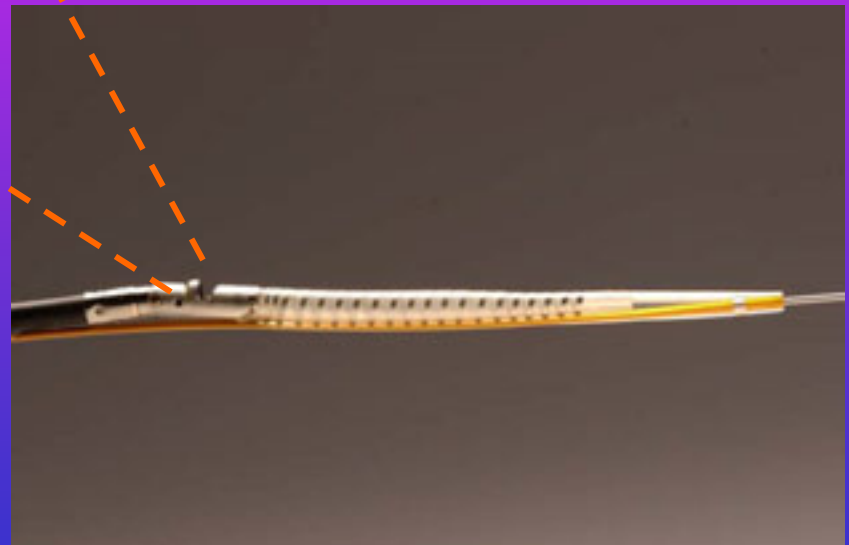
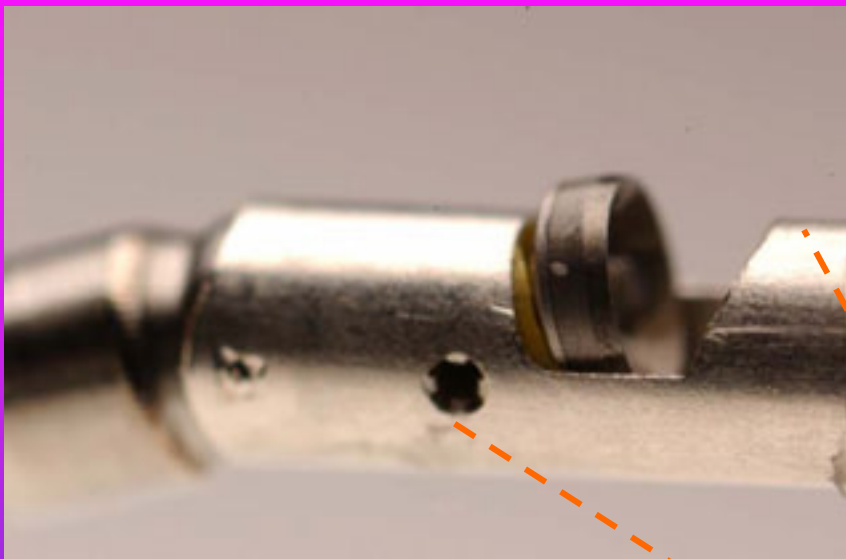
# Device Technology

- FDA-cleared in June, 2003 for use in femoral-popliteal and tibial-peroneal vessels
- Consistently and efficiently excises large volumes of plaque from de novo and restenotic lesions
- Single-operator, monorail catheter

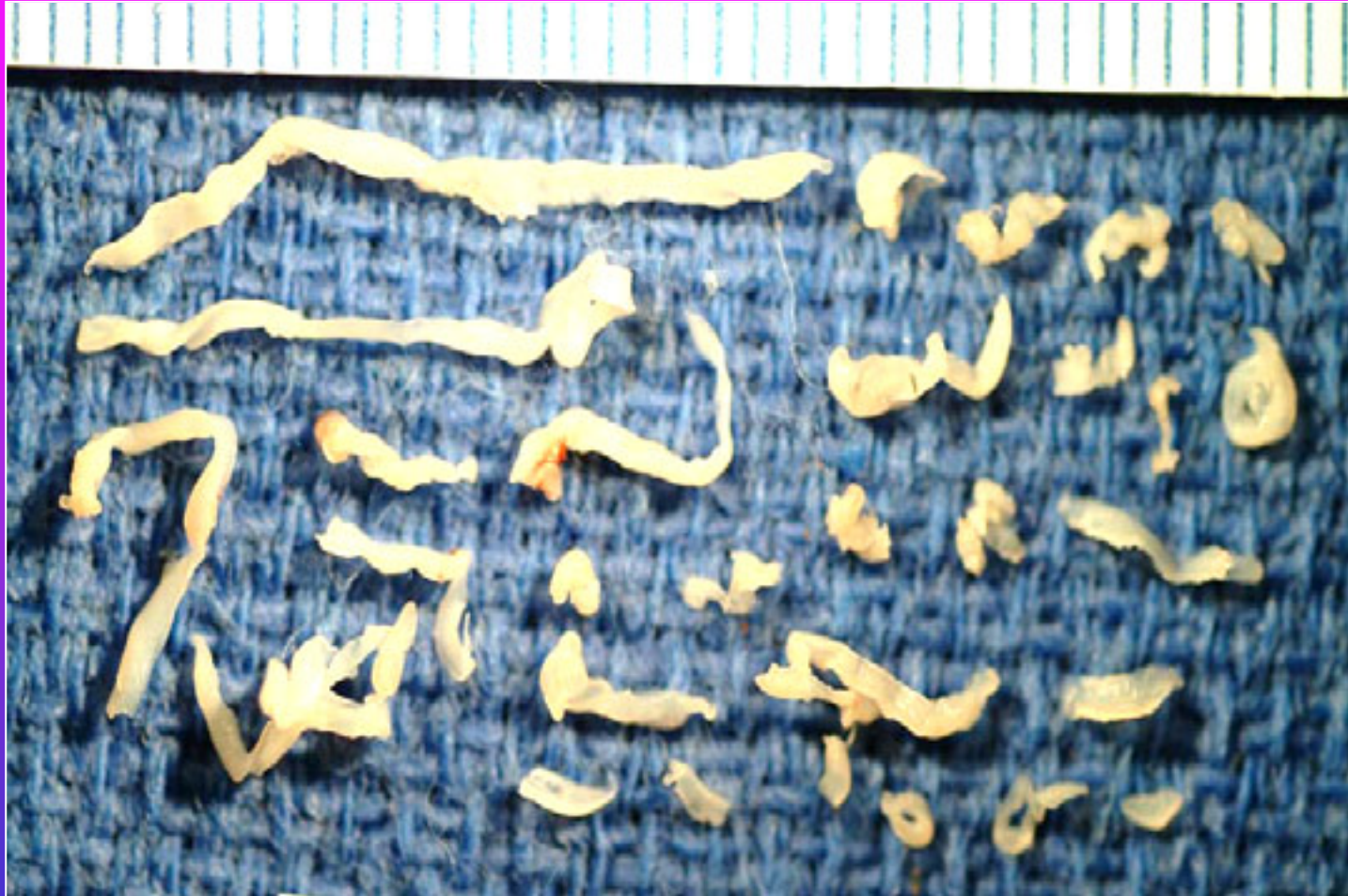


The SilverHawk™ System

# Magnified Cutter View



Total Tissue Collected: 45 mg



# Plaque Excision (atherectomy) for PVD in Infringuinal Arteries

<u>Authors</u>	<u>Arteries</u>	<u>Success</u>	<u>6-month Patency</u>	<u>Adjunct Stent</u>
Gammon, R. et al	76			2.5%
	SFA & Distal Arteries			
Kondzari, D. et al	16	87.5%		15%
	Limb Salvage			
Lorenz, D. et al	54	100%	83%	17%
Kieszer, R. et al		97%		0%
Ali, D. et al	133	82.25%		6.7%
	SFA			
Ramaiah, V. et al	181	96%	96%	6.9%
Gammon, R. et al				
Registry (Talon)	220			5%

# Plaque Excision(Atherectomy) in Treatment of Peripheral Vascular Disease

Patients	133
Arteries	204
Veins	20
Grafts	3

# Plaque Excision (Atherectomy) in Treatment of Peripheral Vascular Disease

<b>Arteries</b>	<b>204</b>
<b>Iliac</b>	<b>7</b>
<b>Common femoral</b>	<b>9</b>
<b>Superficial femoral</b>	<b>68</b>
<b>Popliteal</b>	<b>53</b>
<b>Infrapopliteal</b>	<b>67</b>

# Plaque Excision (Atherectomy) of Infrapopliteal Arteries for Limb Salvage

Patients	45
Arteries	67
Common tibioperoneal trunk	28
Peroneal	12
Anterior tibial	19
Posterior tibial	8

# Plaque Excision (Atherectomy) in Treatment of Peripheral Vascular Disease

## Assessment and Follow-up

### Pre-procedure

Clinical examination

Doppler examination

Arterial waveforms and ABI

Angiography

### Post-procedure

Clinical examination

Color Doppler flow imaging

at 6 weeks and at 3, 6 and 12 months

# Plaque Excision (Atherectomy) in Treatment of Peripheral Vascular Disease

special Indications

Debulking

In-stent stenosis

Arterial bifurcation

Ostial stenosis

# Plaque Excision (Atherectomy) in Treatment of Peripheral Vascular Disease

special Indications

**Debulking**

In-stent stenosis

Arterial bifurcation

Ostial stenosis

# Plaque Excision (Atherectomy) in Treatment of Peripheral Vascular Disease

special Indications

Debulking

**In-stent stenosis**

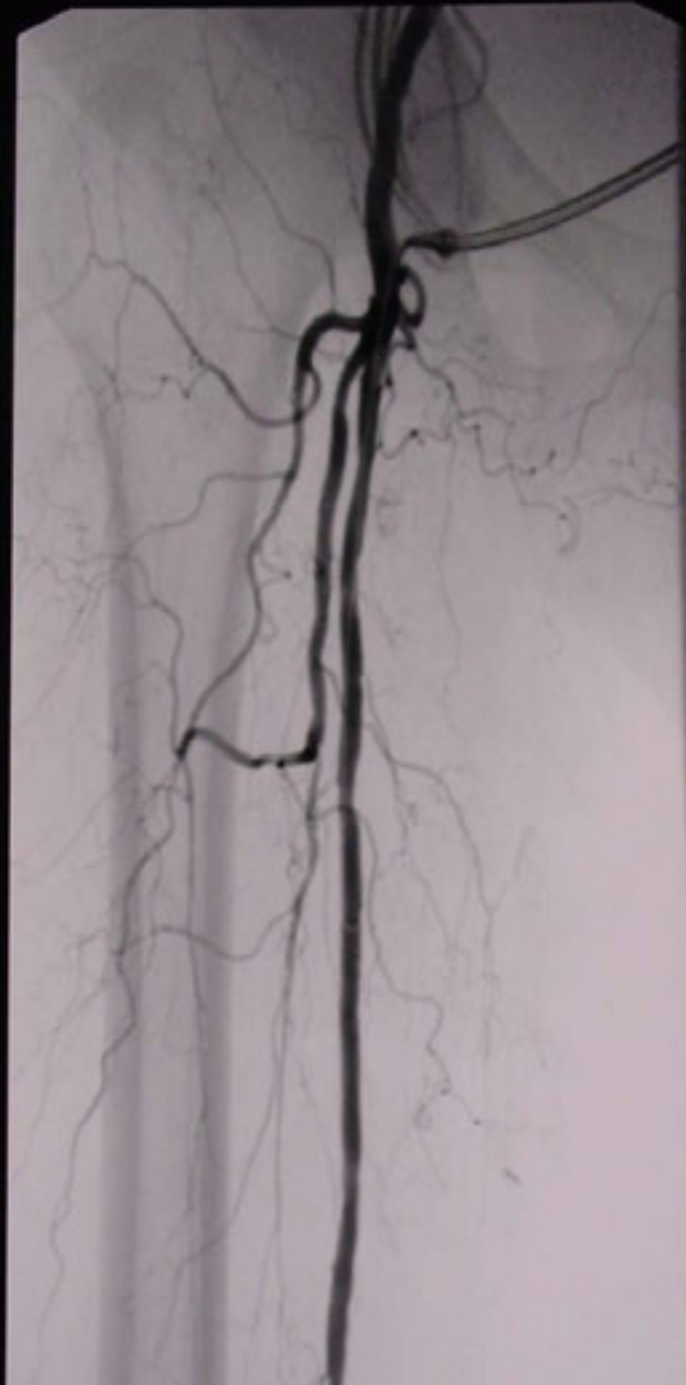
Arterial bifurcation

Ostial stenosis

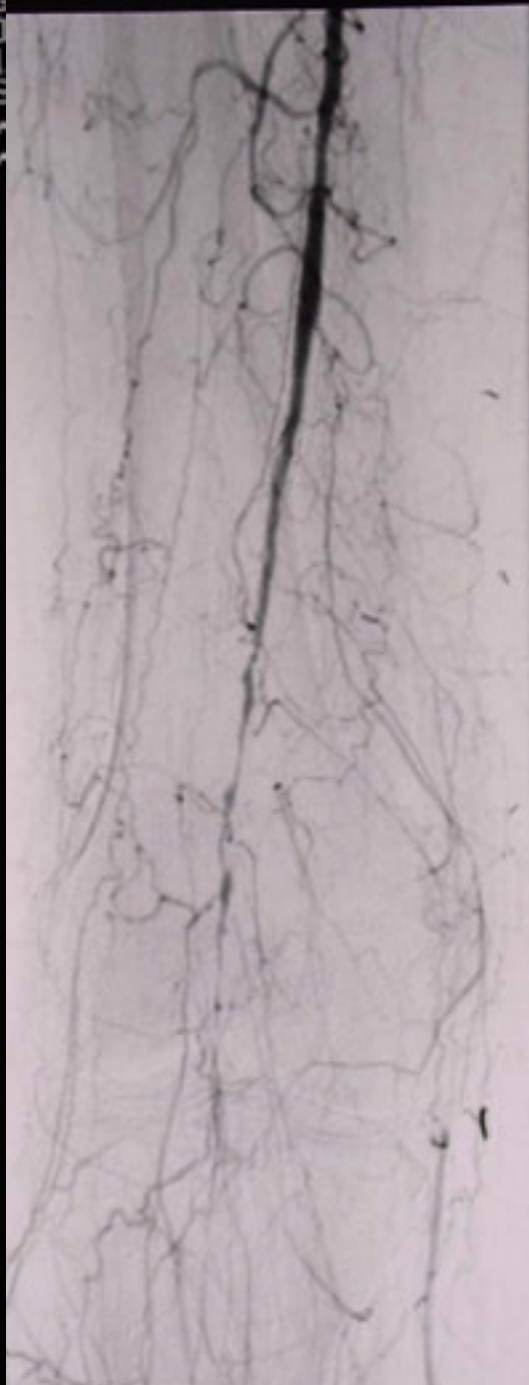




sp.



LEG  
20-  
11  
SC  
W-  
W-



LEG.  
20-  
11  
SC  
W-  
W-

Natalie  
Samaritan Hosp.



N. Natalie  
Samaritan Hosp.

1927

33  
35%  
21%  
PAC

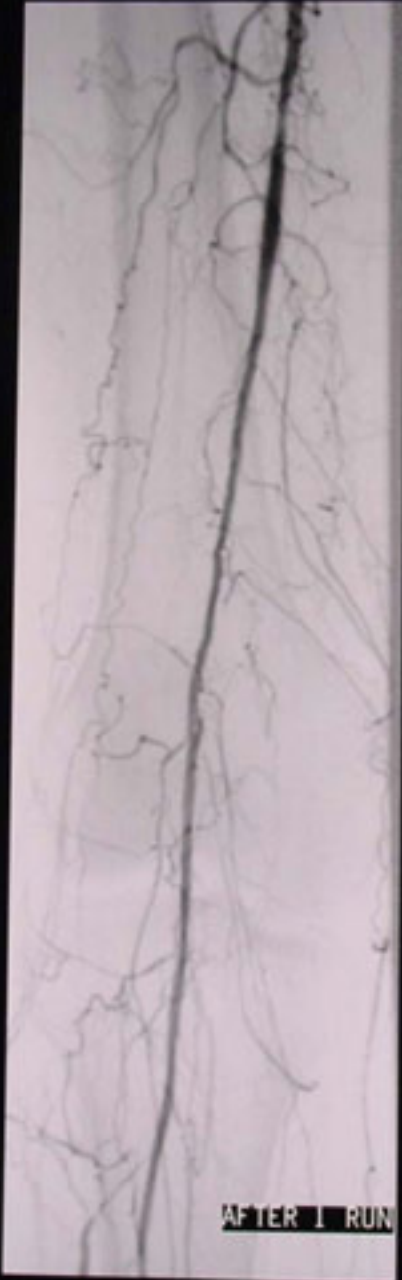


LAO: 0

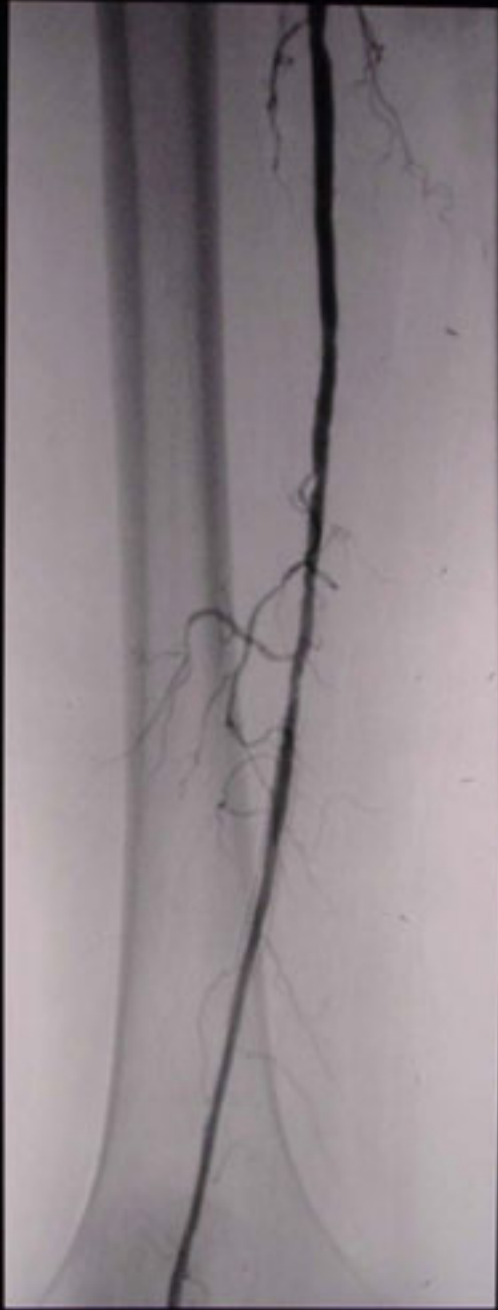
Natalie  
Samaritan Hosp.

ISON, Natalie  
Samaritan Hosp.  
87  
8.1927

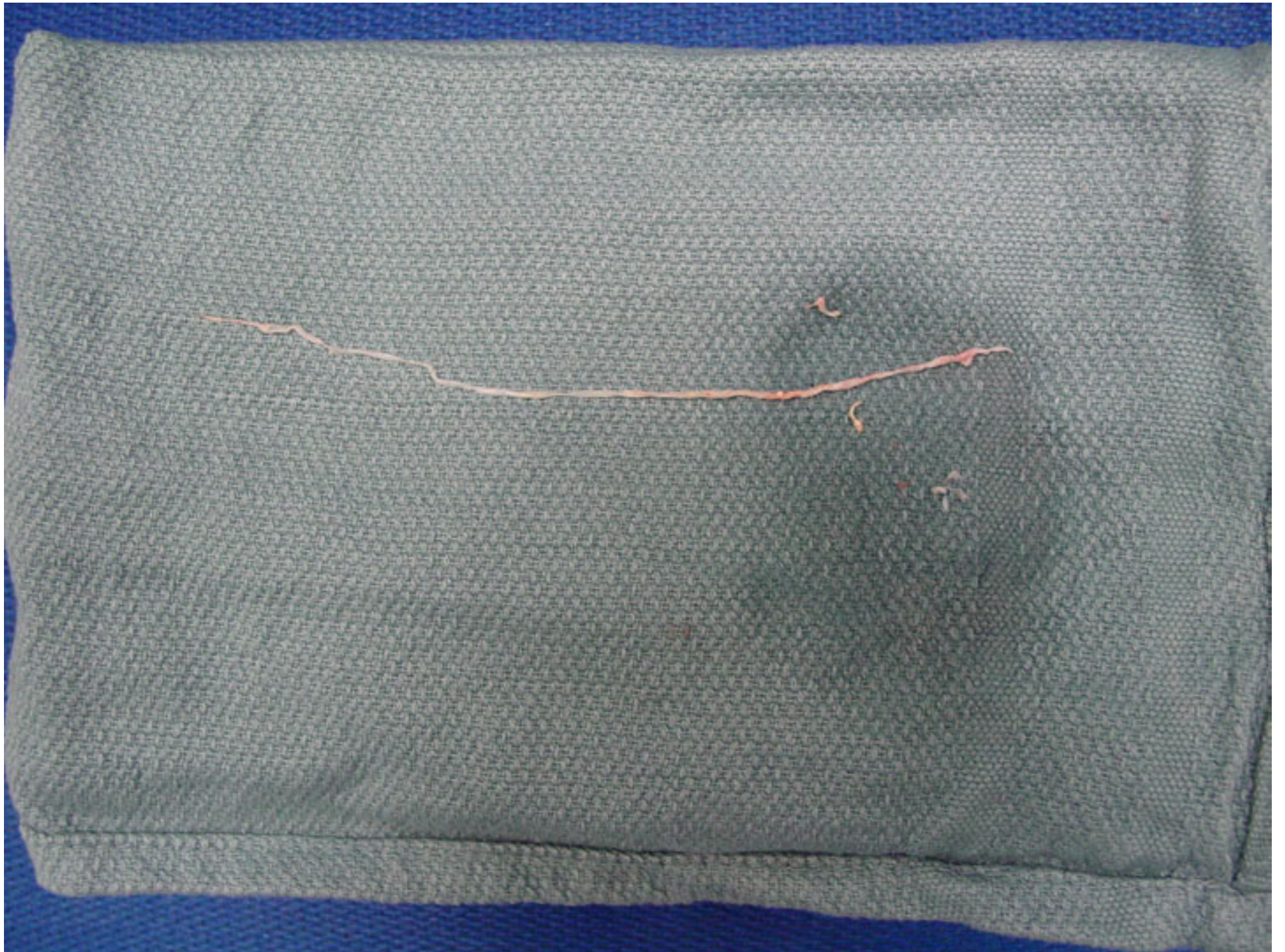
1  
12  
: 10%  
K: 31%



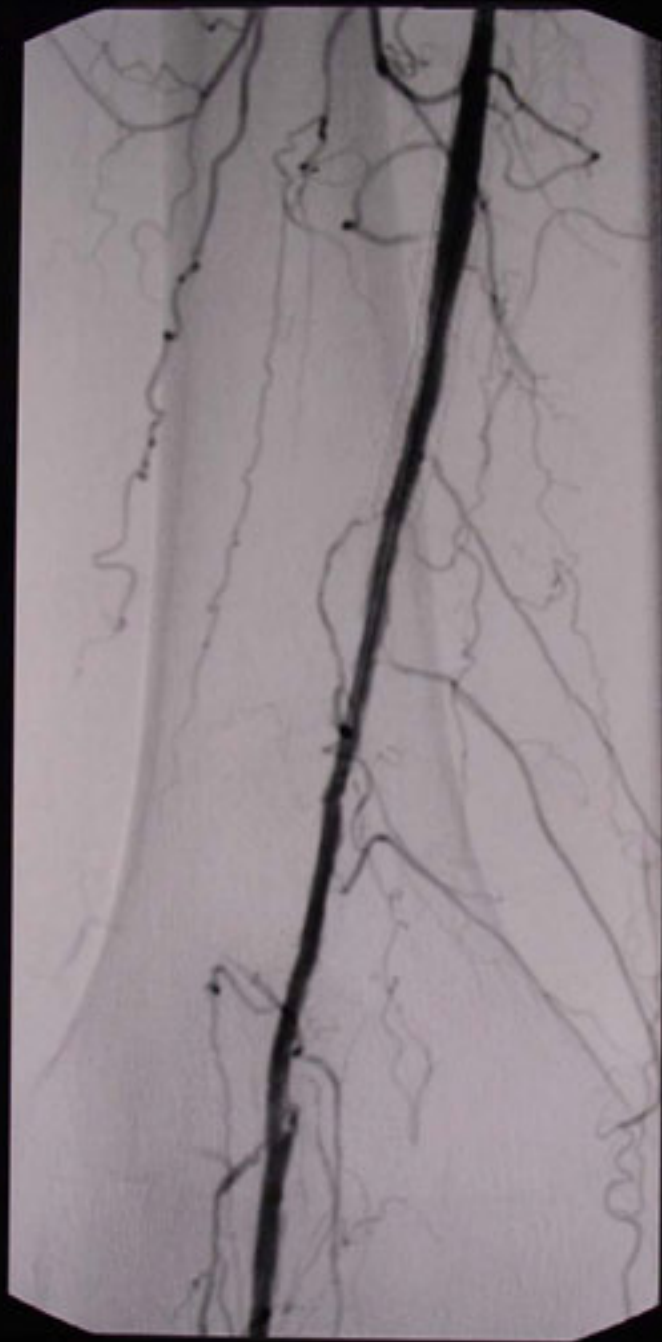
AFTER 1 RUN



LAD:



Natalie  
Samaritan Hosp.



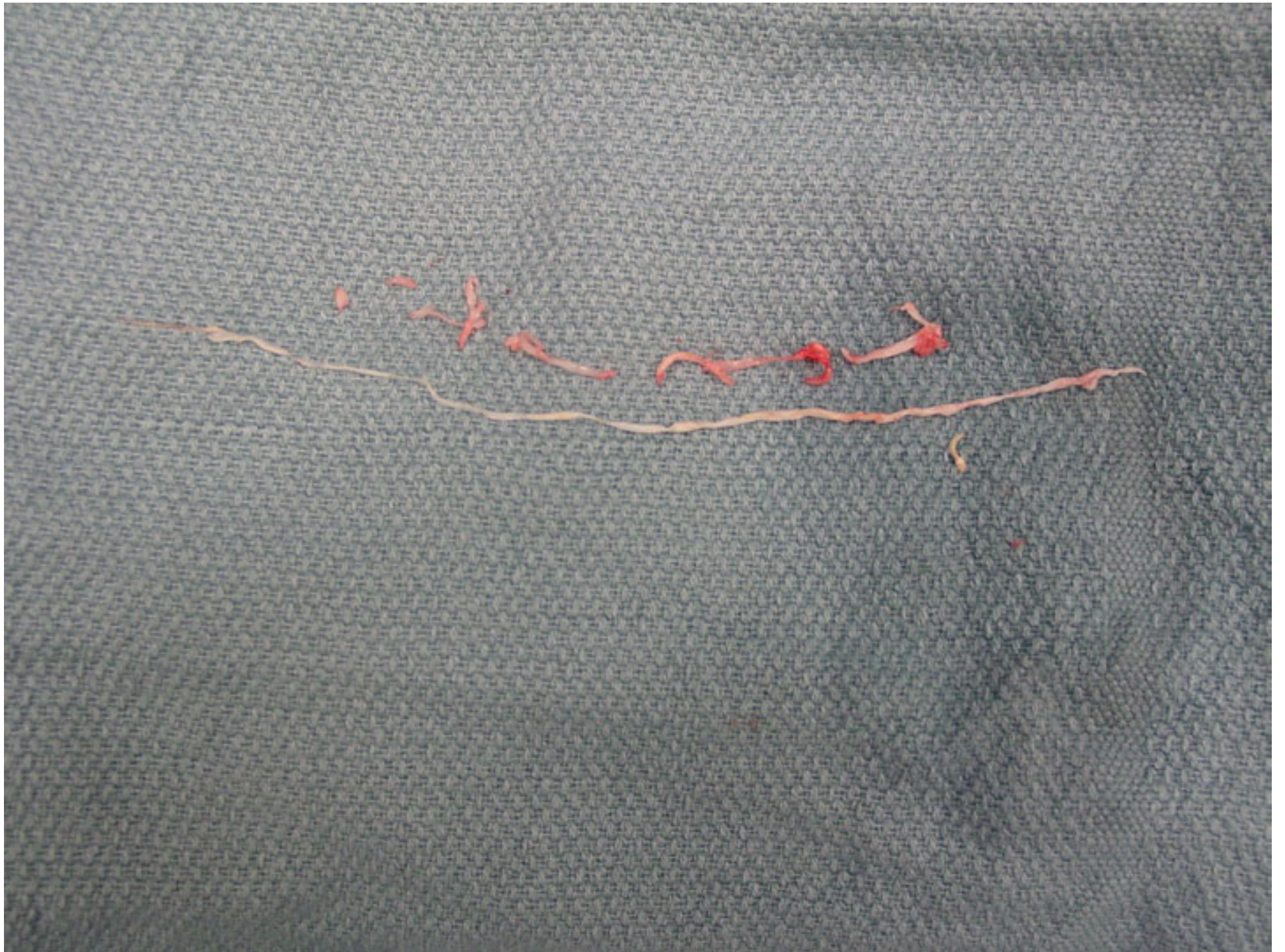
SON, Natalie  
Samaritan Hosp.  
17  
1. 1927

'15  
10%  
: 22%  
IPAC

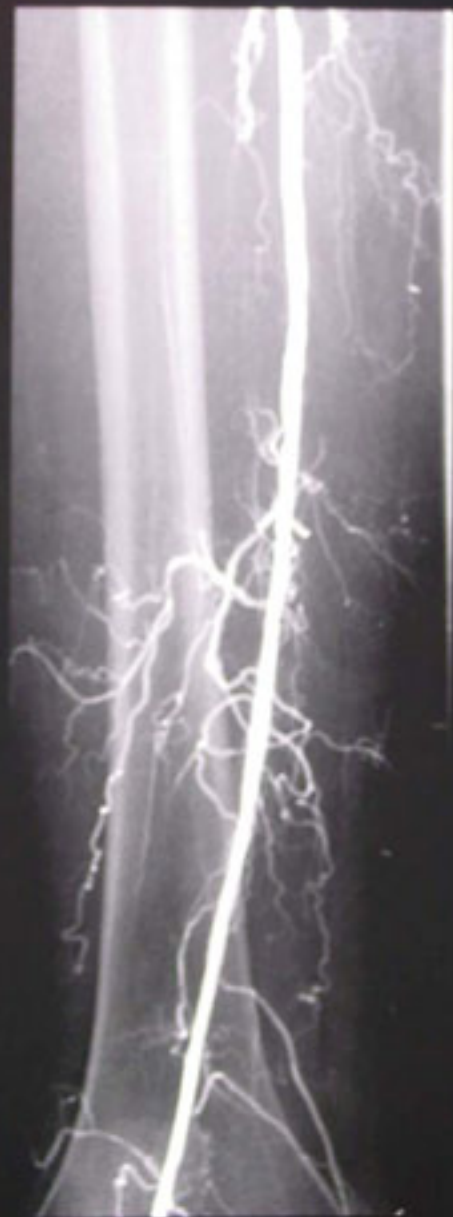


LE  
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LAD: 0 0



HANSON, Natalie  
of Samaritan Hosp.  
0387  
.08.1927  
3/1  
8/13  
TR: 10s  
DWC: 22s



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re

LAO: 0 C

WILSON, Natalie  
Samaritan Hosp.  
1987  
08.1927

465  
R: 5%

902015444



LAO:



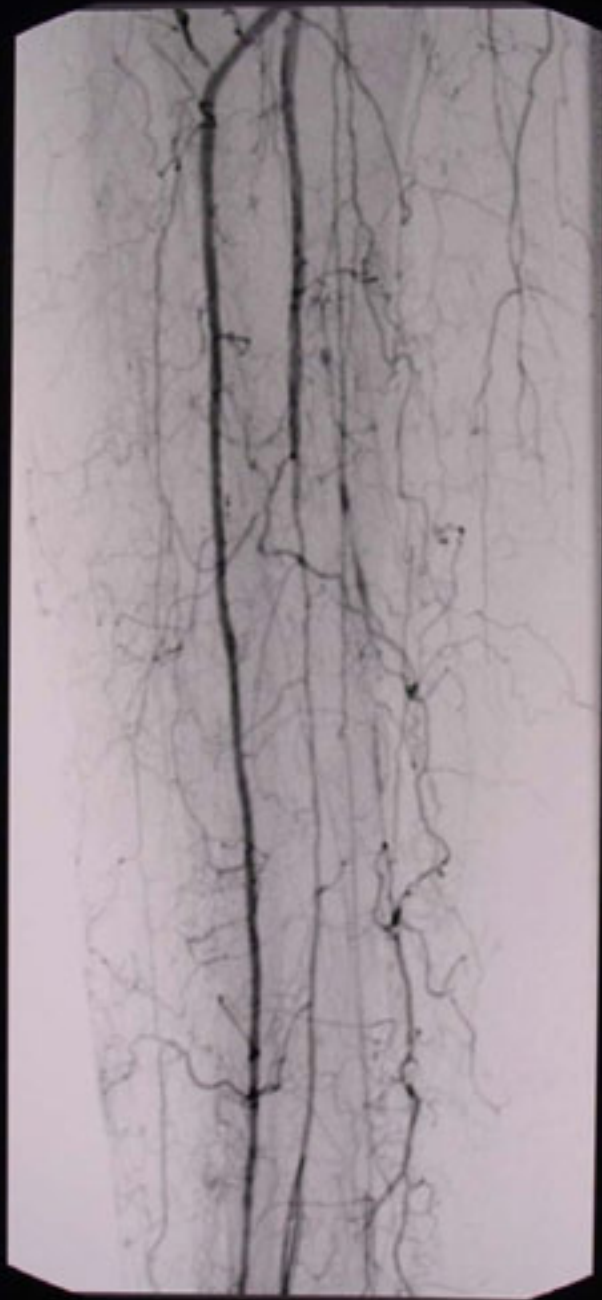
LAO: 0

LE  
2  
S

ON, Natalie  
Samaritan Hosp.

1927

5  
10%  
7%  
AC



LEI  
24. Natalie  
Samaritan Hosp.

1927

1%  
8%



LAO: 11 CI

WSON, Natalie  
Samaritan Hosp.  
887  
08.1927

393  
: 5%



P4020

P4010 SILVERHA

LAO: 11



LEG, RIGHT POST ATER

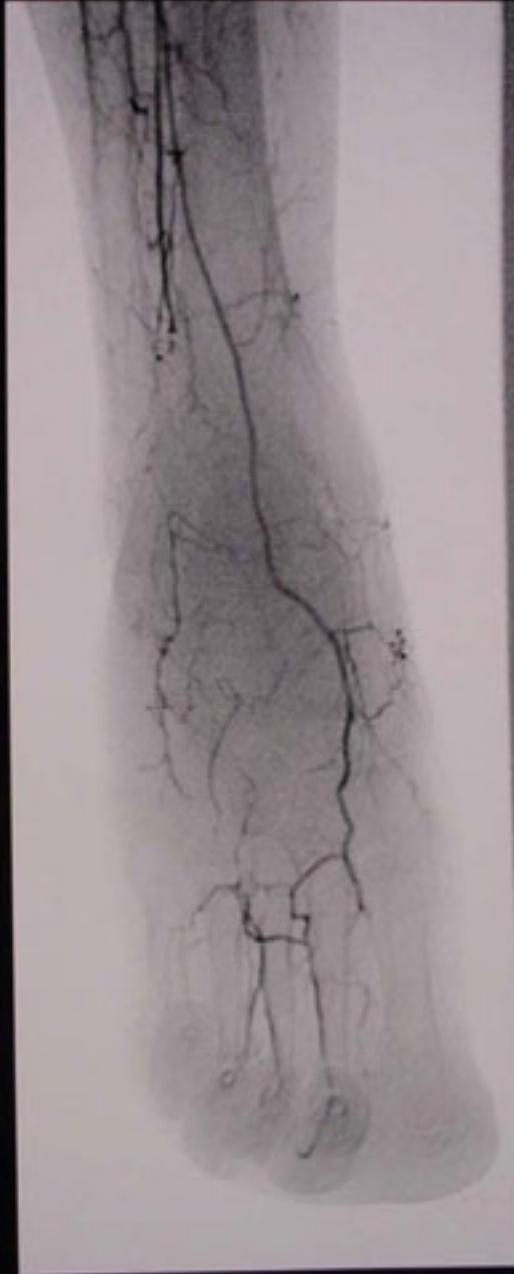
20-  
11  
See  
W-  
W-

LAO: 11 CRA

L. Natalie  
Maritan Hosp.

927

0%  
9%



LEG  
20  
1  
Sc  
14  
W

RAO: 33 CI



# Plaque Excision (Atherectomy) in Treatment of Peripheral Vascular Disease

special Indications

Debulking

In-stent stenosis

**Arterial bifurcation**

Ostial stenosis

# Plaque Excision (Atherectomy) in Treatment of Peripheral Vascular Disease

## special Indications

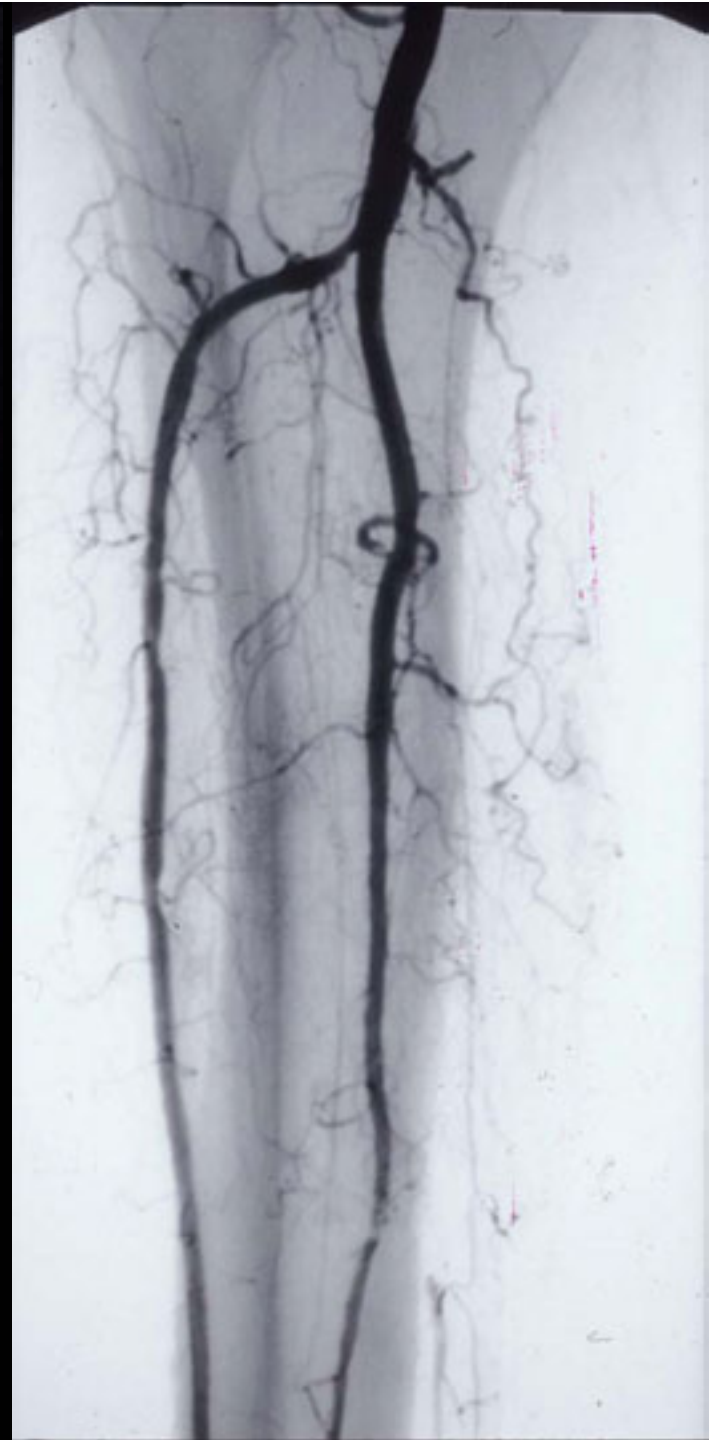
Debulking

In-stent stenosis

Arterial bifurcation

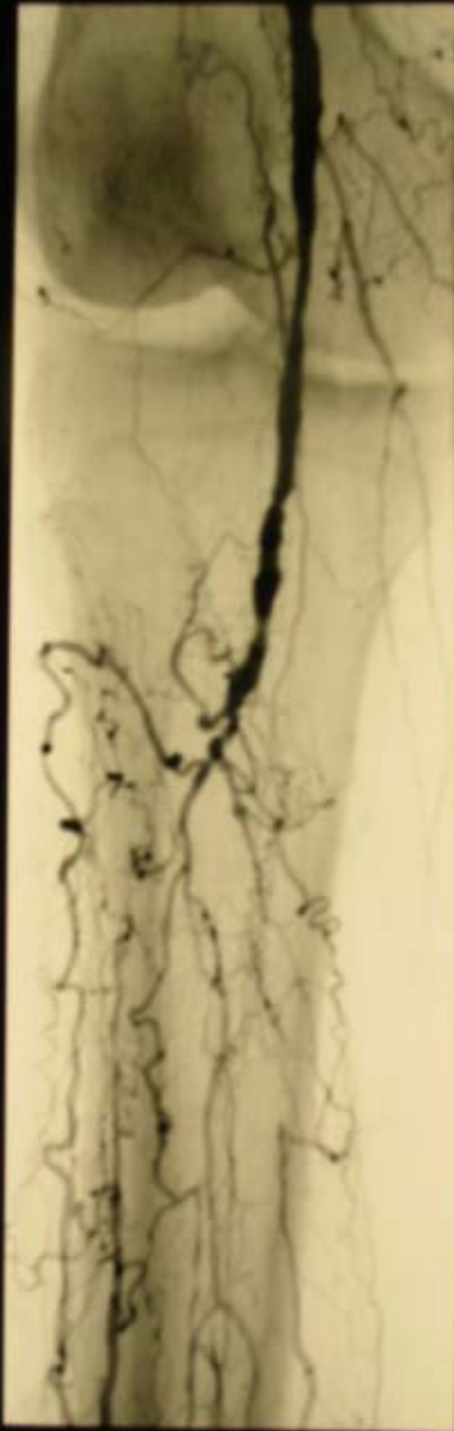
**Ostial stenosis**







LAWRENCE  
Stan Hosp.



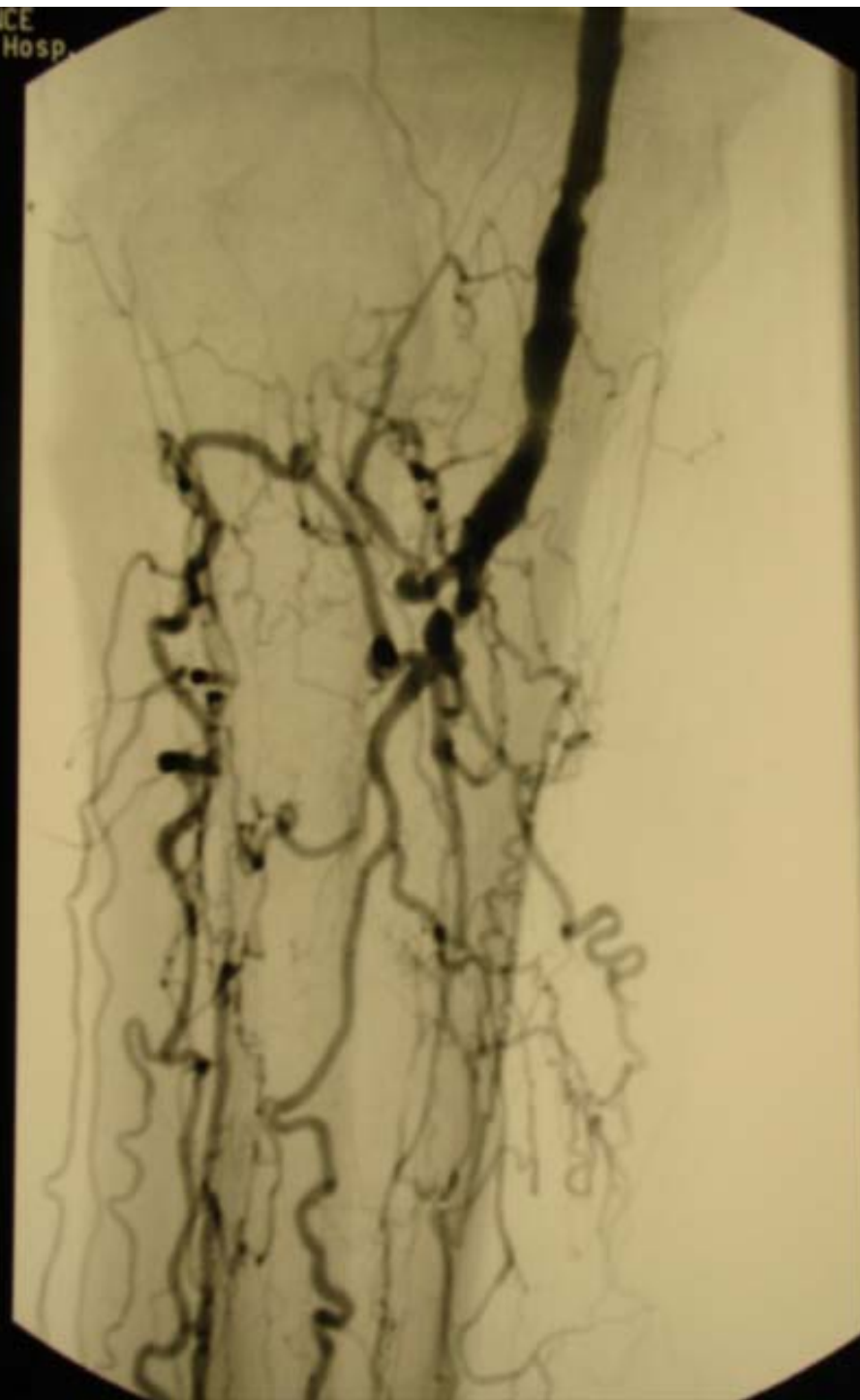
LAD: 0



LAD:

RENCE  
an Hosp.

0



LAO: 20



020 SILVERHAWK  
T TIB

LAO: 20

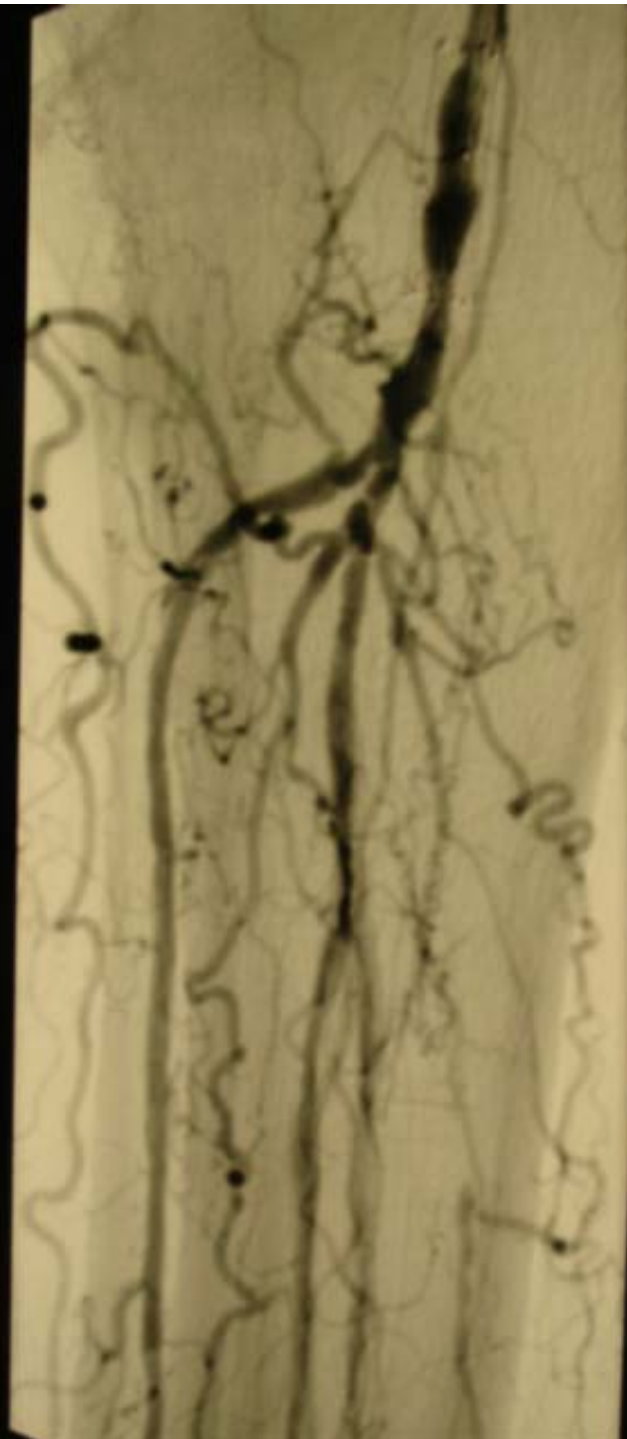


LAWRENCE  
Maritan Hosp.

LAWRENCE  
Maritan Hosp.

20

20  
9%



RAO:

# Plaque Excision

## Complications

Arterial Emboli

Arterial Tear

Arterial Rupture

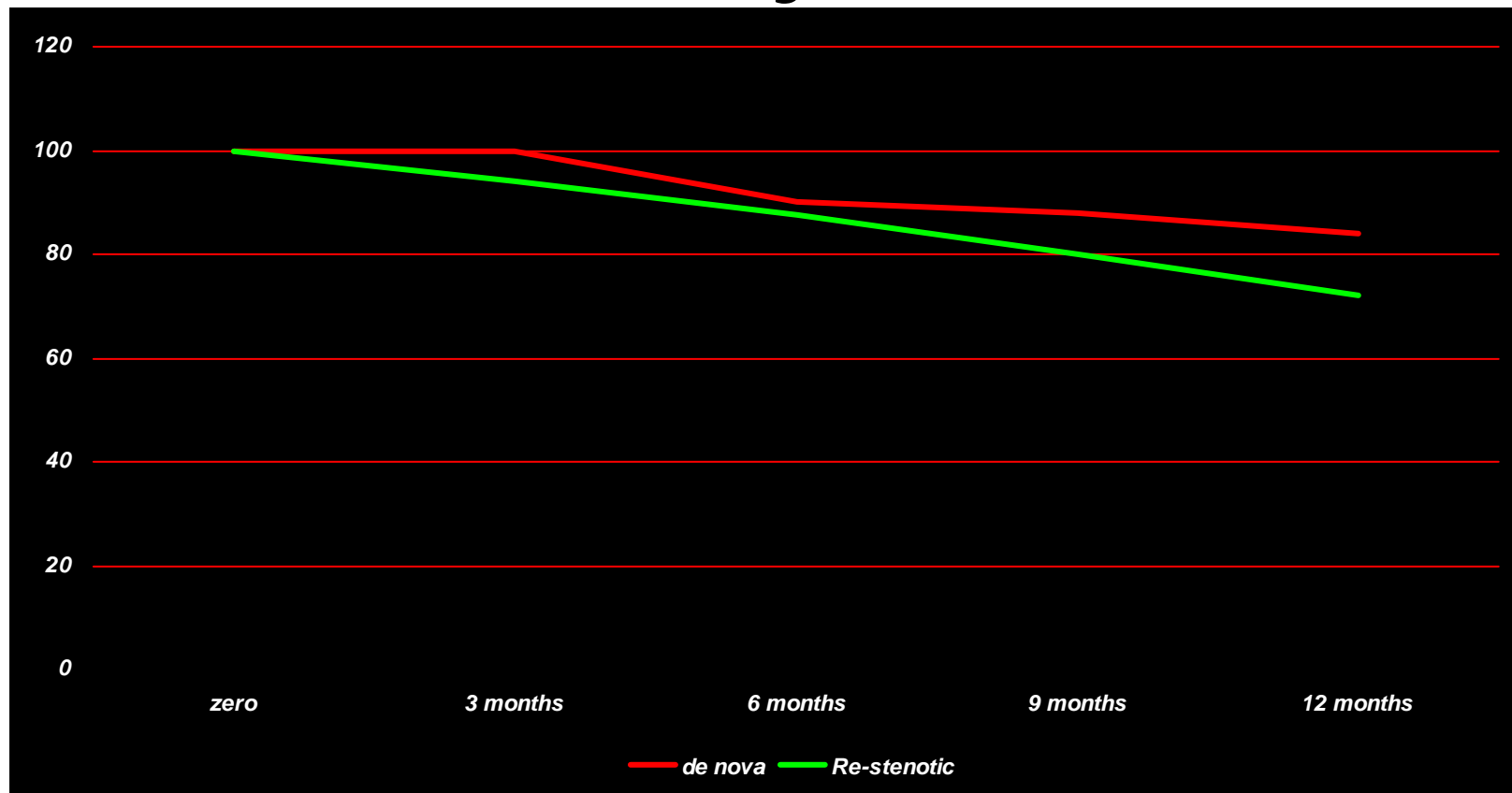
Over Excision (aneurysmal dilatation)

Pseudoaneurysm

A-V Fistula

# Plaque Excision (Atherectomy) in Treatment of Peripheral Vascular Disease

## Patency Rate





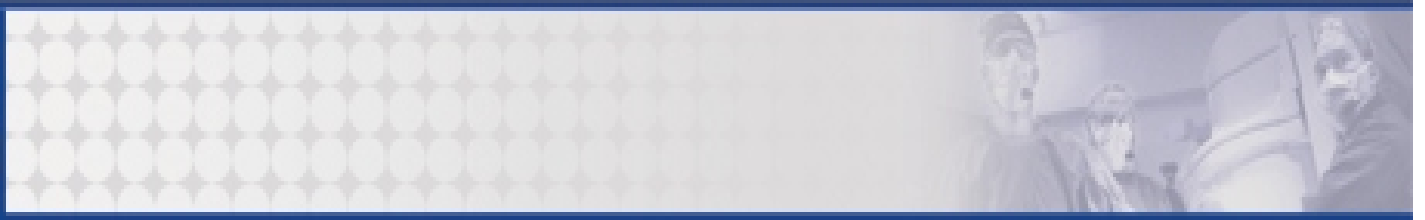
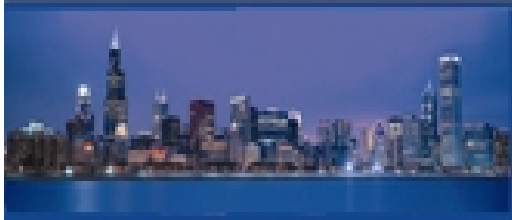
# Plaque Excision (Atherectomy) in Limb Salvage

## Results

Patients	45	100%
Total salvage	25/45	55.5%
Small part amputation	12/45	26.5%
TMA	4/45	9%
BKA	4/45	9%

## Conclusion

Plaque excision is a promising new technology for treatment of peripheral arterial disease, especially in infrapopliteal arteries. It appears to have a favorable patency rate superior to angioplasty alone. However, a larger experience with a much longer follow-up is needed for better evaluation.



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**13<sup>th</sup> Annual MIIT Interventional Radiology  
and Endovascular Therapy Seminar**



**October 28-30, 2004**

**Chicago Westin River North Hotel  
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