What should be the default SFA strategy : Updated evidence for TASC C or D femoropopliteal lesions.

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Endovascular treatment in TASC C/D FP lesions?

TASC Lesion Classification

Femoral-popliteal lesions	
Lesion type	**Description**
Type A	- Single stenosis ≤10 cm in length - Single occlusion ≤5 cm in length
Type B	- Multiple lesions (stenoses or occlusions), each ≤5 cm - Single stenosis or occlusion ≤15 cm not involving the infra geniculate popliteal artery - Single or multiple lesions in the absence of continuous tibial vessels to improve inflow for a distal bypass - Heavily calcified occlusion ≤5 cm in length - Single popliteal stenosis
Type C	- Multiple stenoses or occlusions totaling >15 cm with or without heavy calcifications - Recurrent stenoses or occlusions that need treatment after two endovascular interventions
Type D	- Chronic total occlusion of CFA or SFA (>20 cm, involving the popliteal artery) - Chronic total occlusion of popliteal artery and proximal trifurcation vessels

TASC, TransAtlantic Inter-Society Consensus

Revascularization in Patients with FP Lesions

Recommendations	Class[a]	Level[b]
When revascularization is indicated, an endovascular-first strategy is recommended in all femoropopliteal TASC A–C lesions.	I	C
Primary stent implantation should be considered in femoropopliteal TASC B lesions.	IIa	A
A primary endovascular approach may also be considered in TASC D lesions in patients with severe comorbidities and the availability of an experienced interventionist.	IIb	C

ESC Guideline, Eur Heart J 2011

Considerations
- Clinical symptom
- Calcification
- Previous treatment
- Vascular access
- Status of runoff vessels
- Cormobidities

Except very long or extended to popliteal artery, FP lesions could be considered as a proper candidate for endovascular intervention

Endovascular interventions for TASC II D femoropopliteal lesions

Donald T. Baril, MD, Rabih A. Chaer, MD, Robert Y. Rhee, MD, Michel S. Makaroun, MD, and Luke K. Marone, MD, *Pittsburgh, Penn*

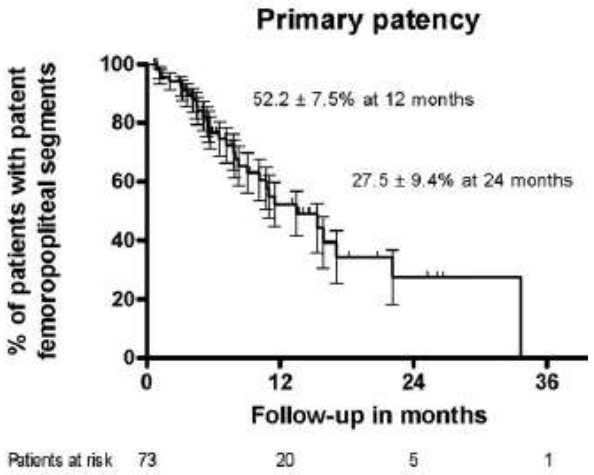


Fig 2. Survival curve analysis demonstrating primary patency following endovascular intervention.

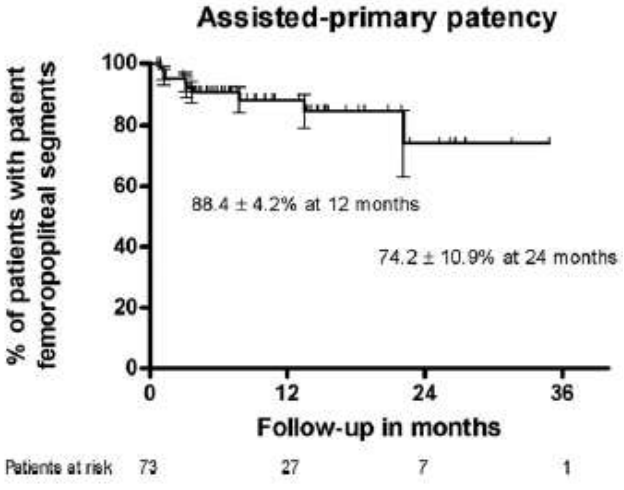


Fig 3. Survival curve analysis demonstrating assisted-primary patency following endovascular intervention.

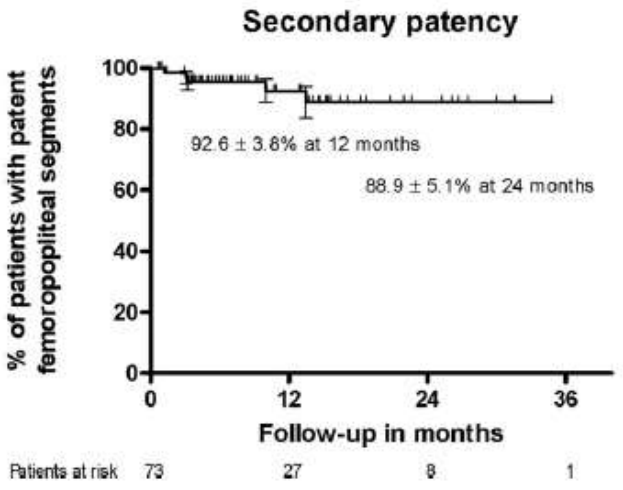


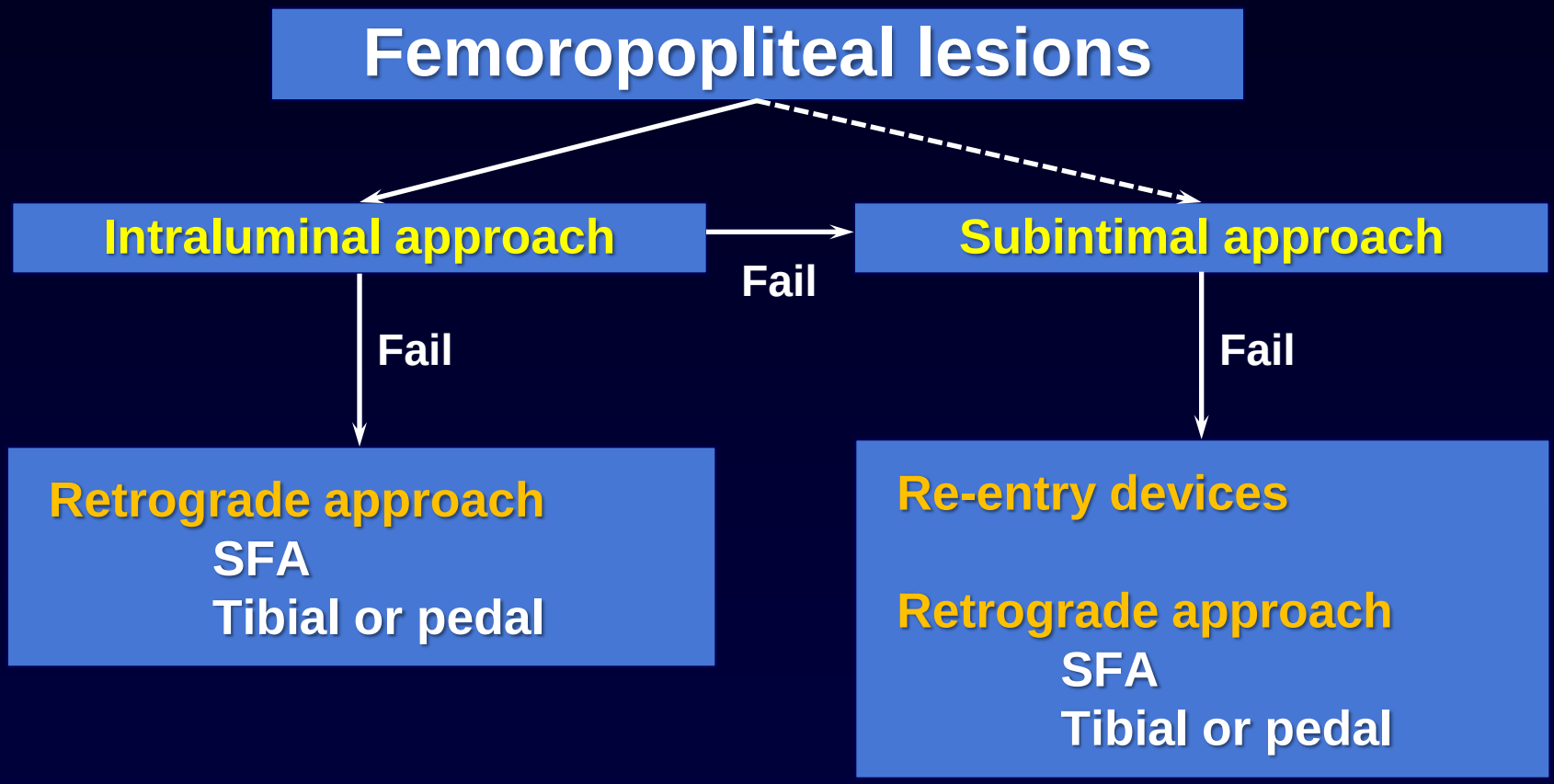
Fig 4. Survival curve analysis demonstrating secondary patency following endovascular intervention.

Technical success: 89%

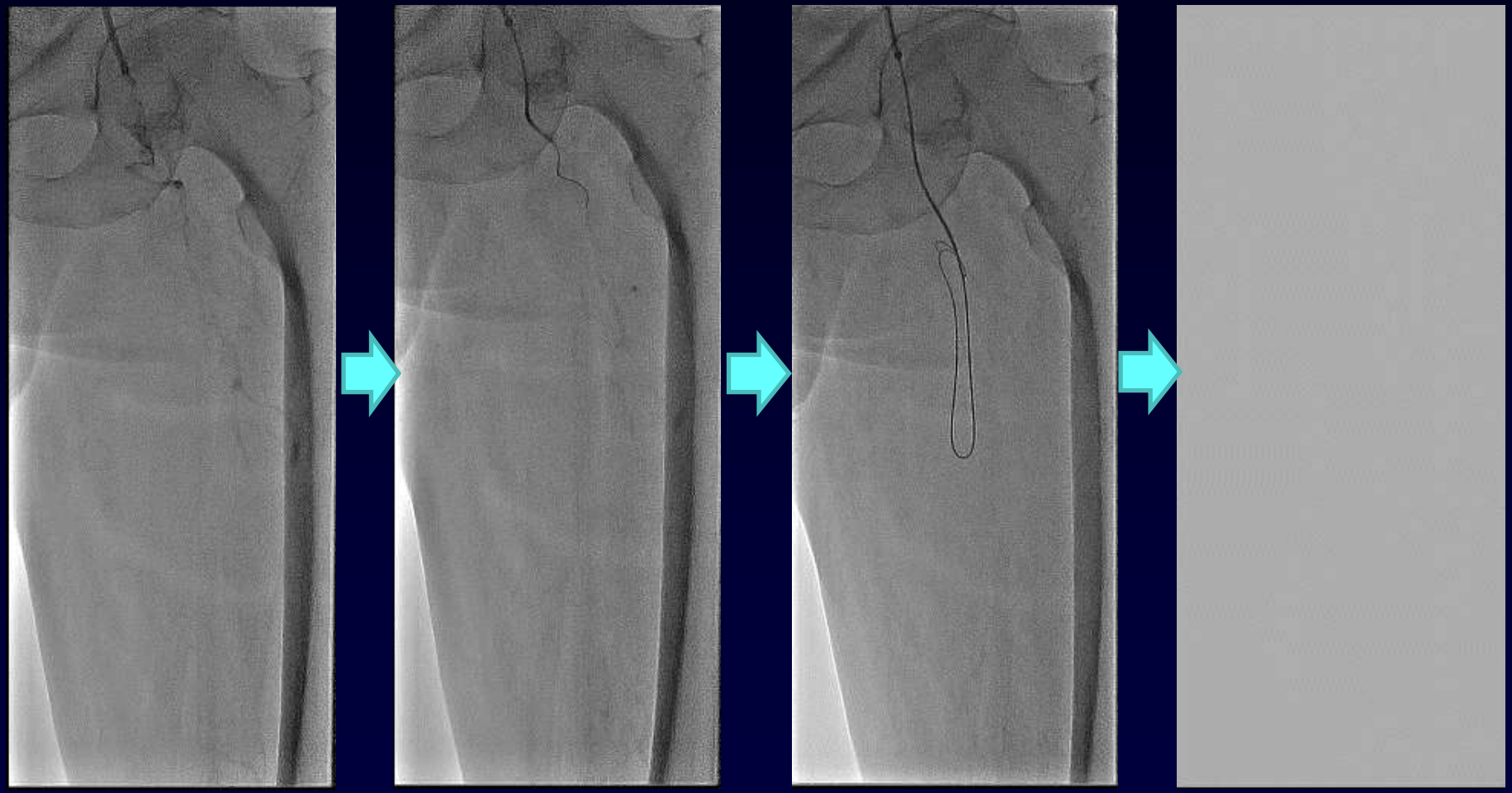
Conclusion: Endovascular intervention can be safely performed with excellent hemodynamic improvement and limb salvage rates

J Vasc Surg 2010;51:1406-12.

Approaching strategies for FP procedure



Subintimal angioplasty

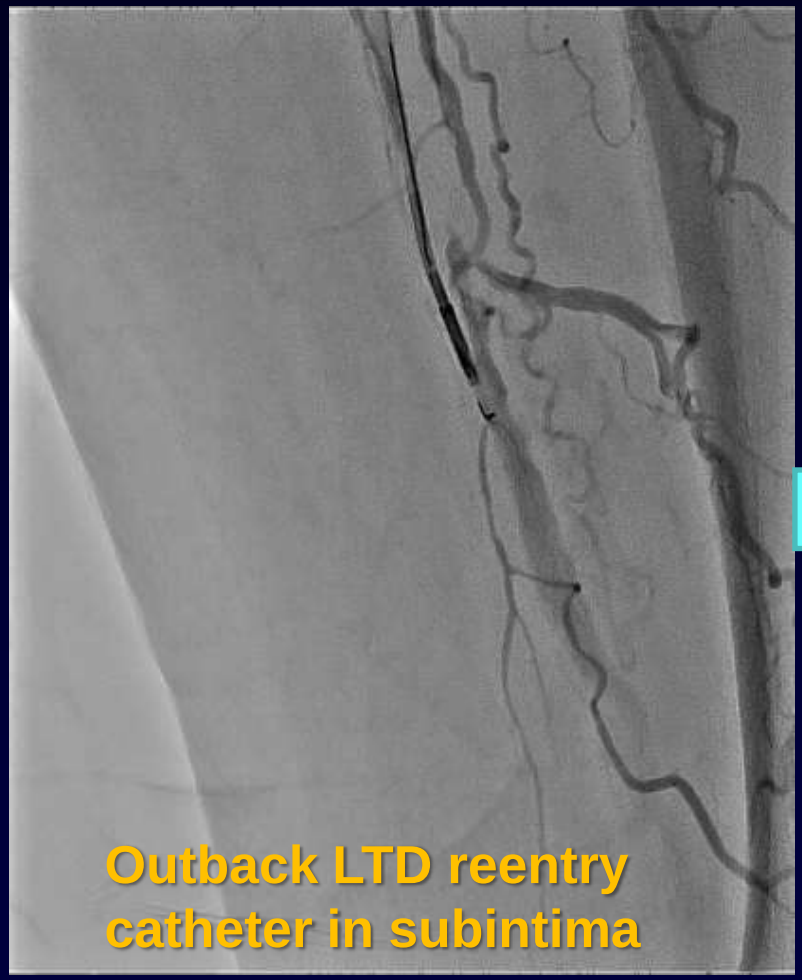


Intraluminal wiring: failed

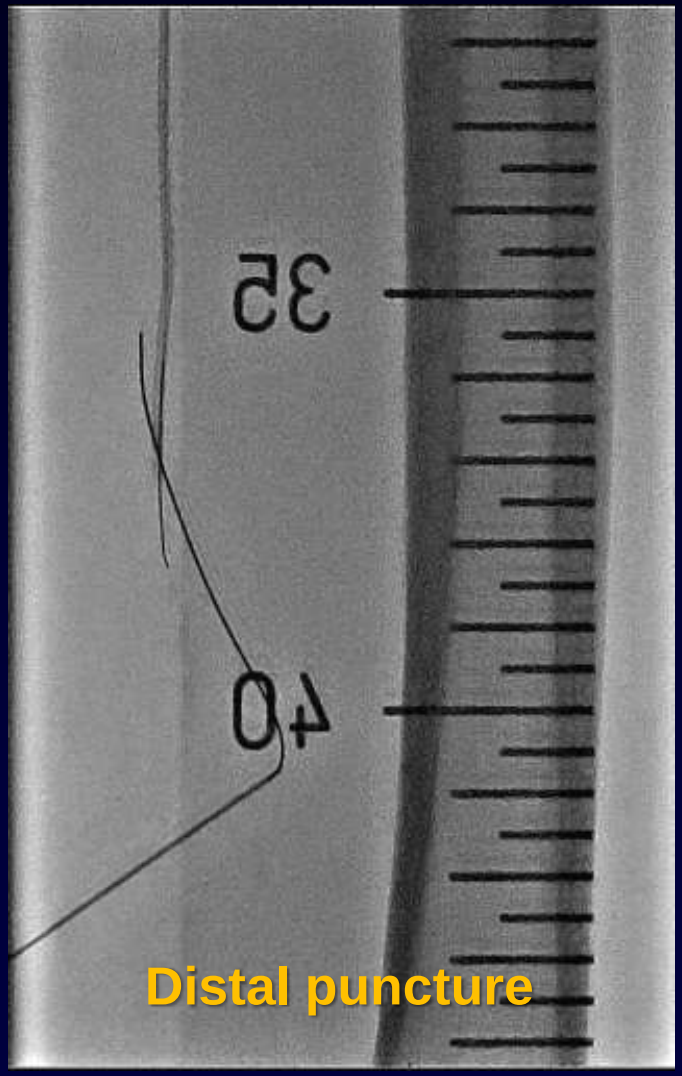
Subintimal tracking

Almost there, but failed

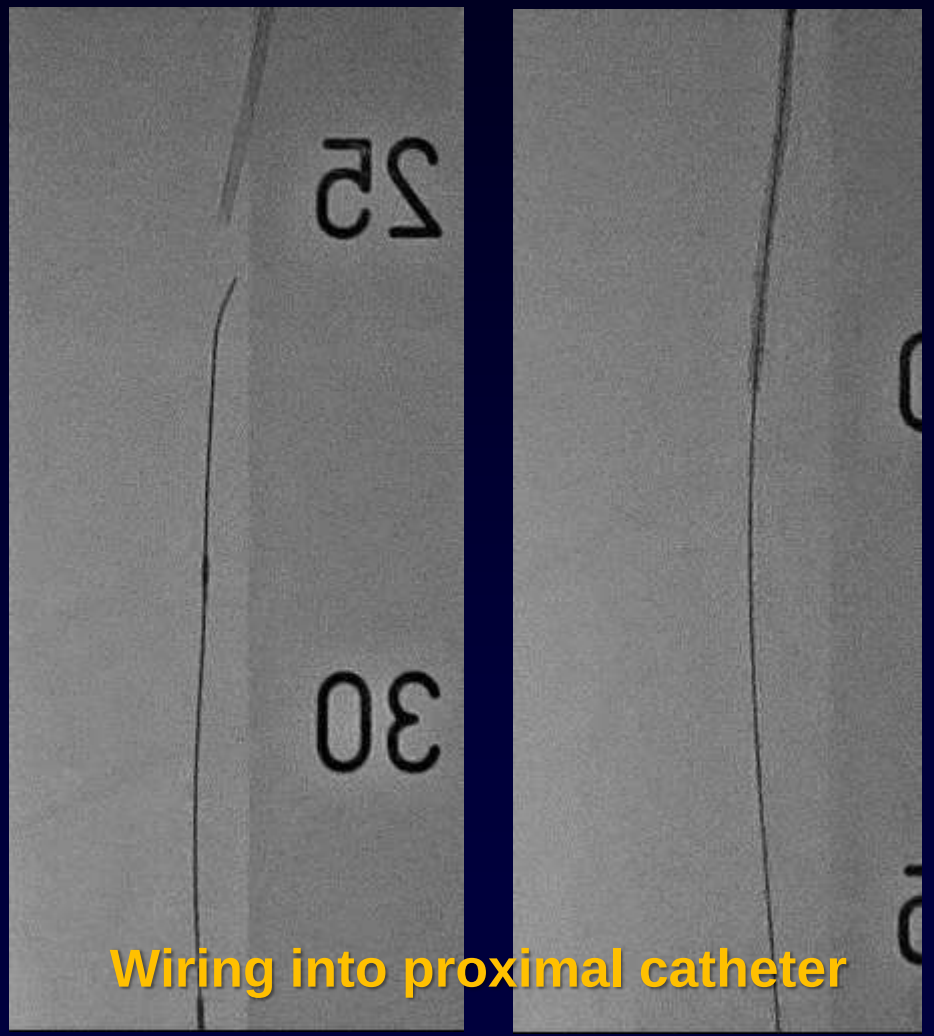
Recanalization 1) Reentry device



Recanalization 2) Retrograde approach with or without CART / reverse CART



Distal puncture



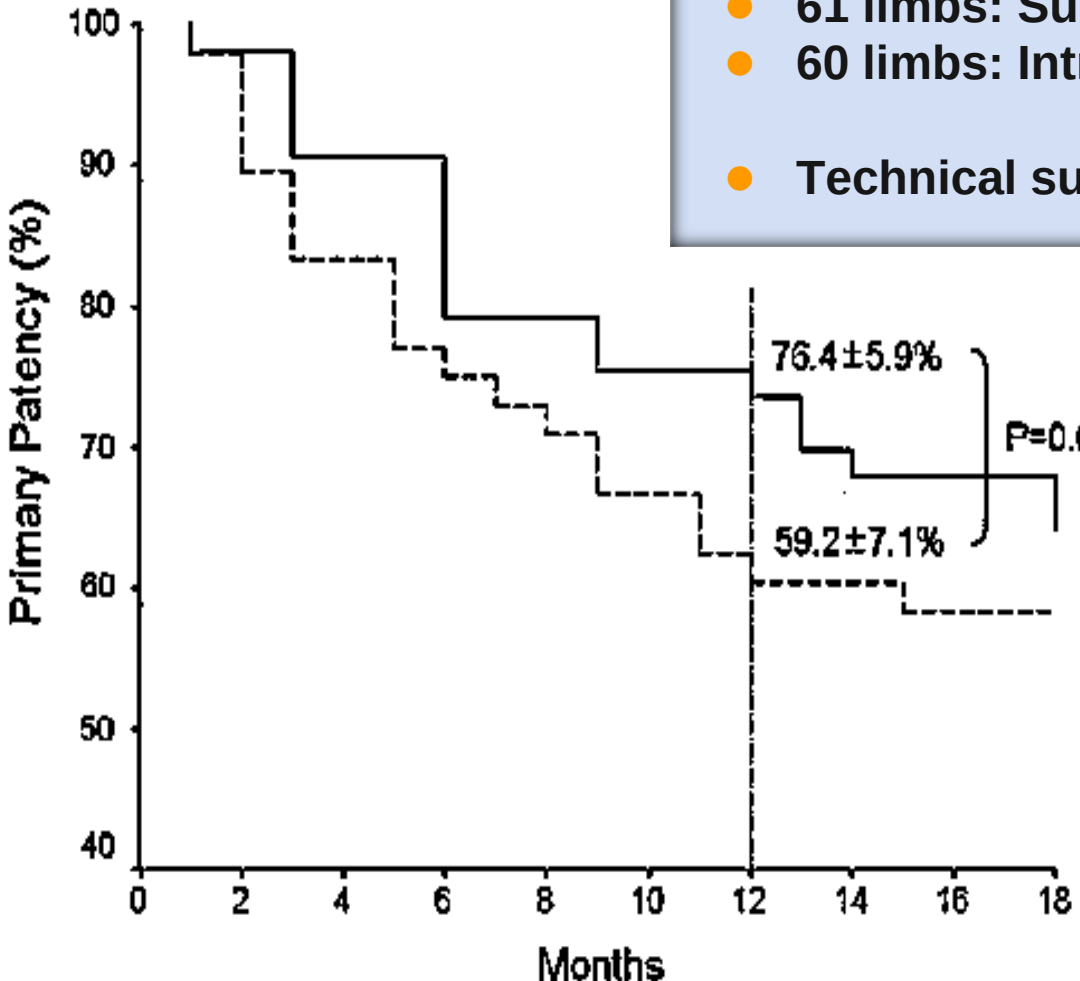
Wiring into proximal catheter

Improved Technical Success and Midterm Patency With Subintimal Angioplasty Compared to Intraluminal Angioplasty in Long Femoropopliteal Occlusions

Young-Guk Ko, MD; Jung-Sun Kim, MD; Dong-Hoon Choi, MD, PhD; Yangsoo Jang, MD, PhD; and Won-Heum Shim, MD, PhD

- **61 limbs: Subintimal angioplasty**
- **60 limbs: Intraluminal angioplasty**

- **Technical success: 95% vs. 87% (p=0.110)**

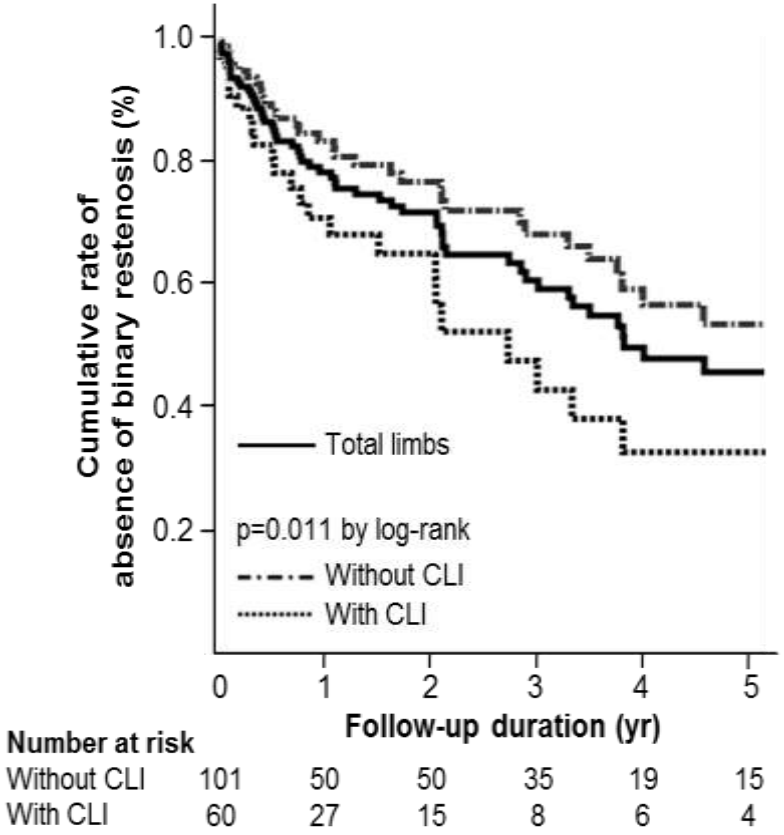


Ko YG, J Endovasc Ther 2007:14:374-381

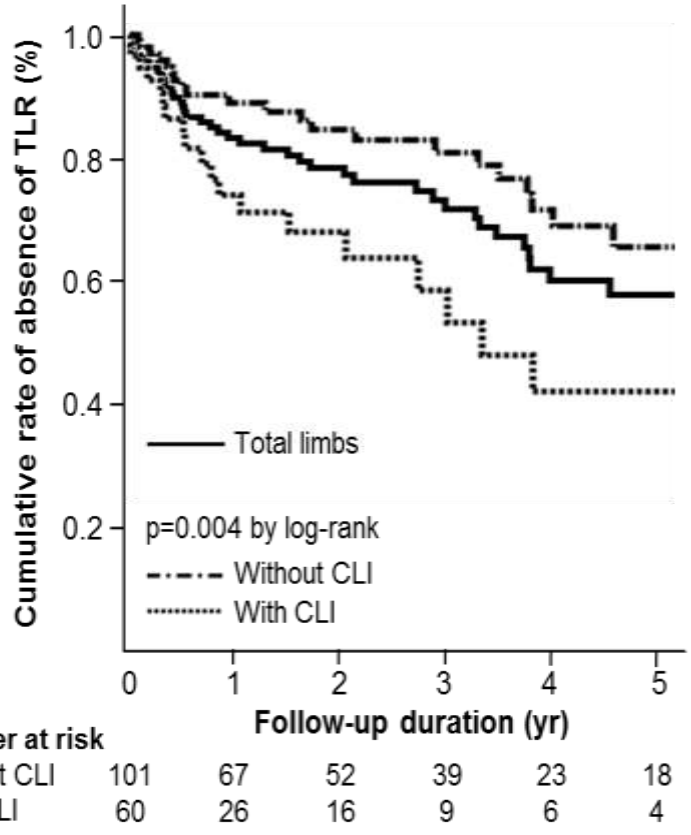
Outcomes of Subintimal angioplasty

- 2004 - 2011
- 172 SFA of 150 patients
- Mean lesion length: 22.6±8.5 cm
- TASC II B 11%, C or D 89%

- **Primary patency:**
  77% at 1 year, 59% at 3 year

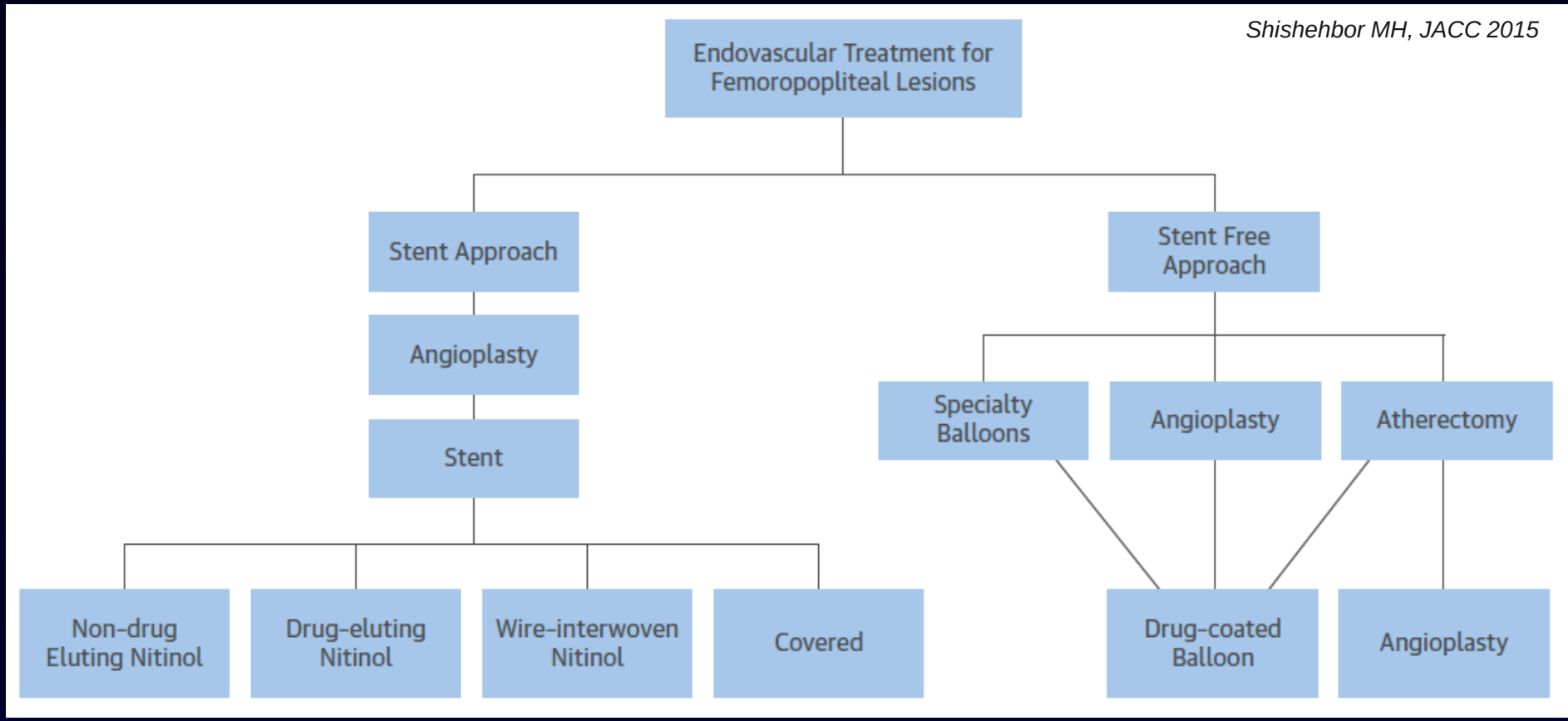


- **Absence of TLR:**
  84% at 1 year, 72% at 3 year



Hong SJ, J Endovasc Ther 2013:20:782-91

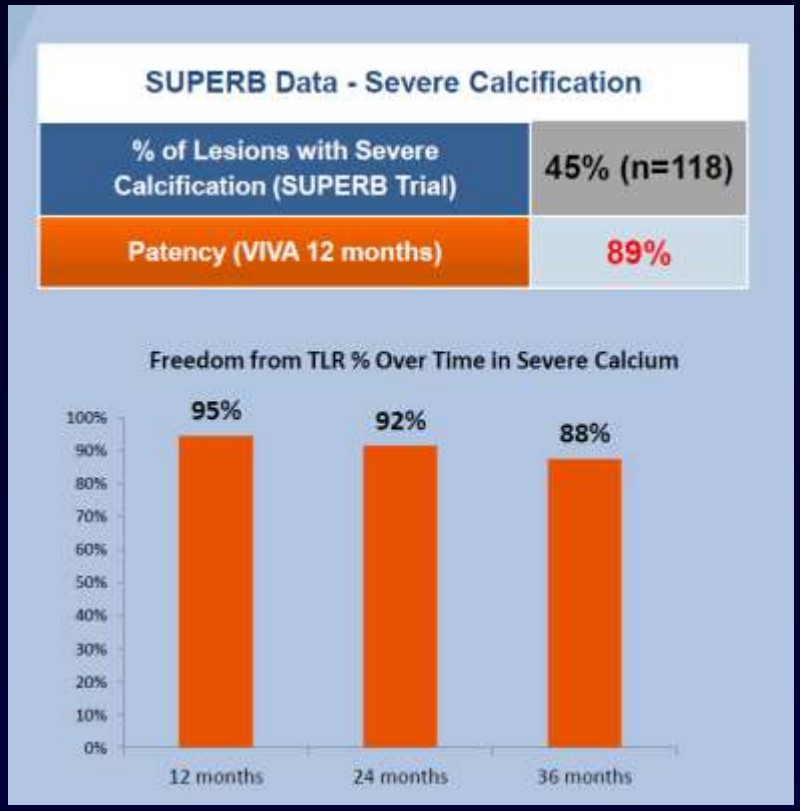
Current Options for Endovascular Treatment of Femoropopliteal Lesions



Usually, stent approach is a good option for TASC C/D lesions, but the alternatives are also available

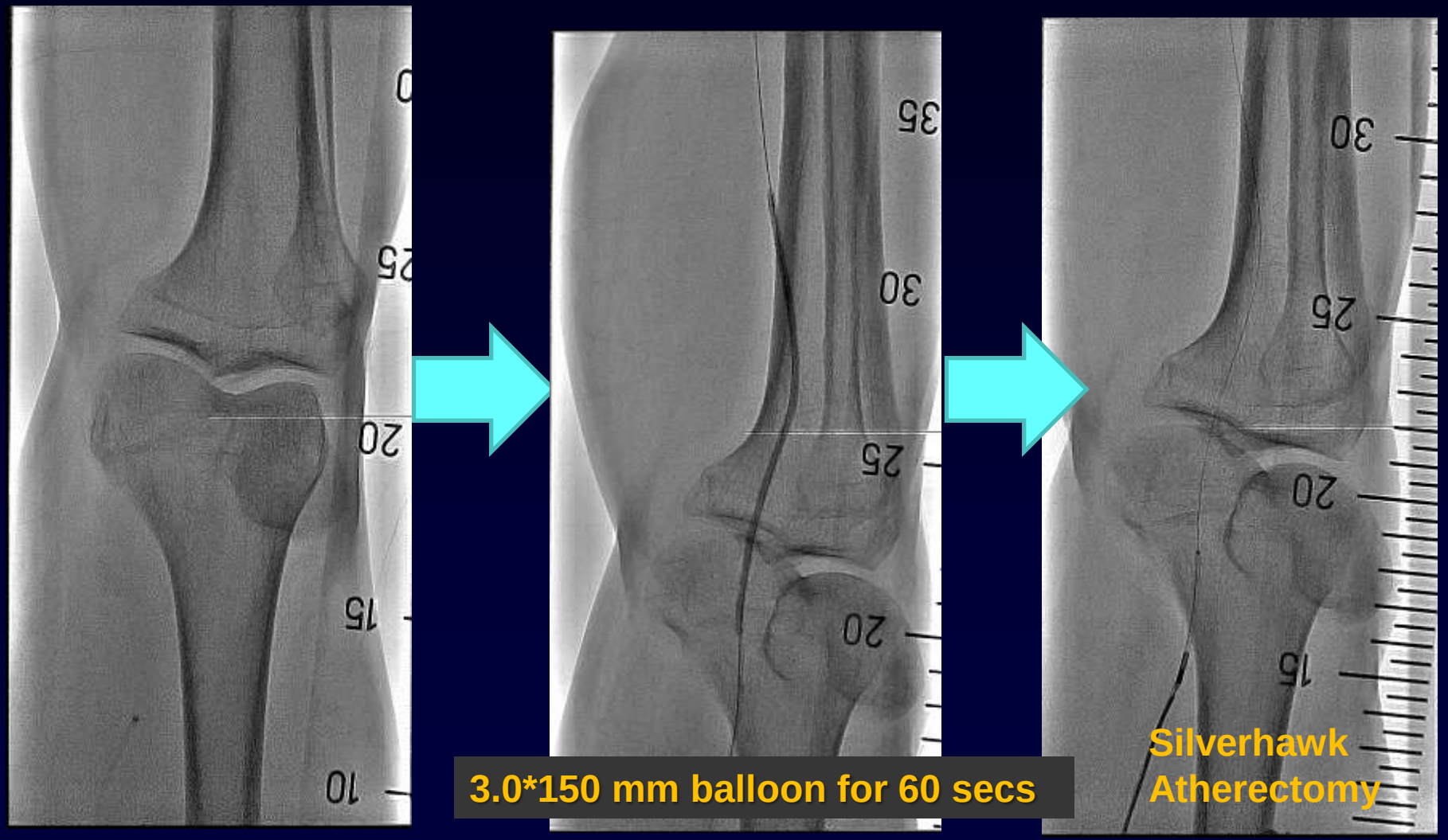
Supera self-expandable stent

SUPERB Data - Severe Calcification	
% of Lesions with Severe Calcification (SUPERB Trial)	45% (n=118)
Patency (VIVA 12 months)	89%

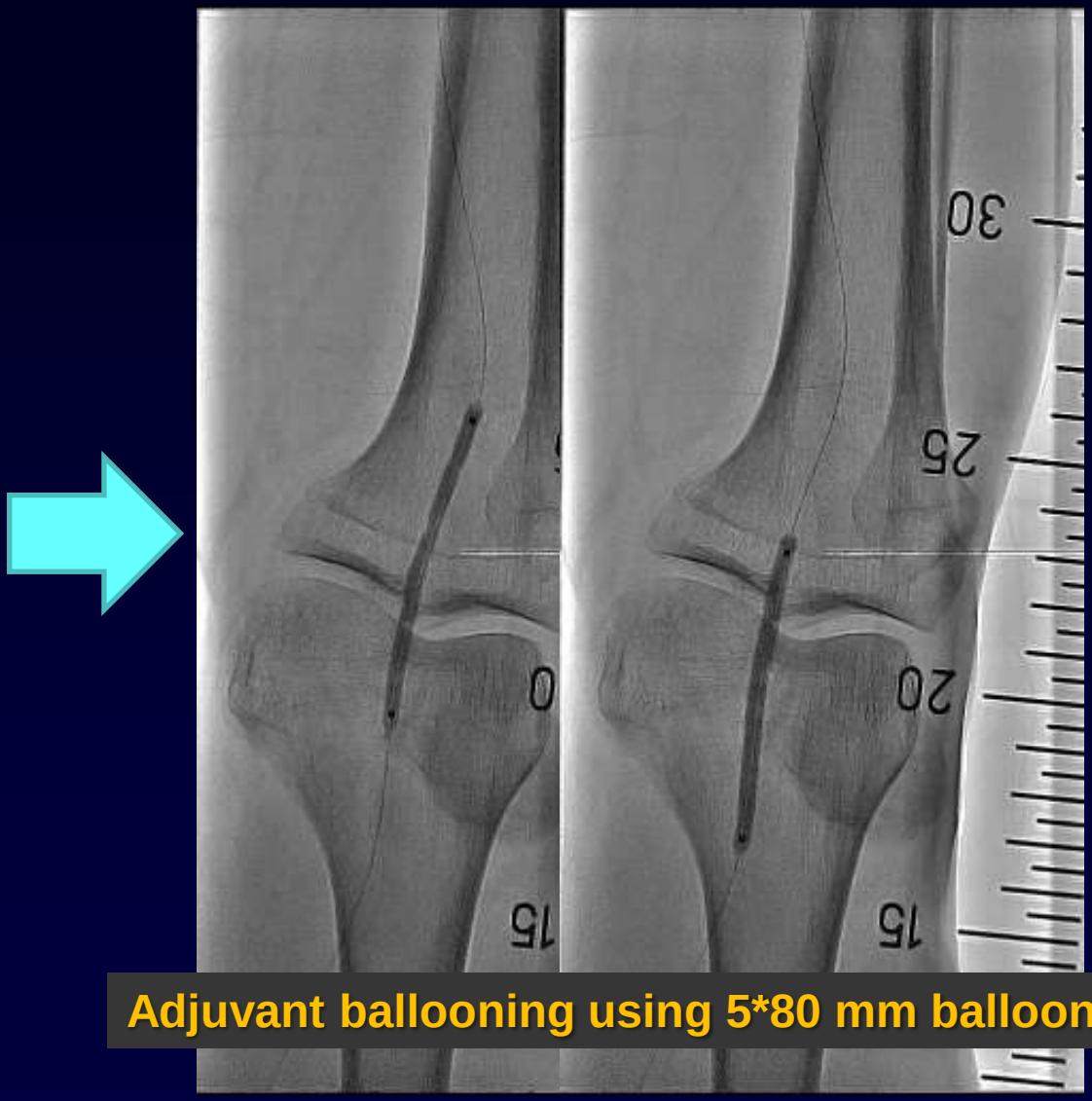


Better option for severe calcified lesion

Directional Atherectomy



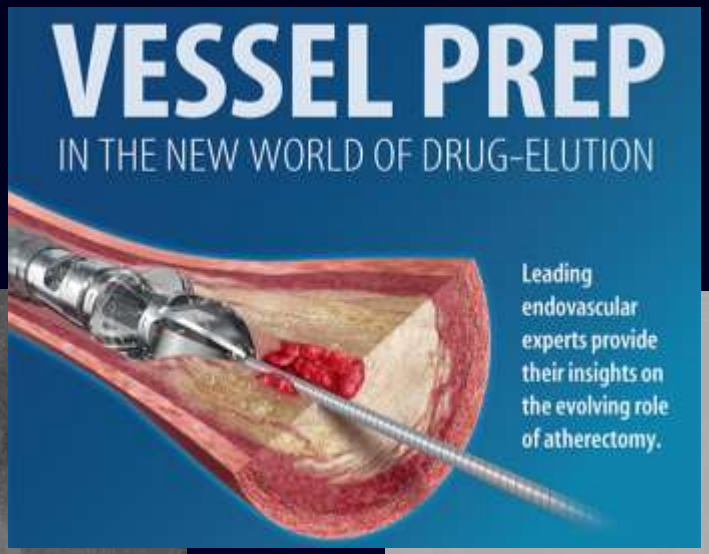
Directional Atherectomy + Adjuvant ballooning

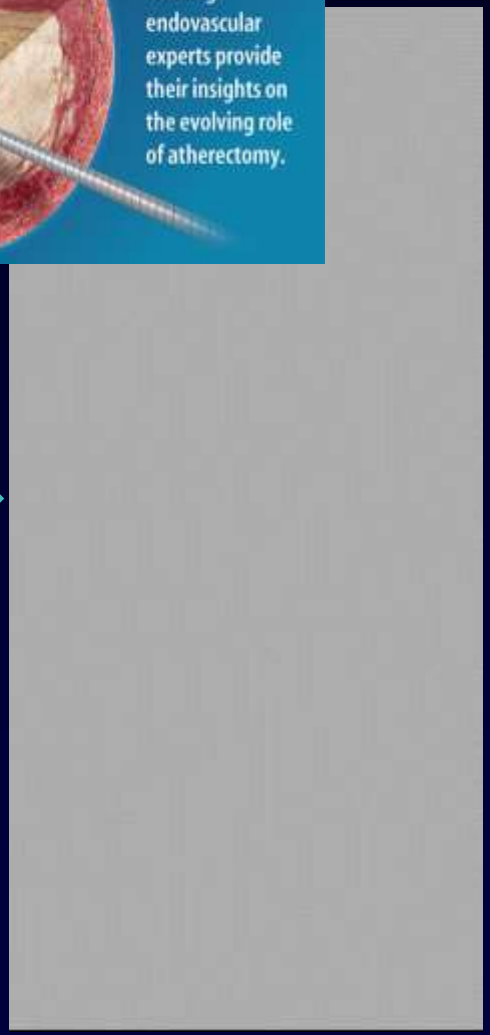


Adjuvant ballooning using 5*80 mm balloon

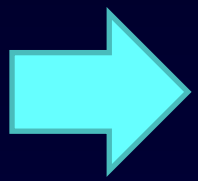
~30% R/S with mild dissection, acceptable result

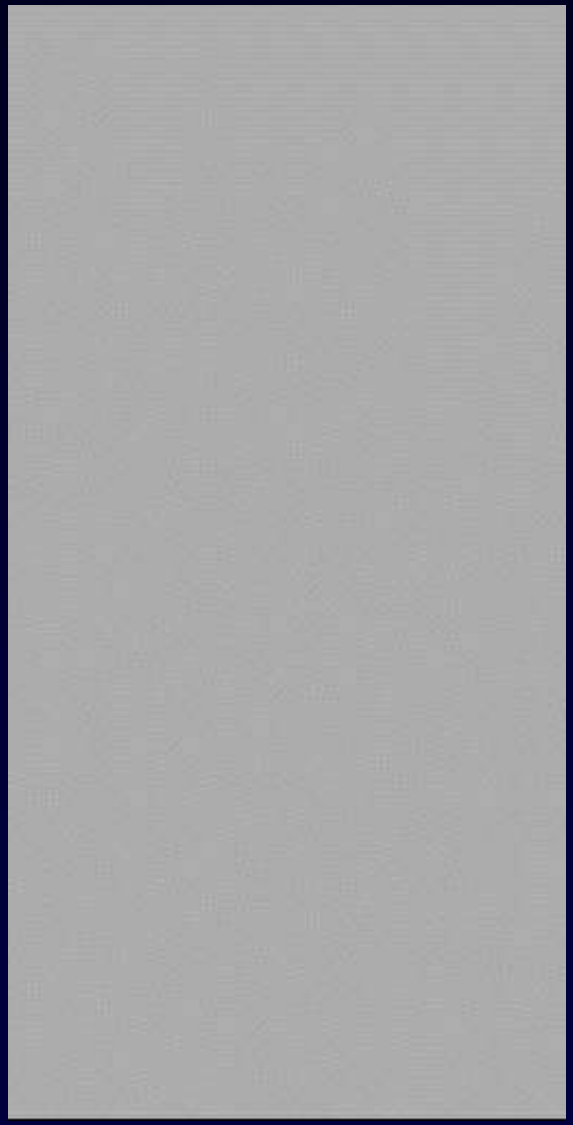
Jetstream atherectomy





Jetstream atherectomy + DCB





Summary

- **Endovascular treatment in TASC C/D FP lesions**
  usually technically feasible, but not ensure long-term patency

- **Subintimal angioplasty**
  Reentry device or bidirectional wiring will improve success rate

- **Stent vs "leave nothing behind" approach**
  Debulking devices and DCB may reduce the need of stents even in TASC C/D lesions.