


**ENDOVASCULAR VERSUS OPEN PAA REPAIR :
WHY AFTER 20 YEARS OF SELECTIVE
ENDOGRAFTING, I NOW FAVOR OPEN
REPAIR IN MOST PATIENTS**



Martin R Back, MD
Chief and Professor
Division of Vascular Surgery
Univ of Florida College of Medicine
Gainesville, FL

51st Annual Veith Symposium 2024, NYC

NO DISCLOSURES

POPLITEAL ARTERY ANEURYSM (PAA) REPAIR

ONGOING DEBATE : ENDO VS OPEN : WHICH IS BEST ?

- More comparative studies in past 10 yrs + meta-analyses, VQJ, national registries **but NO RCT !**
- ENDO **less** early complications and LOS
- ENDO primary patency **1 yr 70 % and less than OPEN repair (> 85 %)**
- ENDO secondary tx **3 yrs 20-25% and more than OPEN (10-15 %)**
- ENDO secondary patency **3 yrs 80 % and similar to OPEN (90 %)**
- Multiple confounding factors – symptomatic (urgent, ALI, occluded, ruptured), selection criteria, surveillance / follow-up

**Popliteal Aneurysm Repair:
Personal experience - Wooster et al Ann Vasc Surg 2015**

EARLY ENDO SELECTION CRITERIA

- Non-urgent presentation
- Higher medical risk patient
- Minimal PAD (ABI > 0.9 and minimum 1 large tibial runoff)
- Less tortuosity SFA – pop segment
- Avoid distal pop PAA involvement

**Popliteal Aneurysm Repair:
Personal experience - Wooster et al Ann Vasc Surg 2015**
77 repairs over 13 yrs

	Endo	Open	
Age (range)	82 +/- 9.5 (66-98)	69.9 +/- 6.8 (51-74)	P<0.01
Sex	25/25 Male	50/52 Male	
LOS: Days (Range)	2 +/- 2.3 (1-10)	12 +/- 27 (1-135)	P<0.01
Follow Up: Months (Range)	37.9 +/- 36.3 (1-90)	38.5 +/- 31 (1-117)	
Limb Loss	1	2	
Complications	2	9 (6)	
Re-interventions	9 (48%)	27 (54%)	
Concurrent AAA	19 (76%)	36 (70%)	
KM 4 yr survival	74 %	68 %	

**Popliteal Aneurysm Repair:
Results: Endovascular**

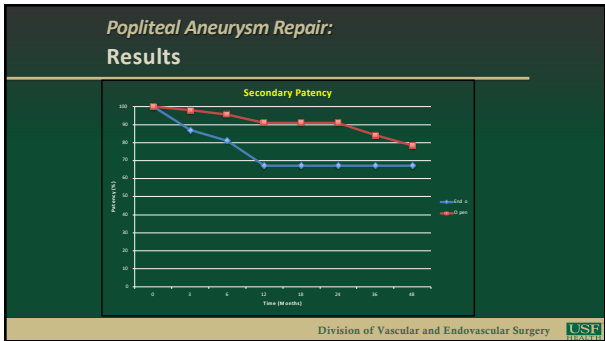
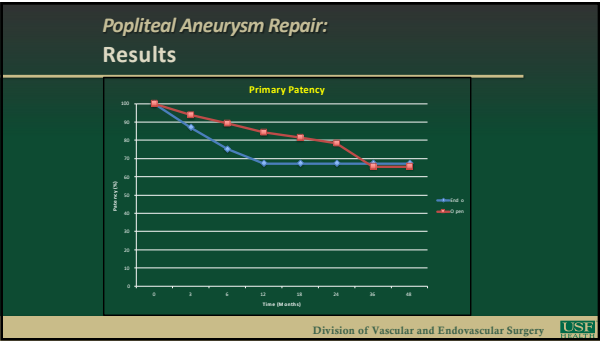
Devices	
Wallgraft	N=5
Viabahn	N=20
Number of devices	2 (range 1-3)
Treatment length (cm)	22.3 (+/- 6.8)
Device Diameter	
<7mm	10
8-9mm	8
>10mm	16

After 2003

Popliteal Aneurysm Repair: Results: Open

Reason for Open	
Occlusive disease	31
Long SFA/ BK pop involved	17
Acute presentation	4
Procedure	
Bypass	50
Interposition	2

Conduit	
PTFE (%)	16 (30.8)
GSV (%)	36 (69.2)
Inflow	
CFA	5
SFA	35
AK Pop	12
Outflow	
BK Pop	42
Tibial	10



Popliteal Aneurysm Repair: Failure modes/Reintervention at 4 yrs

	Stenosis	Thrombosis	1 ^o repair thrombosis rate
PTFE	1	7	44 %
Vein	3	2	6 %
Endo	0	6	24 %

Endo salvage 1/6 occlusions, 4 occur in first 6 mo

Division of Vascular and Endovascular Surgery | USF HEALTH

- POPLITEAL ARTERY ANEURYSMS : OPTIMAL REPAIR TECHNIQUE ?**
- REVISED ENDO SELECTION CRITERIA**
- Highest medical risk patients
 - Non-urgent presentations
 - No GSV available
 - Preop CTA treatment planning – 10 % device oversizing
 - Focal PAAs in prox pop location
 - Distal pop diameter > 6 mm
 - Minimal PAD (ABI > 0.9, minimal SFA disease, minimum 2 tibials runoff)
 - Minimal tortuosity SFA - pop segment
 - Indefinite Plavix or DOAC or coumadin
 - Surveillance duplex q 6 mo