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- Chirurgie cardio-vasculaire et thoracique
- Médecine vasculaire

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Cas clinique

Artères membres inférieurs

Mélanie CARRET

CHU Brest



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- Homme, 85 ans
 - AOMI Rutherford 3
 - Actif (vélo, natation)
- > tabagisme sevré
- > traitement médicamenteux optimal
- > rééducation à la marche ++**

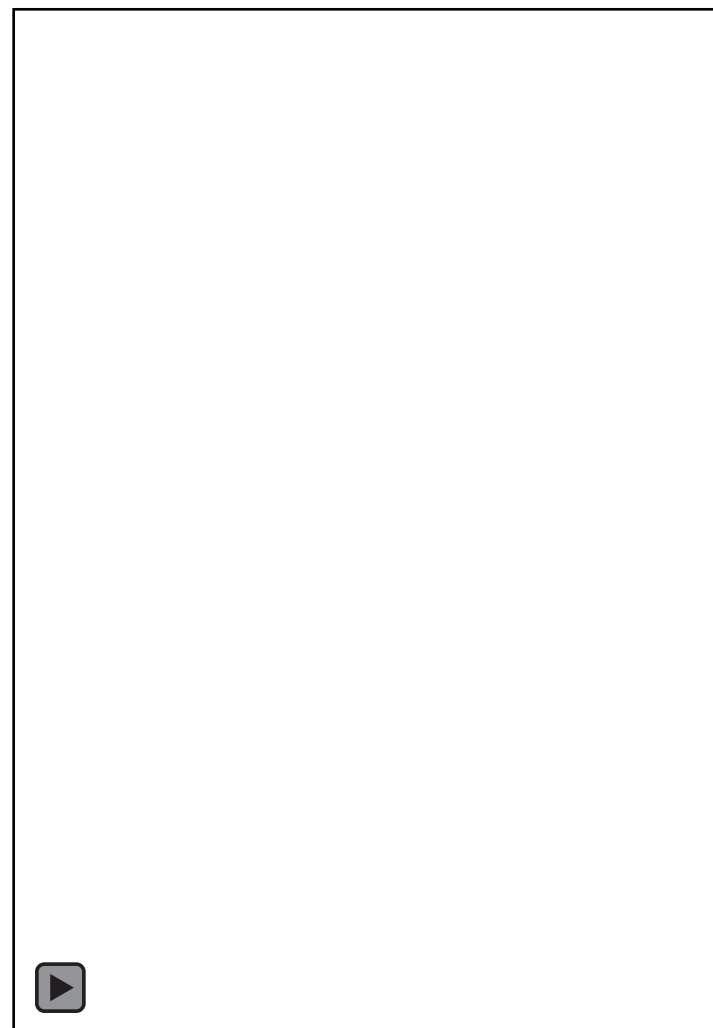
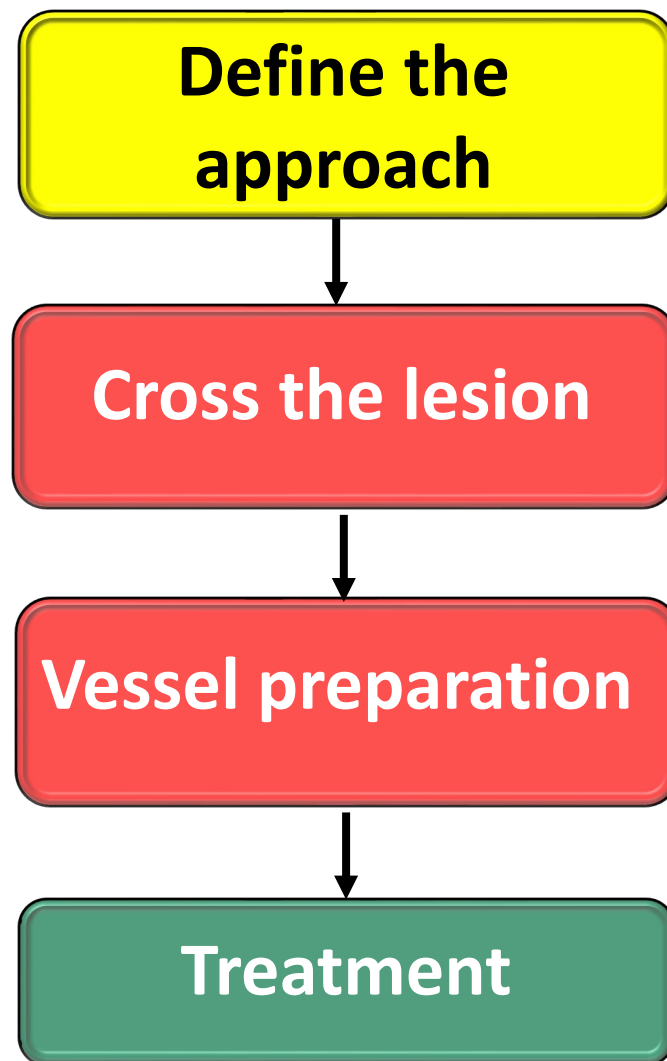


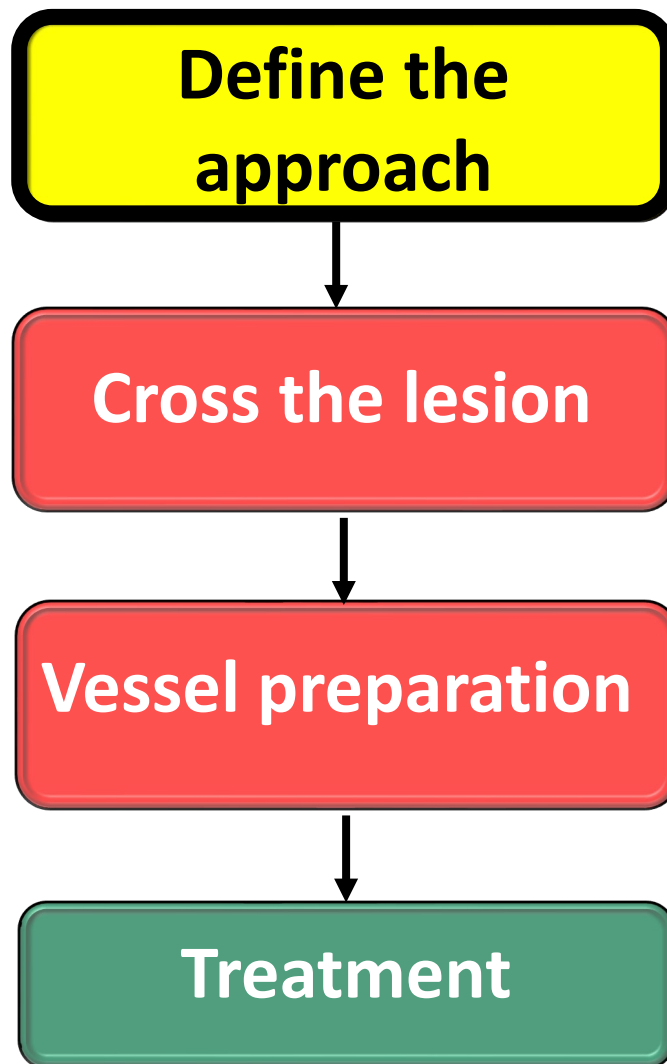
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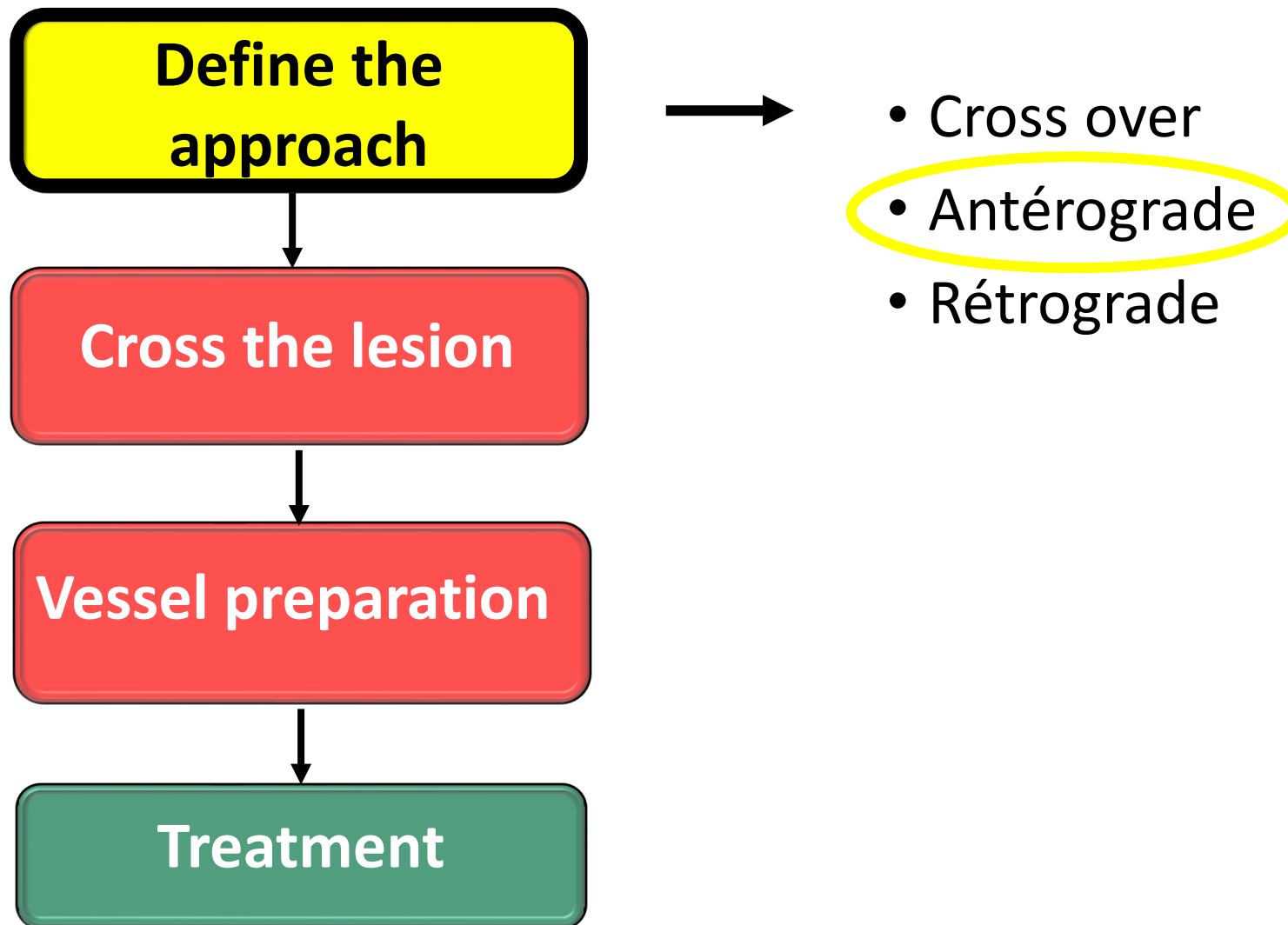
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- Cross over
- Antérograde
- Rétrograde



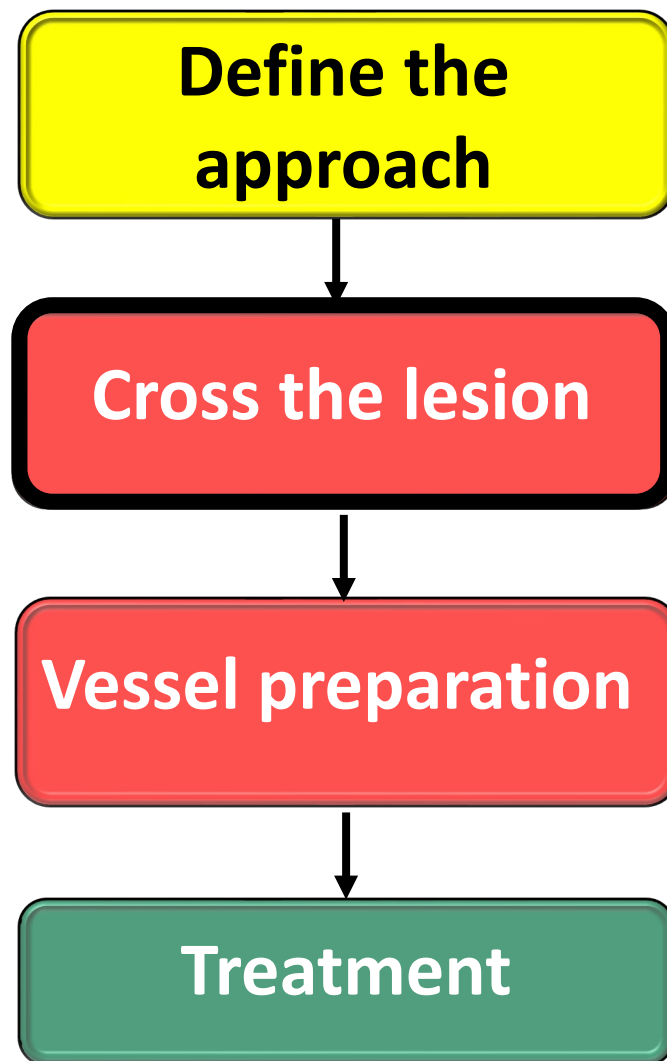


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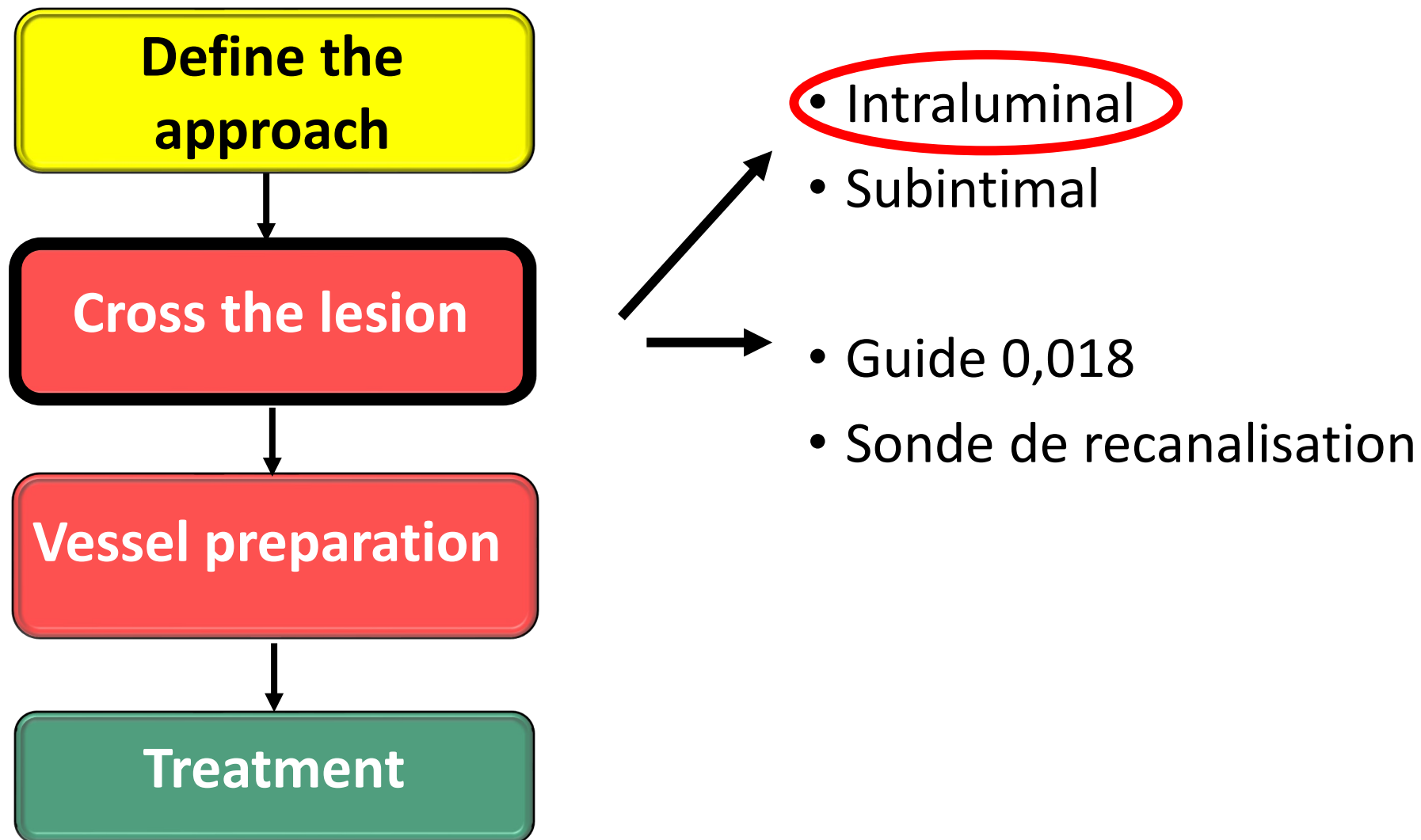
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- Intraluminal
- Subintimal





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Subintimal Versus Intraluminal Approach for Femoropopliteal Chronic Total Occlusions Treated With Intravascular Ultrasound Guidance

Yusuke Tomoi , MD; Mitsuyoshi Takahara, MD, PhD; Shoichi Kuramitsu , MD, PhD;
Yoshimitsu Soga , MD, PhD; Osamu Iida , MD; Masahiko Fujihara , MD; Daizo Kawasaki, MD, PhD;
Kenji Ando , MD; on behalf of the IVORY Study Investigators*



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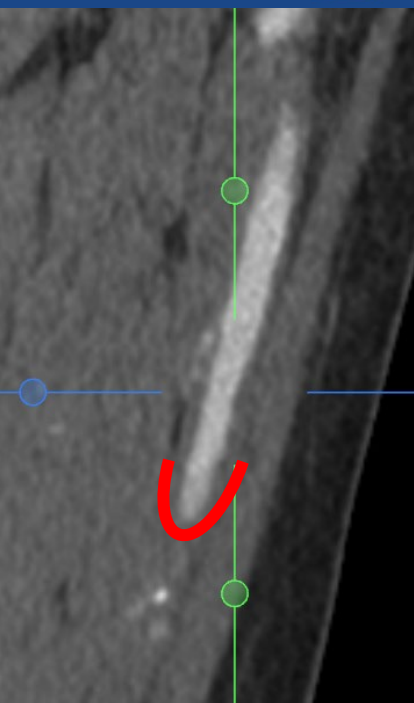
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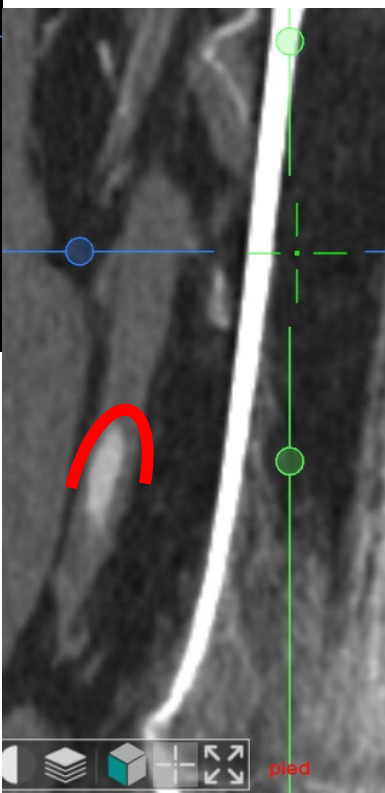


Variable	Overall population			Matched population		
	SWP (n=186)	IWP (n=314)	SD (%)	SWP (n=170)	IWP (n=293)	SD (%)
Peripheral Arterial Calcium Scoring System classification						
Grade 0	39.2%	33.4%	12.1	38.8%	37.0%	3.7
Grade 1	20.4%	18.2%	5.8	19.4%	20.0%	1.4
Grade 2	14.5%	14.3%	0.5	15.9%	14.1%	5.1
Grade 3	8.6%	10.8%	7.5	7.6%	8.9%	4.7
Grade 4	17.2%	23.2%	15.1	18.2%	20.0%	4.5

	Subintimal wire passage	Intraluminal wire passage	P value
1-year clinical outcomes			
Restenosis	48.2% (33.4–63.1%)	40.8% (18.3–63.4%)	0.40
All-cause mortality	5.5% (1.9–8.9%)	8.6% (3.7–13.4%)	0.70
Major amputation	1.7% (0.0–4.1%)	1.3% (0.0–3.0%)	0.98
Major adverse limb events	18.8% (11.9–25.2%)	17.6% (10.7–23.9%)	0.55



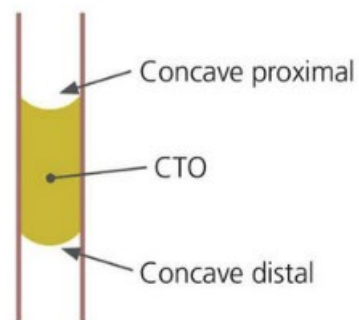
Proximal



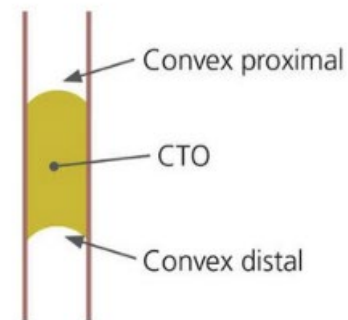
Distal

CTO cap analysis

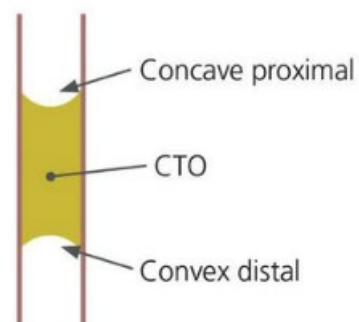
Antegrade approach



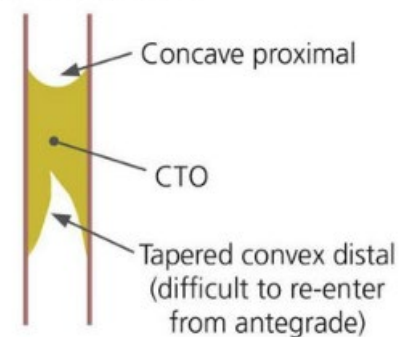
Retrograde approach



Combined antegrade and retrograde approach



Combined antegrade and retrograde approach



> *J Endovasc Ther.* 2018 Jun;25(3):284-291. doi: 10.1177/1526602818759333. Epub 2018 Feb 27.

Chronic Total Occlusion Crossing Approach Based on Plaque Cap Morphology: The CTOP Classification

Fadi Saab¹, Michael R Jaff², Larry J Diaz-Sandoval¹, Gwennan D Engen¹, Theresa N McGoff¹, George Adams³, Ashraf Al-Dadah⁴, Philip P Goodney⁵, Farhan Khawaja⁶, Jihad A Mustapha¹

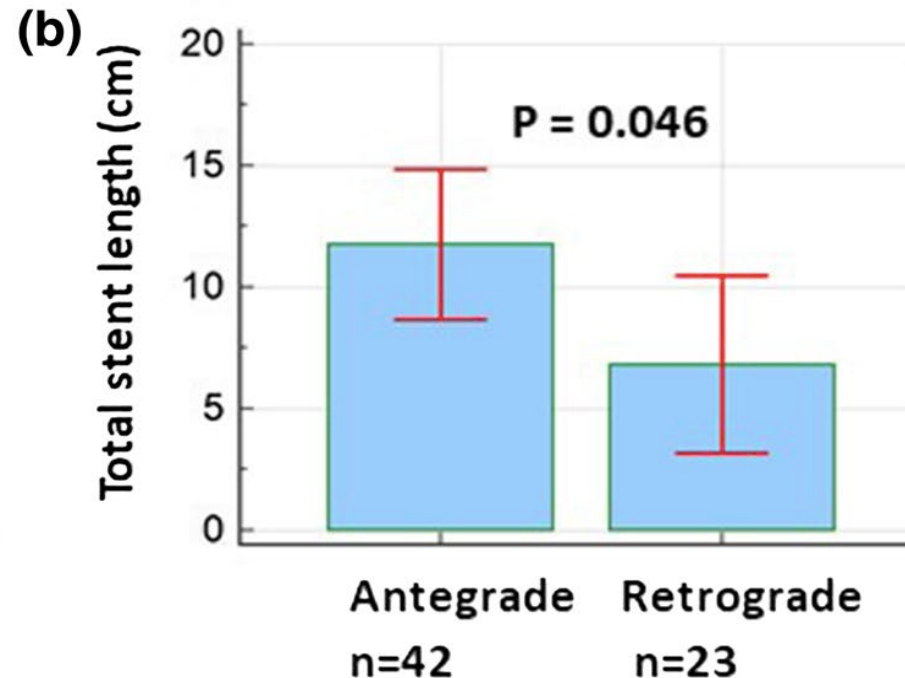
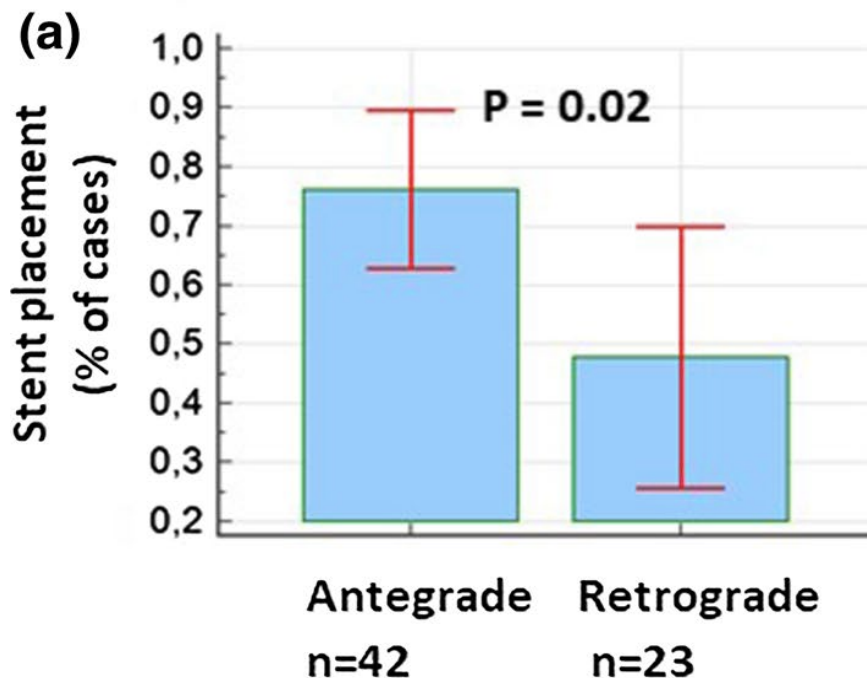
Affiliations + expand

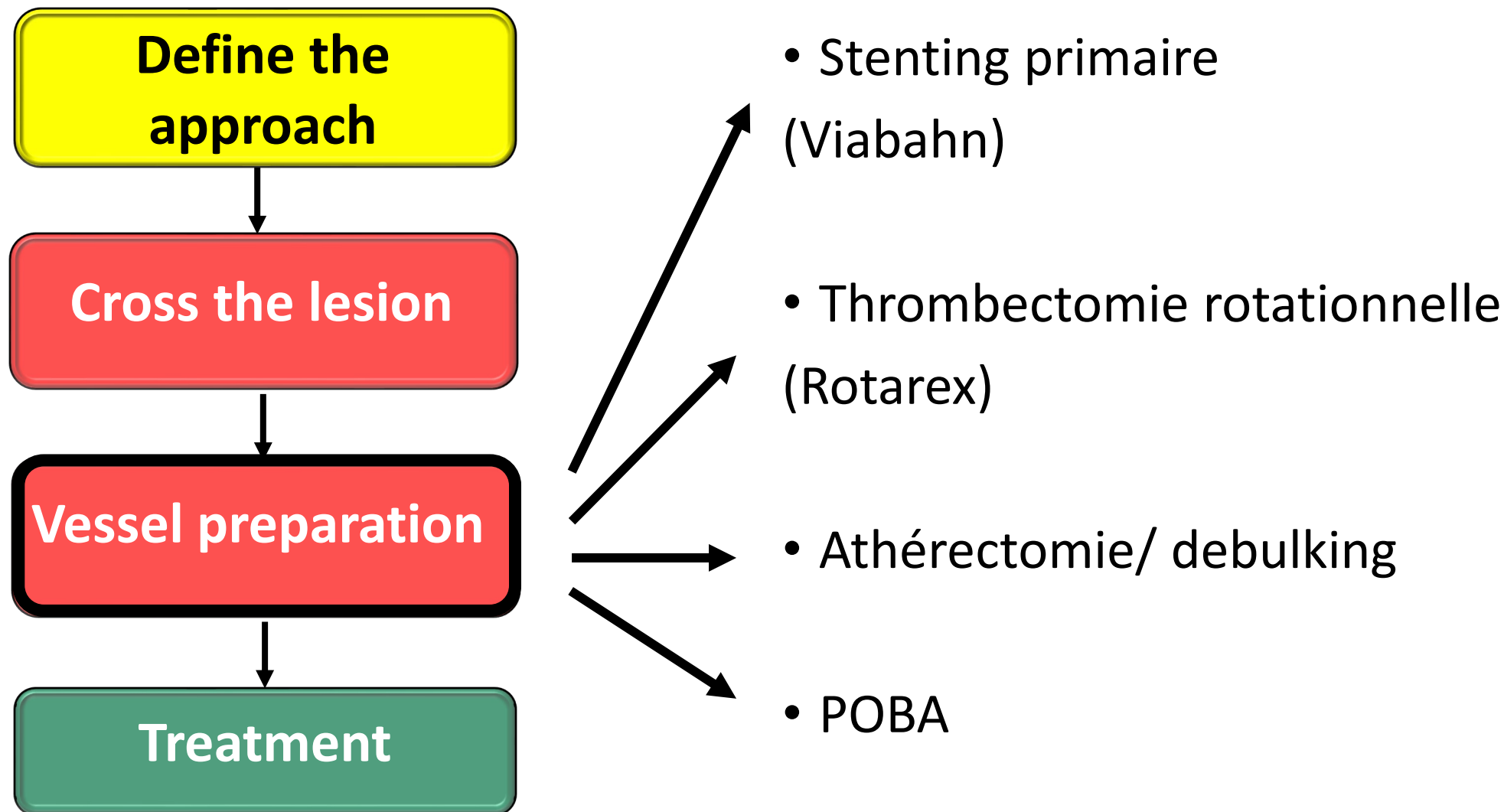
PMID: 29484959 DOI: [10.1177/1526602818759333](https://doi.org/10.1177/1526602818759333)



Comparison of ante-versus retrograde access for the endovascular treatment of long and calcified, de novo femoropopliteal occlusive lesions

Sorin Giusca¹ · Micheal Lichtenberg² · Saskia Hagstotz¹ · Christoph Eisenbach¹ · Hugo A. Katus³ · Christian Erbel³ · Grigorios Korosoglou¹ 







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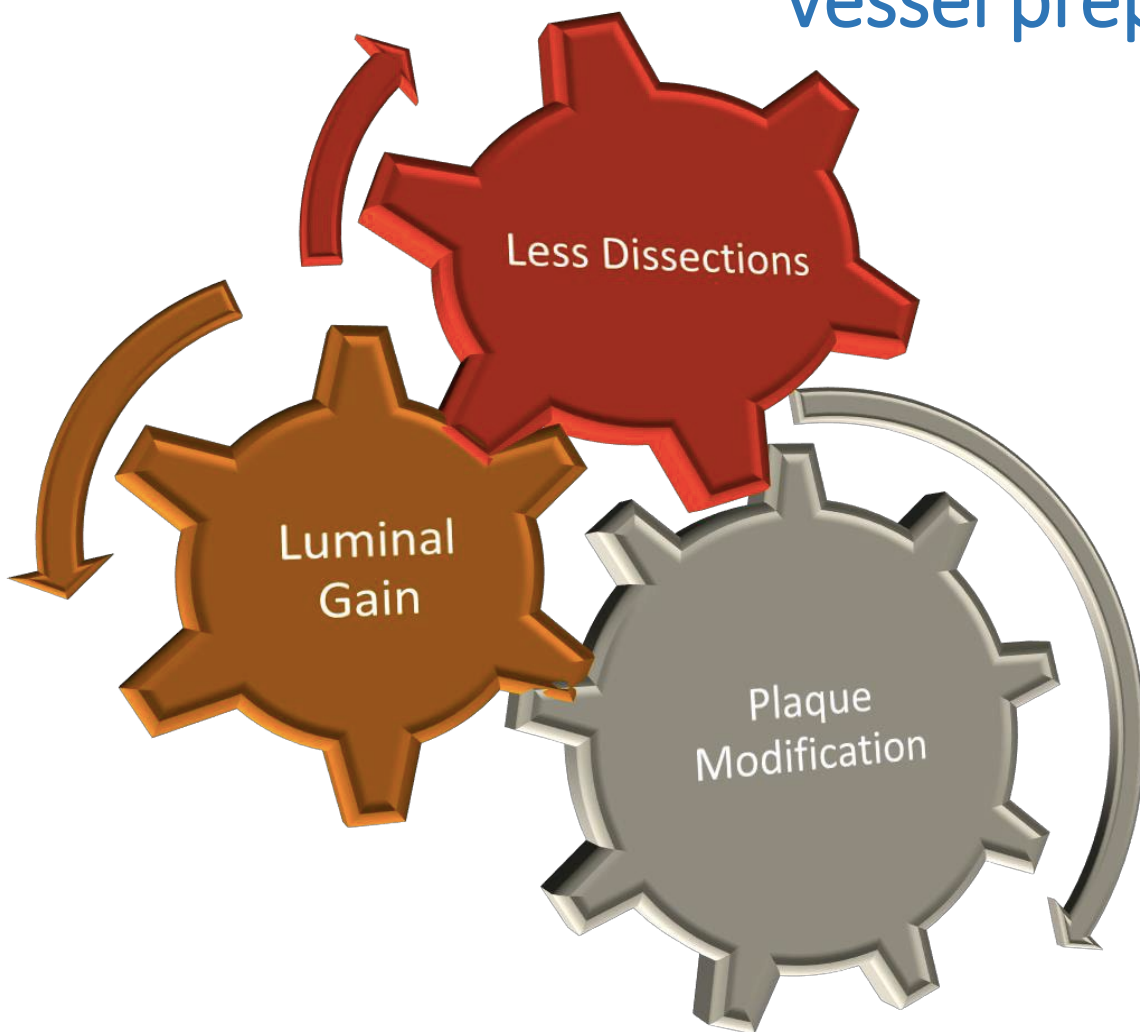
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Vessel preparation: Why Debulking ?



Increased Drug Uptake

Less or Better Scaffolding

Improved patency



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SYSTEMATIC REVIEW

Systematic Review and Network Meta-analysis of Vessel Preparation Techniques With Plain Balloon Angioplasty, Atherectomy, or Intravascular Lithotripsy Before Application of a Drug Coated Balloon to Treat Atherosclerotic Femoropopliteal Disease

Janice Yiu ^{a,†}, Ravali Tippireddy ^{a,†}, Lukla Biasi ^a, Sanjay Patel ^a, Prakash Saha ^a, Athanasios Saratzis ^b, Konstantinos Katsanos ^c, Hany Zayed ^{a,*}

^a Department of Vascular Surgery, Guy's and St. Thomas' Hospital NHS Foundation Trust and King's College London, London, United Kingdom

^b NIHR Leicester Biomedical Research Centre, Leicester, United Kingdom

^c Patras University Hospital, Rion, Greece

Objective: To compare one year outcomes after atherectomy, intravascular lithotripsy vs. plain balloon angioplasty before application of drug coated balloons for treating femoropopliteal atherosclerotic disease.



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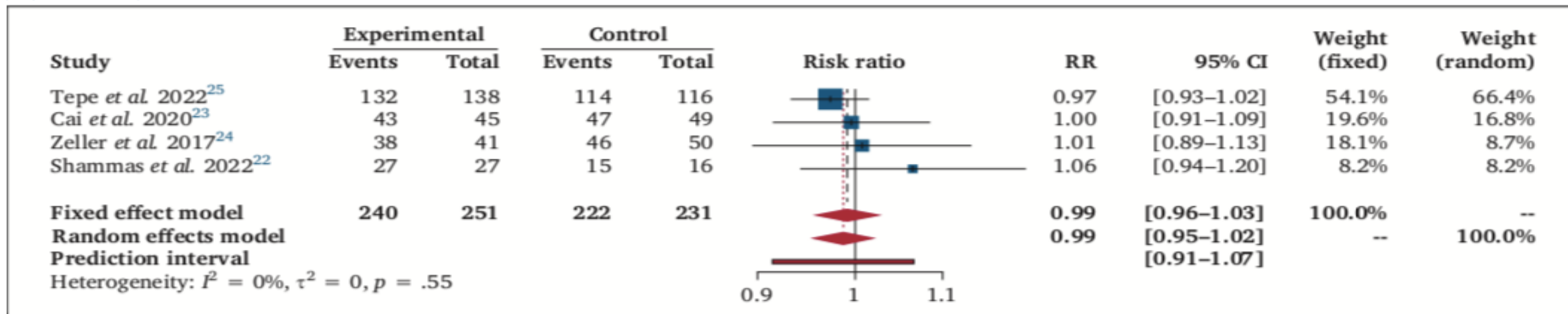
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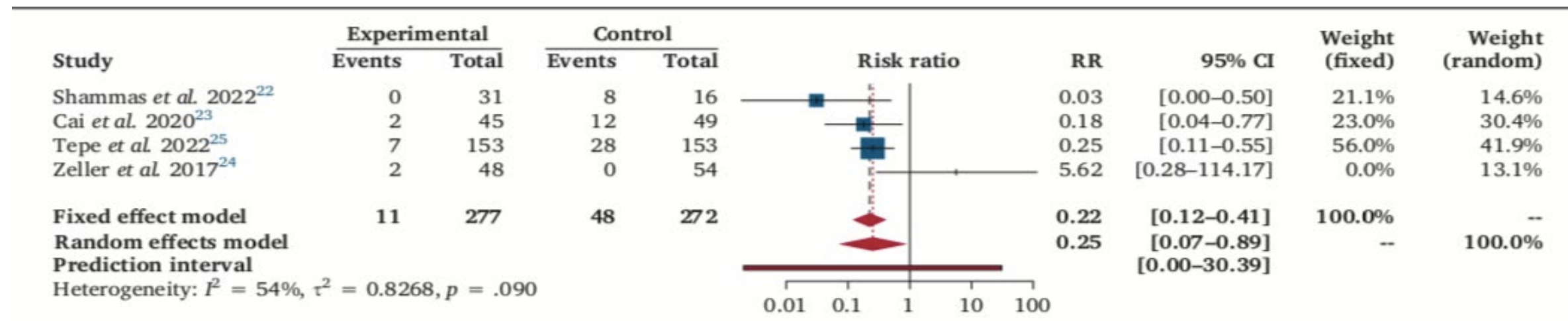
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Freedom from TLR



Bailout stenting



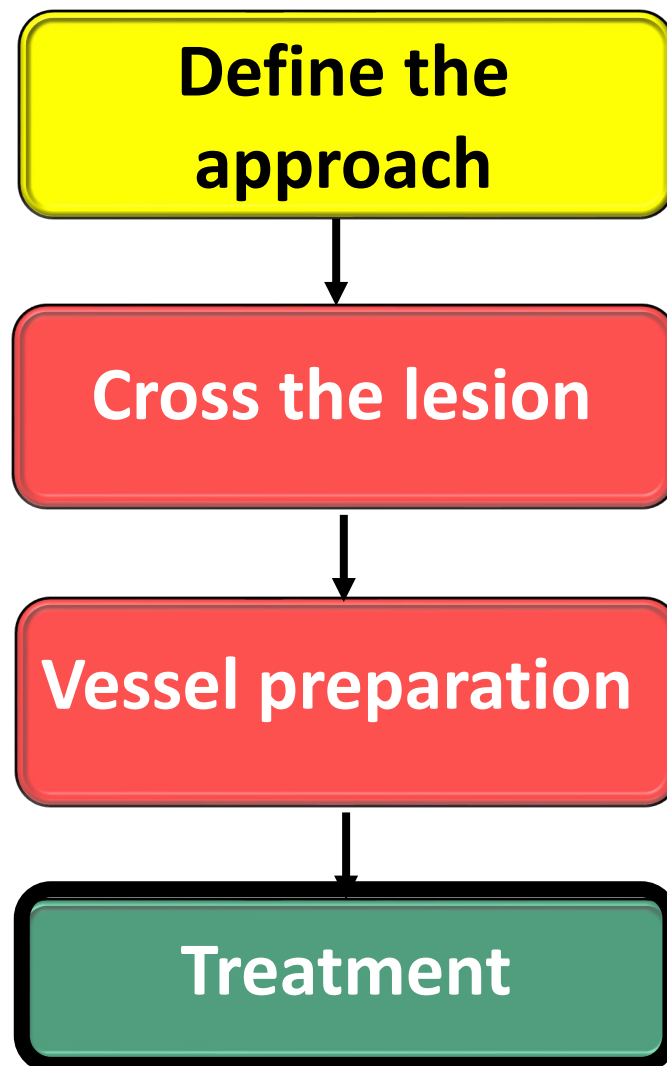


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Lesion preparation

Definitive treatment

	POBA	Atherectomy	Lithotripsy	Specialty balloons	Thrombectomy	DCB	BMS	Interwoven stents	DES	Covered stents
Mobile Segments: distal SFA & popliteal artery PACSS I-II (non-CTO)	1 (G)	2 (G)	-1 (M)	1 (G)	-1 (G)	2 (G)	-1 (G)	2 (G)	-1 (M)	-1 (G)
Mobile Segments: distal SFA & popliteal artery PACSS III-IV (non-CTO)	-1 (G)	1 (G)	2 (G)	1 (G)	-1 (G)	1 (G)	-1 (G)	2 (G)	-1 (P)	-1 (G)
Short <15 TASC A&B ; PACSS I-II; intraluminal & fibrotic lesions	1 (G)	2 (G)	-1 (G)	-1 (G)	-1 (G)	2 (G)	1 (G)	1 (G)	1 (G)	-1 (G)
Short <15 TASC A&B ; PACSS I-II; fresh & organized thrombus	-2 (G)	-1 (G)	-2 (G)	-1 (G)	2 (G)	2 (G)	1 (G)	-1 (M)	1 (G)	1 (G)
Short <15 TASC A&B; PACSS I-II; subintimal passage	1 (G)	-2 (G)	-1 (G)	1 (M)	-2 (G)	2 (G)	1 (G)	2 (G)	2 (G)	-1 (M)
Short <15 TASC A&B ; PACSS III-IV; Diffuse calcification	-1 (M)	2 (G)	2 (G)	1 (G)	-2 (G)	1 (G)	1 (G)	2 (G)	1 (G)	-1 (G)
Short <15 TASC A&B ; PACSS III-IV; Eccentric calcification	-1 (G)	2 (G)	1 (G)	1 (G)	-2 (G)	1 (G)	1 (M)	2 (G)	1 (G)	-1 (G)
Short <15 TASC A&B ; PACSS III-IV subintimal passage	1 (G)	-1 (G)	1 (G)	1 (G)	-2 (G)	1 (G)	1 (G)	2 (G)	1 (G)	-1 (P)
Long >15 cm TASC C&D ; PACSS I-II; intraluminal passage	1 (G)	1 (G)	-1 (M)	1 (M)	-1 (M)	2 (G)	1 (G)	1 (G)	2 (G)	1 (M)
Long >15 cm TASC C&D; PACSS I-II; subintimal passage	1 (G)	-2 (G)	-1 (G)	-1 (P)	-2 (G)	2 (G)	1 (G)	2 (G)	2 (G)	1 (G)
Long >15 cm TASC C&D; PACSS III-IV; intraluminal passage	-1 (M)	2 (G)	2 (G)	1 (G)	-1 (G)	2 (G)	1 (G)	2 (G)	2 (G)	1 (M)
Long >15 cm TASC C&D ; PACSS III-IV; subintimal passage	1 (G)	-2 (G)	1 (G)	1 (G)	-2 (G)	1 (G)	1 (G)	2 (G)	1 (G)	1 (M)
Short ISR non-CTO ; Tosaka I class	1 (G)	2 (G)	-2 (G)	1 (M)	-1 (G)	2 (G)	-1 (G)	-1 (M)	-1 (M)	1 (M)
Long ISR and stent occlusions; Tosaka II-III class	-1 (G)	2 (G)	-1 (G)	1 (M)	1 (G)	2 (G)	-1 (G)	-1 (M)	1 (M)	1 (G)

2 = strong recommendation

1 = Weak recommendation

-1 = Weak Warning

-2 = Strong warning

(G) for good agreement: 80-100%

(M) for moderate agreement: 60-79%

(P) for poor agreement: <60%

Membre Inf Droit

Lesion preparation

Definitive treatment

	POBA	Atherectomy	Lithotripsy	Specialty balloons	Thrombectomy	DCB	BMS	Interwoven stents	DES	Covered stents
Mobile Segments: distal SFA & popliteal artery PACSS I-II (non-CTO)	1 (G)	2 (G)	-1 (M)	1 (G)	-1 (G)	2 (G)	-1 (G)	2 (G)	-1 (M)	-1 (G)
Mobile Segments: distal SFA & popliteal artery PACSS III-IV (non-CTO)	-1 (G)	1 (G)	2 (G)	1 (G)	-1 (G)	1 (G)	-1 (G)	2 (G)	-1 (P)	-1 (G)
Short <15 TASC A&B ; PACSS I-II; intraluminal & fibrotic lesions	1 (G)	2 (G)	-1 (G)	-1 (G)	-1 (G)	2 (G)	1 (G)	1 (G)	1 (G)	-1 (G)
Short <15 TASC A&B ; PACSS I-II; fresh & organized thrombus	-2 (G)	-1 (G)	-2 (G)	-1 (G)	2 (G)	2 (G)	1 (G)	-1 (M)	1 (G)	1 (G)
Short <15 TASC A&B; PACSS I-II; subintimal passage	1 (G)	-2 (G)	-1 (G)	1 (M)	-2 (G)	2 (G)	1 (G)	2 (G)	2 (G)	-1 (M)
Short <15 TASC A&B ; PACSS III-IV; Diffuse calcification	-1 (M)	2 (G)	2 (G)	1 (G)	-2 (G)	1 (G)	1 (G)	2 (G)	1 (G)	-1 (G)
Short <15 TASC A&B ; PACSS III-IV; Eccentric calcification	-1 (G)	2 (G)	1 (G)	1 (G)	-2 (G)	1 (G)	1 (M)	2 (G)	1 (G)	-1 (G)
Short <15 TASC A&B ; PACSS III-IV subintimal passage	1 (G)	-1 (G)	1 (G)	1 (G)	-2 (G)	1 (G)	1 (G)	2 (G)	1 (G)	-1 (P)
Long >15 cm TASC C&D ; PACSS I-II; intraluminal passage	1 (G)	1 (G)	-1 (M)	1 (M)	-1 (M)	2 (G)	1 (G)	1 (G)	2 (G)	1 (M)
Long >15 cm TASC C&D; PACSS I-II; subintimal passage	1 (G)	-2 (G)	-1 (G)	-1 (P)	-2 (G)	2 (G)	1 (G)	2 (G)	2 (G)	1 (G)
Long >15 cm TASC C&D; PACSS III-IV; intraluminal passage	-1 (M)	2 (G)	2 (G)	1 (G)	-1 (G)	2 (G)	1 (G)	2 (G)	2 (G)	1 (M)
Long >15 cm TASC C&D ; PACSS III-IV; subintimal passage	1 (G)	-2 (G)	1 (G)	1 (G)	-2 (G)	1 (G)	1 (G)	2 (G)	1 (G)	1 (M)
Short ISR non-CTO ; Tosaka I class	1 (G)	2 (G)	-2 (G)	1 (M)	-1 (G)	2 (G)	-1 (G)	-1 (M)	-1 (M)	1 (M)
Long ISR and stent occlusions; Tosaka II-III class	-1 (G)	2 (G)	-1 (G)	1 (M)	1 (G)	2 (G)	-1 (G)	-1 (M)	1 (M)	1 (G)

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Membre Inf Gauche

Lesion preparation

Definitive treatment

	POBA	Atherectomy	Lithotripsy	Specialty balloons	Thrombectomy	DCB	BMS	Interwoven stents	DES	Covered stents
Mobile Segments: distal SFA & popliteal artery PACSS I-II (non-CTO)	1 (G)	2 (G)	-1 (M)	1 (G)	-1 (G)	2 (G)	-1 (G)	2 (G)	-1 (M)	-1 (G)
Mobile Segments: distal SFA & popliteal artery PACSS III-IV (non-CTO)	-1 (G)	1 (G)	2 (G)	1 (G)	-1 (G)	1 (G)	-1 (G)	2 (G)	-1 (P)	-1 (G)
Short <15 TASC A&B ; PACSS I-II; intraluminal & fibrotic lesions	1 (G)	2 (G)	-1 (G)	-1 (G)	-1 (G)	2 (G)	1 (G)	1 (G)	1 (G)	-1 (G)
Short <15 TASC A&B ; PACSS I-II; fresh & organized thrombus	-2 (G)	-1 (G)	-2 (G)	-1 (G)	2 (G)	2 (G)	1 (G)	-1 (M)	1 (G)	1 (G)
Short <15 TASC A&B; PACSS I-II; subintimal passage	1 (G)	-2 (G)	-1 (G)	1 (M)	-2 (G)	2 (G)	1 (G)	2 (G)	2 (G)	-1 (M)
Short <15 TASC A&B ; PACSS III-IV; Diffuse calcification	-1 (M)	2 (G)	2 (G)	1 (G)	-2 (G)	1 (G)	1 (G)	2 (G)	1 (G)	-1 (G)
Short <15 TASC A&B ; PACSS III-IV; Eccentric calcification	-1 (G)	2 (G)	1 (G)	1 (G)	-2 (G)	1 (G)	1 (M)	2 (G)	1 (G)	-1 (G)
Short <15 TASC A&B ; PACSS III-IV subintimal passage	1 (G)	-1 (G)	1 (G)	1 (G)	-2 (G)	1 (G)	1 (G)	2 (G)	1 (G)	-1 (P)
Long >15 cm TASC C&D ; PACSS I-II; intraluminal passage	1 (G)	1 (G)	-1 (M)	1 (M)	-1 (M)	2 (G)	1 (G)	1 (G)	2 (G)	1 (M)
Long >15 cm TASC C&D; PACSS I-II; subintimal passage	1 (G)	-2 (G)	-1 (G)	-1 (P)	-2 (G)	2 (G)	1 (G)	2 (G)	2 (G)	1 (G)
Long >15 cm TASC C&D; PACSS III-IV; intraluminal passage	-1 (M)	2 (G)	2 (G)	1 (G)	-1 (G)	2 (G)	1 (G)	2 (G)	2 (G)	1 (M)
Long >15 cm TASC C&D ; PACSS III-IV; subintimal passage	1 (G)	-2 (G)	1 (G)	1 (G)	-2 (G)	1 (G)	1 (G)	2 (G)	1 (G)	1 (M)
Short ISR non-CTO ; Tosaka I class	1 (G)	2 (G)	-2 (G)	1 (M)	-1 (G)	2 (G)	-1 (G)	-1 (M)	-1 (M)	1 (M)
Long ISR and stent occlusions; Tosaka II-III class	-1 (G)	2 (G)	-1 (G)	1 (M)	1 (G)	2 (G)	-1 (G)	-1 (M)	1 (M)	1 (G)

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