

PTFE Bypasses to Infrapopliteal Targets Can Be Worthwhile For Limb Salvage In Patients with End Stage CLTI: When Is This So and Technical Tips To Make Them Work.

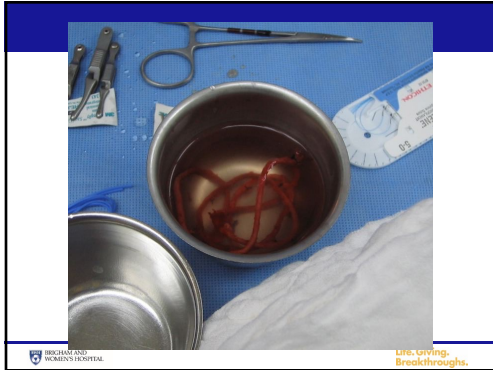
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Disclosures:

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You have to be a believer...
...ignore the nihilists (and there are plenty)

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ANGIO AFTER 4 YRS
LIMB SALVAGE 6 YRS

NO DIABETIC RECOM AT 3 HOSPITALS

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Three Decades of Bypass Grafts @ BWH for CLTI

	1985 - 1999 n= 1179	2000 - 2015 n= 1131	P-value
Smoking	454 (38.5%)	331 (29.3%)	0.001
Diabetes	599 (50.8%)	674 (59.6%)	0.001
Hypertension	710 (60.2%)	844 (74.6%)	0.001
Coronary artery disease	604 (51.2%)	626 (55.3%)	0.047
Congestive heart failure	117 (9.9%)	220 (19.4%)	0.001
Atrial fibrillation/Arrhythmia	103 (8.7%)	207 (18.3%)	0.001
Stroke	141 (12.0%)	163 (14.4%)	0.081
Chronic renal insufficiency	162 (13.7%)	237 (21.0%)	0.001
Dialysis	100 (8.5%)	134 (11.8%)	0.007

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Results – Indications and Conduit

Indication	1985 - 1999 n= 1179	2000 - 2015 n= 1131	P-value
Rest pain	500 (42.4%)	409 (30.3%)	0.002
In situ saphenous	463 (39.3%)	77 (6.8%)	0.001
Arm vein	42 (3.5%)	39 (3.5%)	0.882
Prosthetic	92 (7.8%)	240 (21.2%)	0.001
PTFE	84 (7.1%)	182 (16.1%)	0.001
Dacron	7 (0.6%)	24 (2.1%)	0.001
Cadaveric vein	0 (0%)	34 (3.0%)	0.001

More tissue loss, more prosthetic

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JVS Journal of Vascular Surgery SVS Society for Vascular Surgery

FREEDOM FROM MAJOR ADVERSE LIMB EVENTS

ALT VEIN (red line)
NON-AUTO (blue line)

P=0.98

YEARS	0	1	2	3	4	5
ALTERNATIVE VEIN GRAFT	77	32	20	12	3	1
NON-AUTOGENOUS GRAFT	133	30	23	15	4	1

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Impact of Tibial Bypass Conduit on Long-Term Amputation-Free Survival and Primary Patency in the Vascular Quality Initiative

JVS, November, 2021: Dalmia et al (Montefiore)

1 Year Primary Patency, first-time elective tibial bypass, n=4192

- Single-segment GSV: 69%
- Prosthetic with a vein cuff: 69%** (p=0.51)
- Arm vein: 60%
- Composite: 55% (p=0.14)

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Distaflo Grafts

carbon lined engineered cuffs

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Distaflo Grafts

AREA OF HIGH FLOW
- High shear stress - Low potential for intimal hyperplasia formation

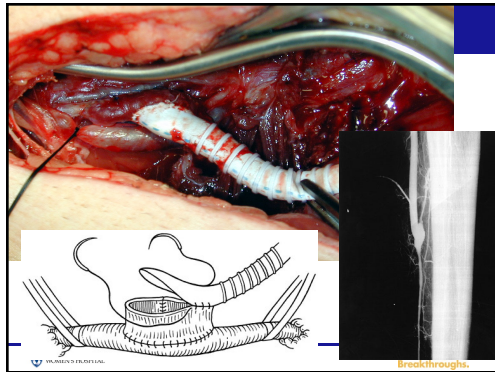
VORTEX

FLOW SPLIT
Oscillates back and forth to increase wall shear stress to reduce the risk of intimal hyperplasia

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PROPATEN
VASCULAR GRAFT

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Tibial Bypasses for CLI

BWH Unpublished Experience: 2007-2017, n=62

	Distaflo (35)	Propaten(27)
• 3-year Primary Patency:	48%	76% (0.04)
• 3-year Limb Salvage:	73%	75% (0.43)

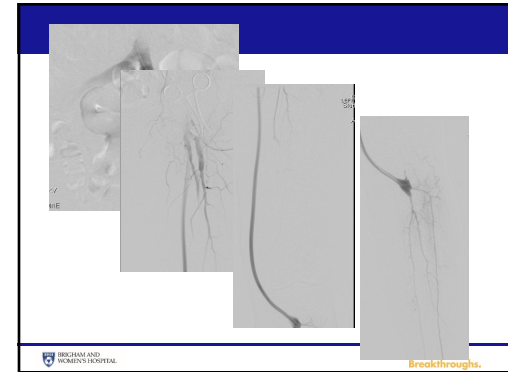
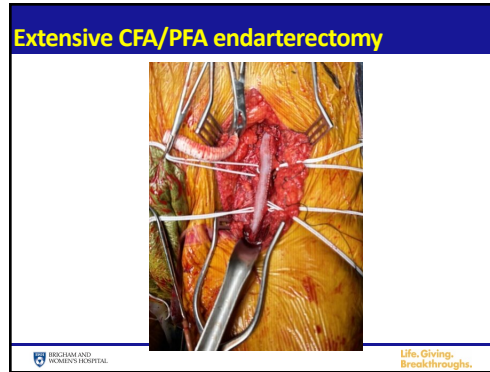
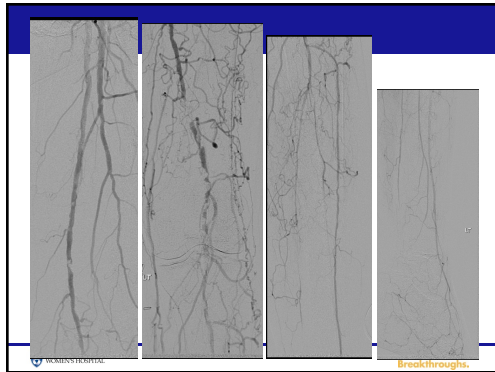
When to use

- > *Inadequate GSV*
 - > *Weigh against composite or arm vein options in a given patient*
- > *Old, frail, want to minimize dissection time and impact ("sneak in, sneak out..")*

Typical CLI patient

- 86 y.o. F with debilitating BL rest pain
- Post-op 1 week from urgent CABG
- ABIs: .31/.35
- TBIs: 0/0





Technique – infection prevention

- > Cancel case if any groin rash or infection
- > Generous antibiotics
 - > Vancomycin and 3rd gen cephalosporin

- *** Prevena
- *** Vancomycin powder
- *** Drains (15 Blake) to all incisions

Technique

- > Graft: 5 vs 6 mm ringed Propaten
- > Tunneling-
 - > Gore tunneler
 - > Typically superficial
 - > No skip incisions
 - > Beware migrating subfascial
 - > Distal anastomotic fasciotomy
- > If BK popliteal tunnel superficially and then anatomically through popliteal fossa

Technique

- > Vein patch to distal target
 - > Miller patch, Linton patch
- > Gortex suture - minimize bleeding, post op hemorrhage
 - > CV4 or CV5 for proximal CFA
 - > CV6 for popliteal
 - > CV7 for tibial
 - > ** BV175 – excellent for heavy calcium

Fibular resection for mid, distal peroneal exposure

- > Incision directly over fibula
- > Dental burr, or rib-cutter – take generous segment (? 6 cm)
- > Lift off – peroneal sitting right there

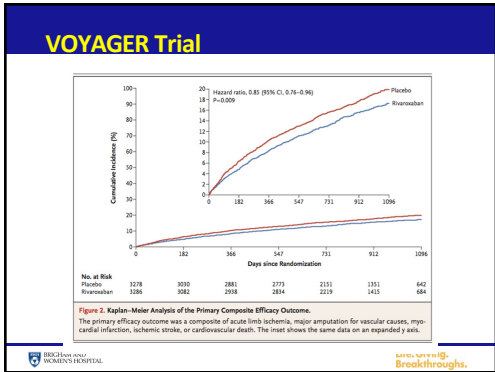
Case Presentation

- 70 yo M, DM, advanced heart failure
- Failed BL femoral – distal vein bypass
- R ilio – profunda bypass
- Recurrent severe claudication and rest pain, with minor tissue loss

• Widely patent 4 years later

Post revascularization duplex surveillance

- > Exact same surveillance as vein graft – critically important:
- > 1,3,6,9,12,18,24,36,... months



Thank you very much!

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