



INSTITUT
CARDIOVASCULAIRE
PARIS
SUD

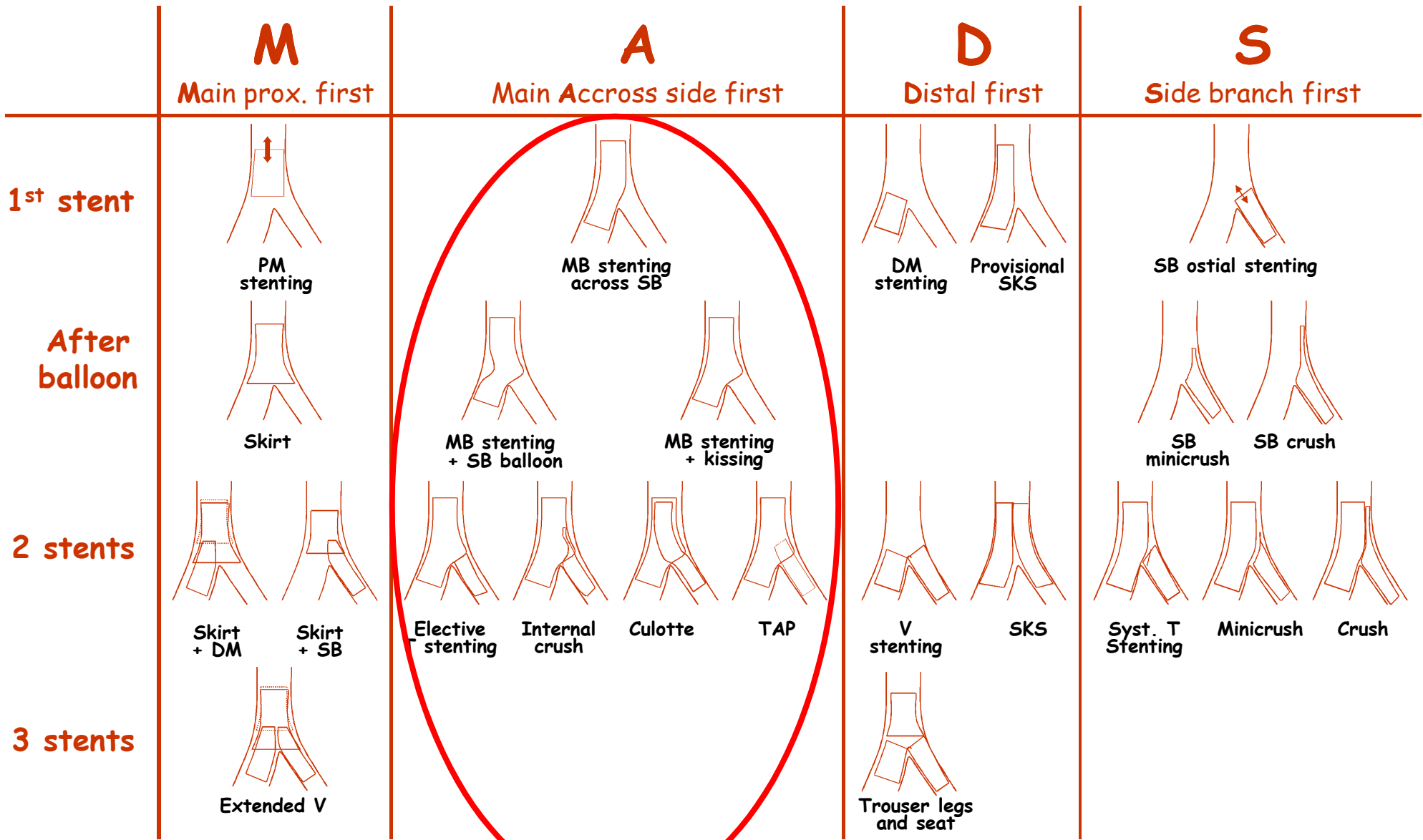


Provisional Bifurcation Stenting: Main Branch First

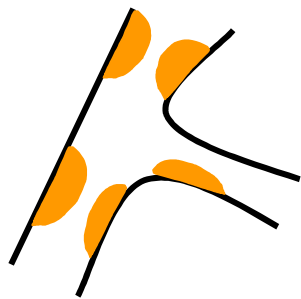
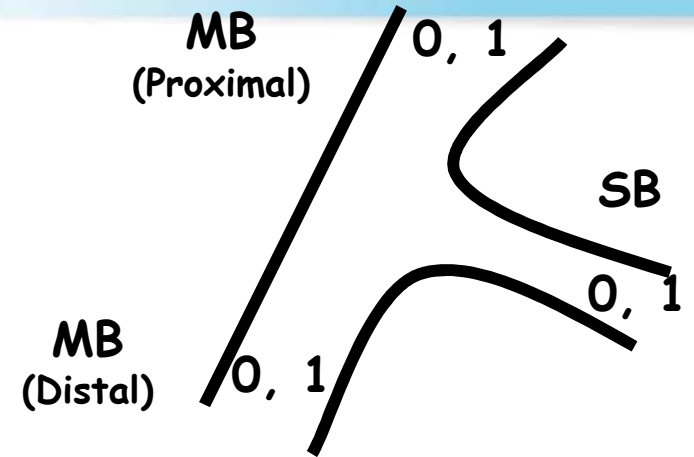
Y. Louvard, ICPS, Massy, France

TCT Asia Pacific 2010

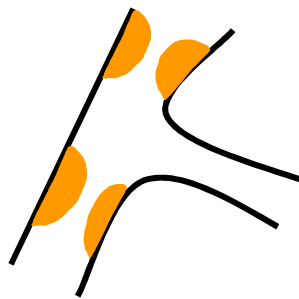
No conflict of interest to declare



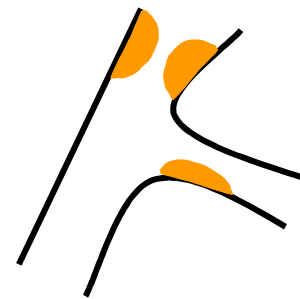
Medina Classification



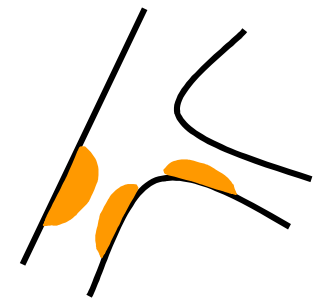
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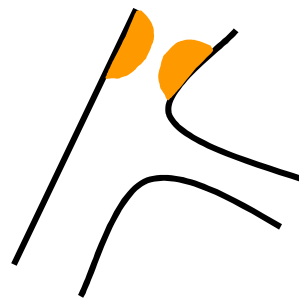
1,1,0



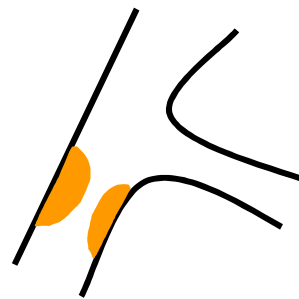
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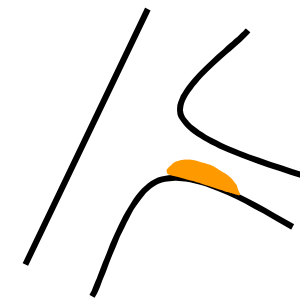
0,1,1



1,0,0

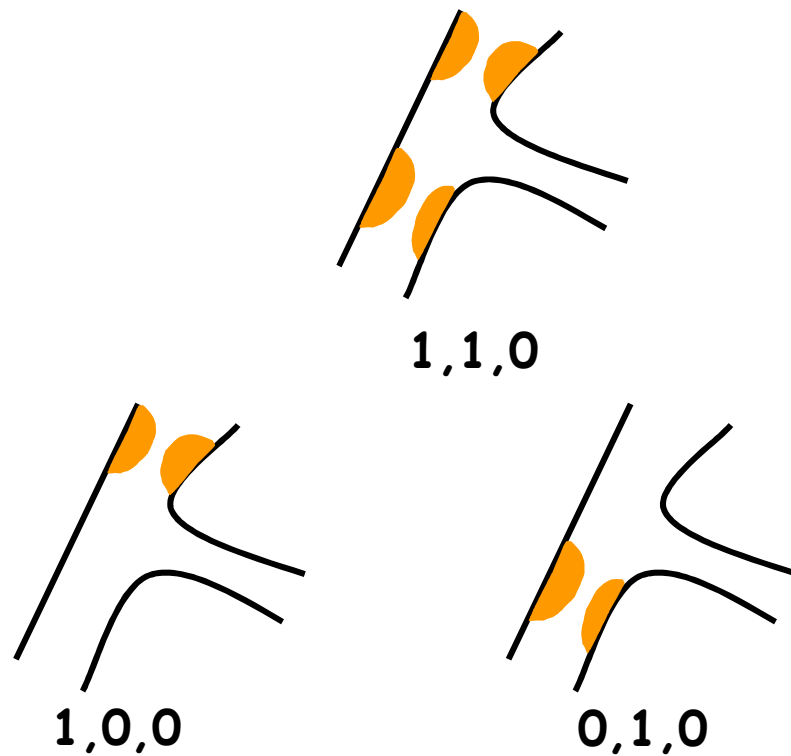


0,1,0

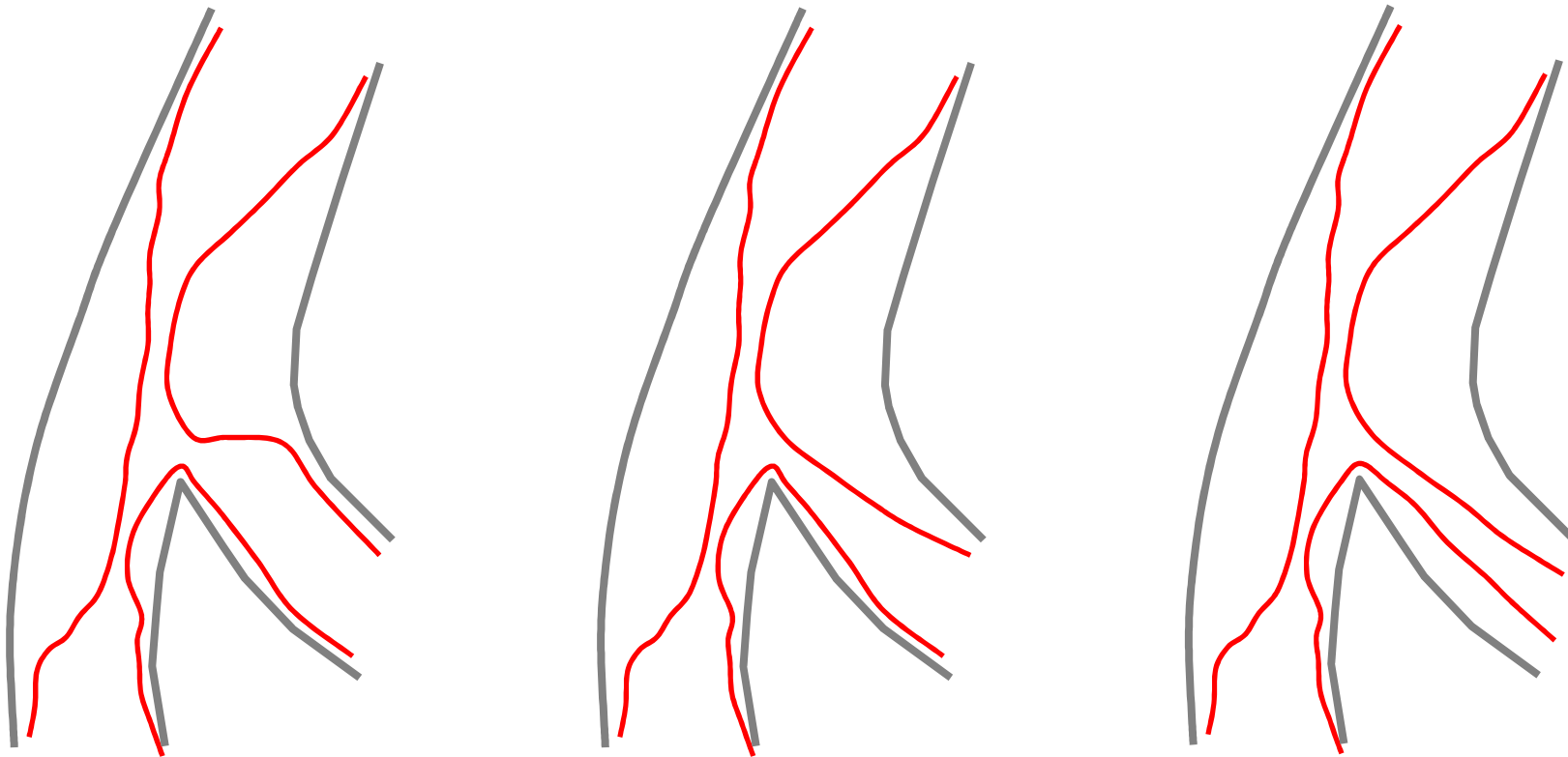


0,0,1

When to use 1 stent ?



When to use 1 stent ?

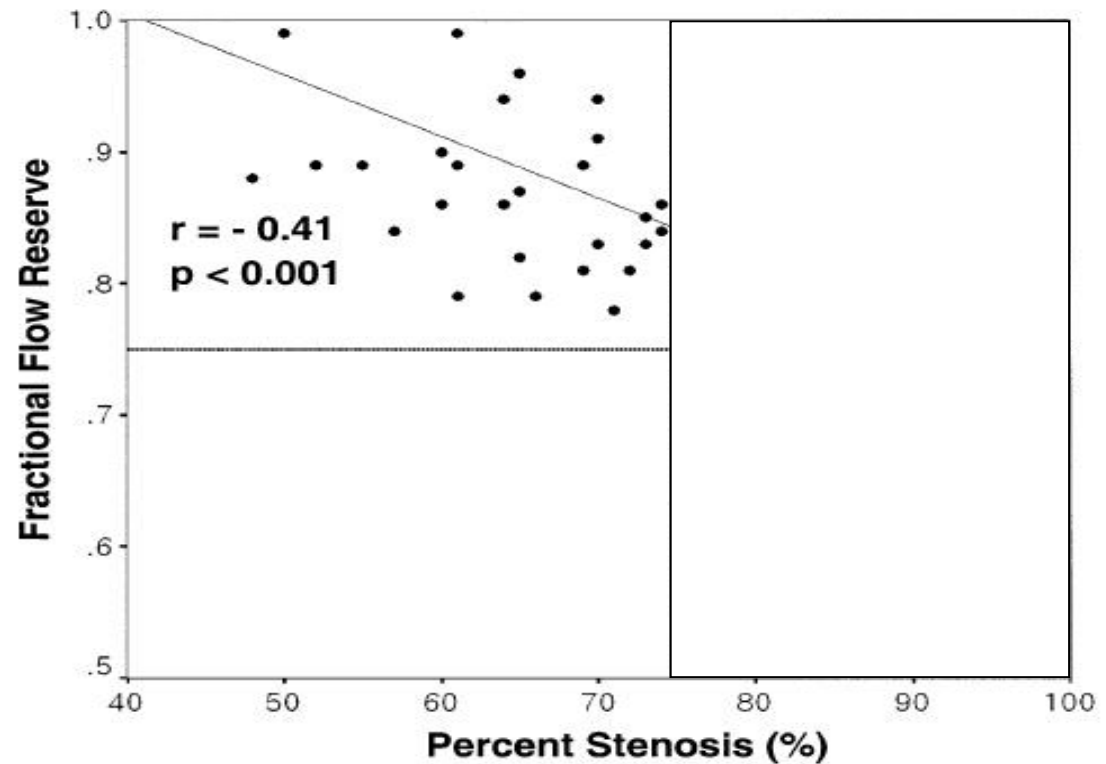
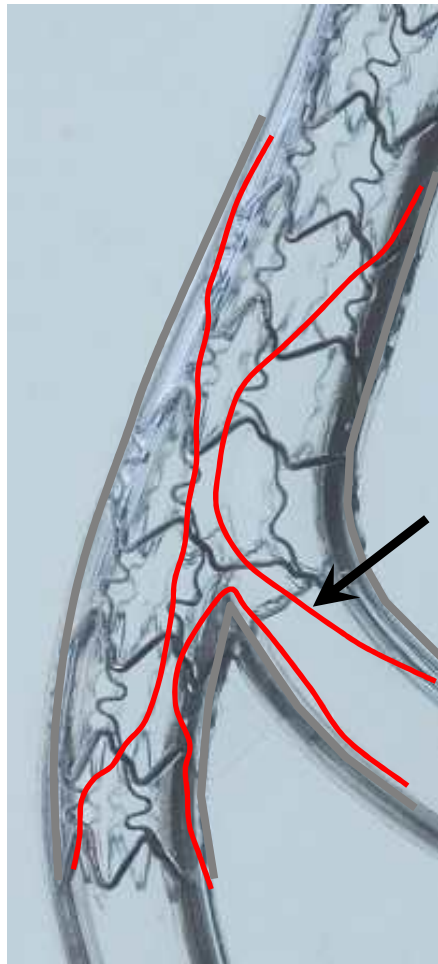


When to use 1 stent ?



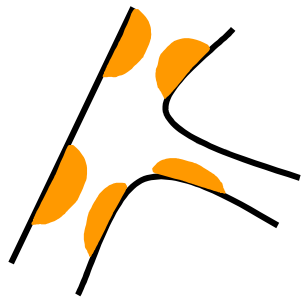
No Need for SB Stenting !

When to use 1 stent ?

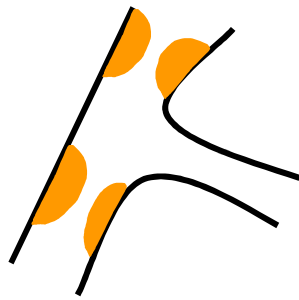


Koo et al JACC 2005; 46: 633-7

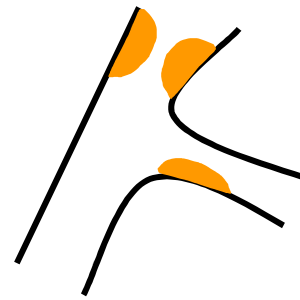
When to use 1 stent ?



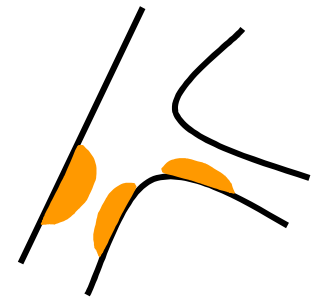
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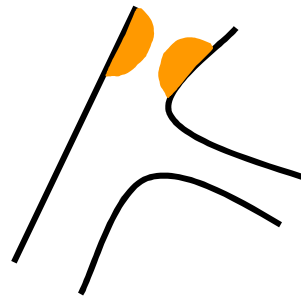
1,1,0



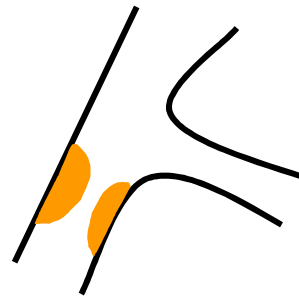
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0,1,1



1,0,0



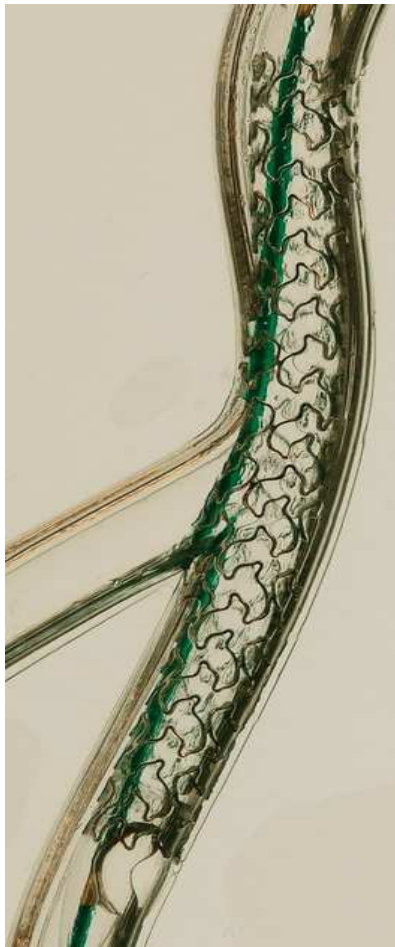
0,1,0

**Short SB stenosis
(< 3 mm ?, < 5 mm ?)**

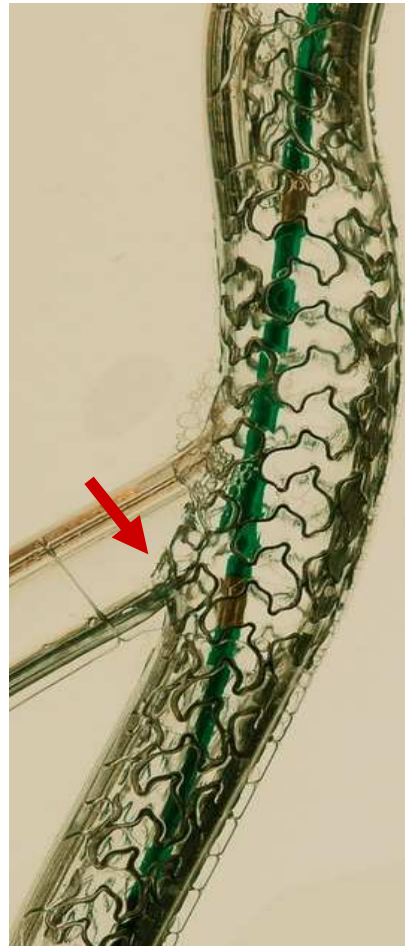
Provisional SB stenting



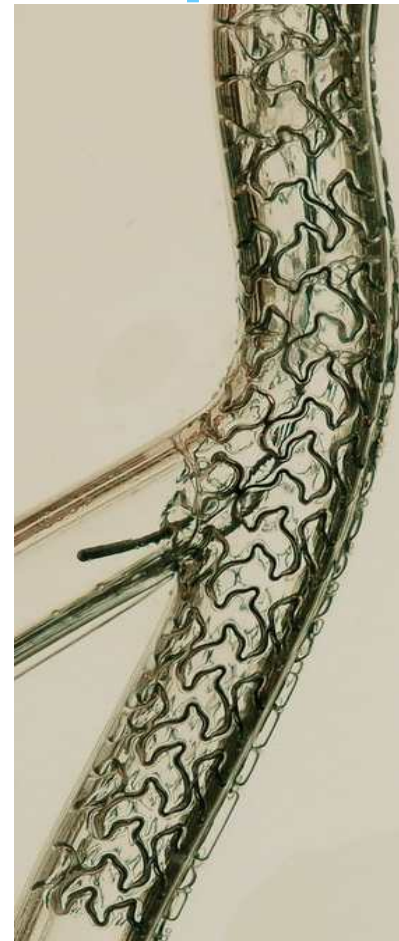
POT* technique



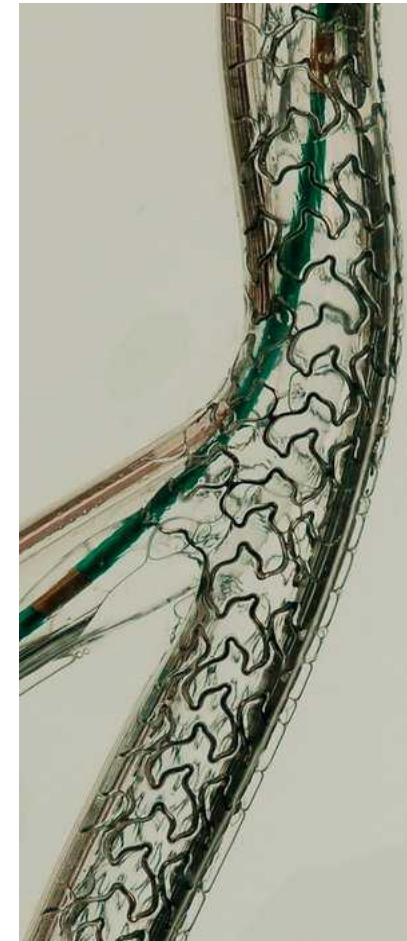
3.0 x 20mm



**Balloon
3.5 x 8mm**



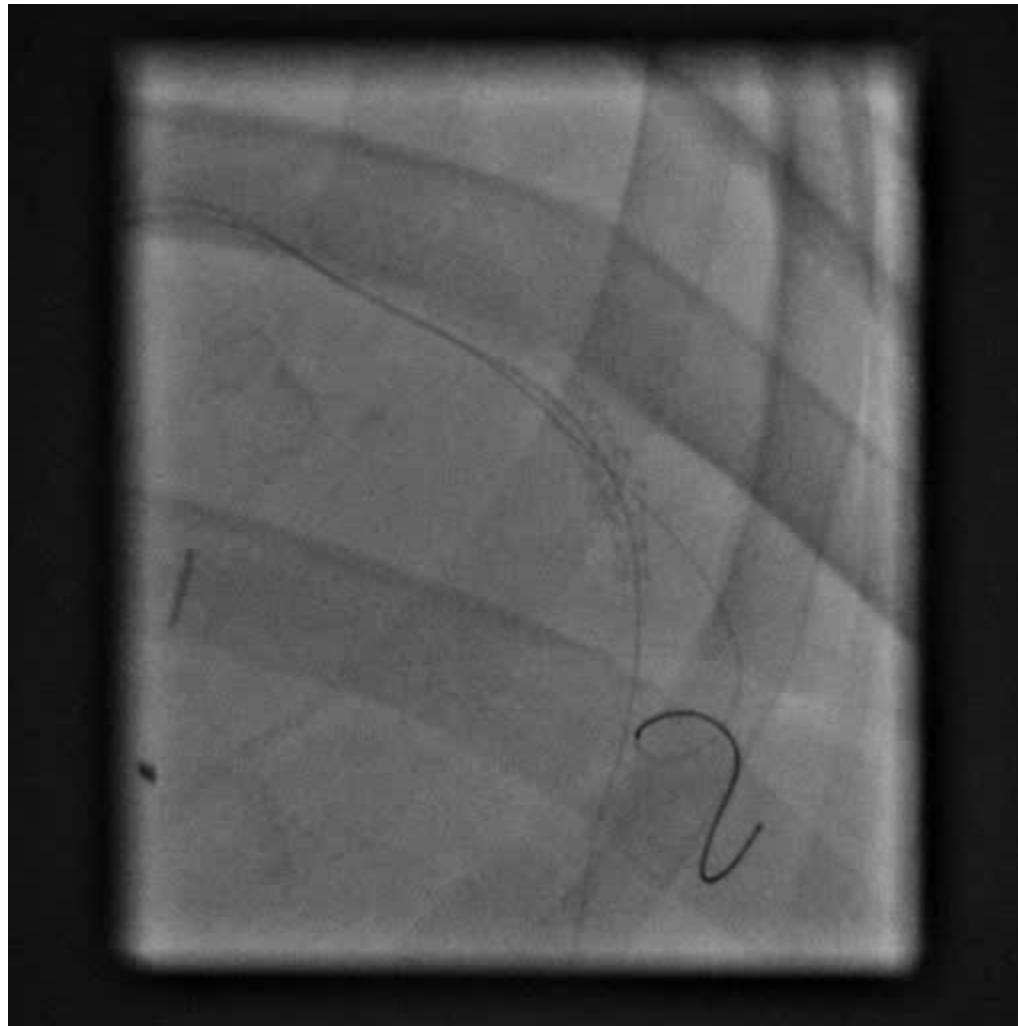
**Carenal cell
entry**



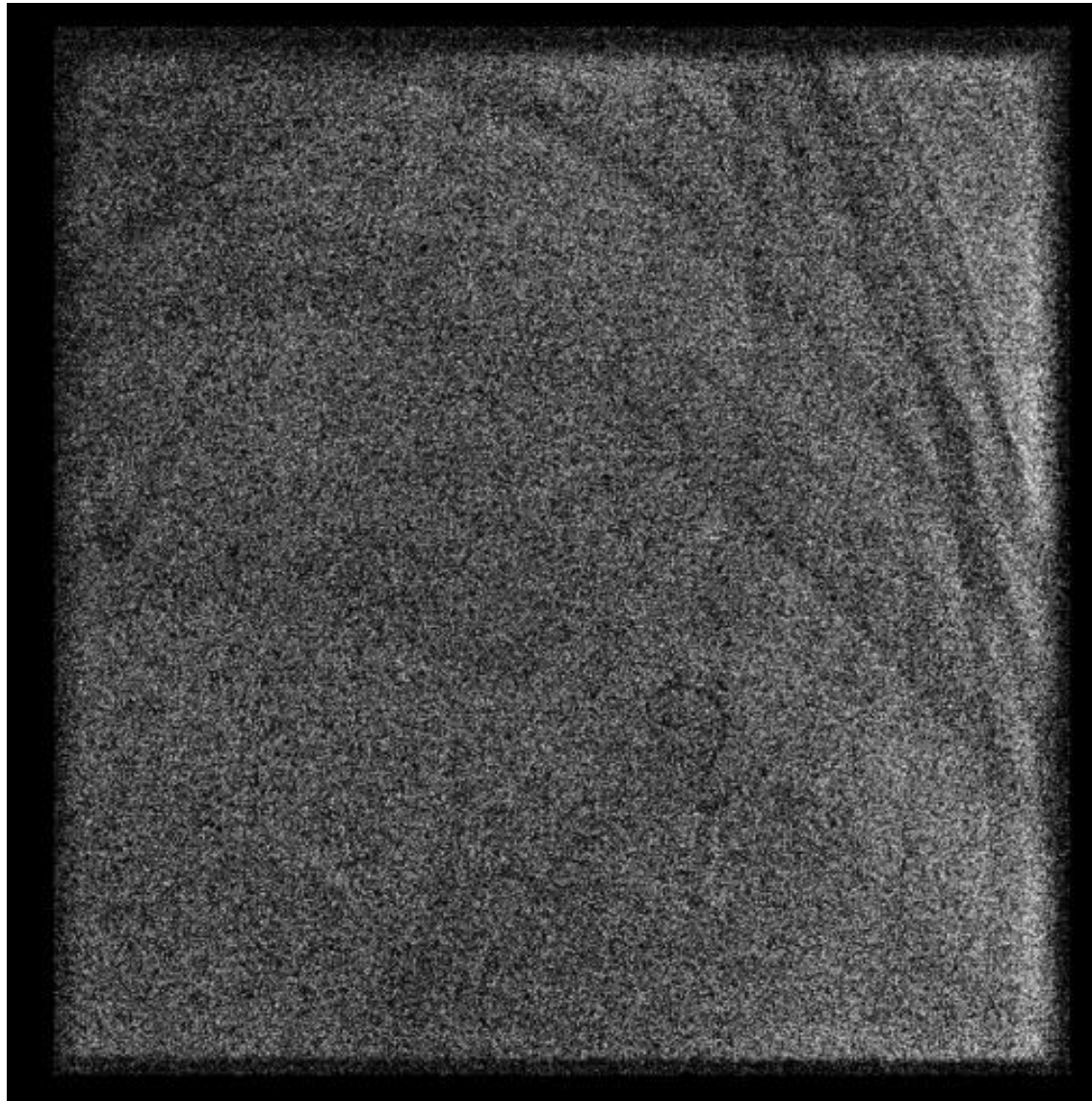
Post kissing

The POT technique should be used in any case of difficulty recrossing into a side branch with either a wire or balloon

Provisional SB stenting



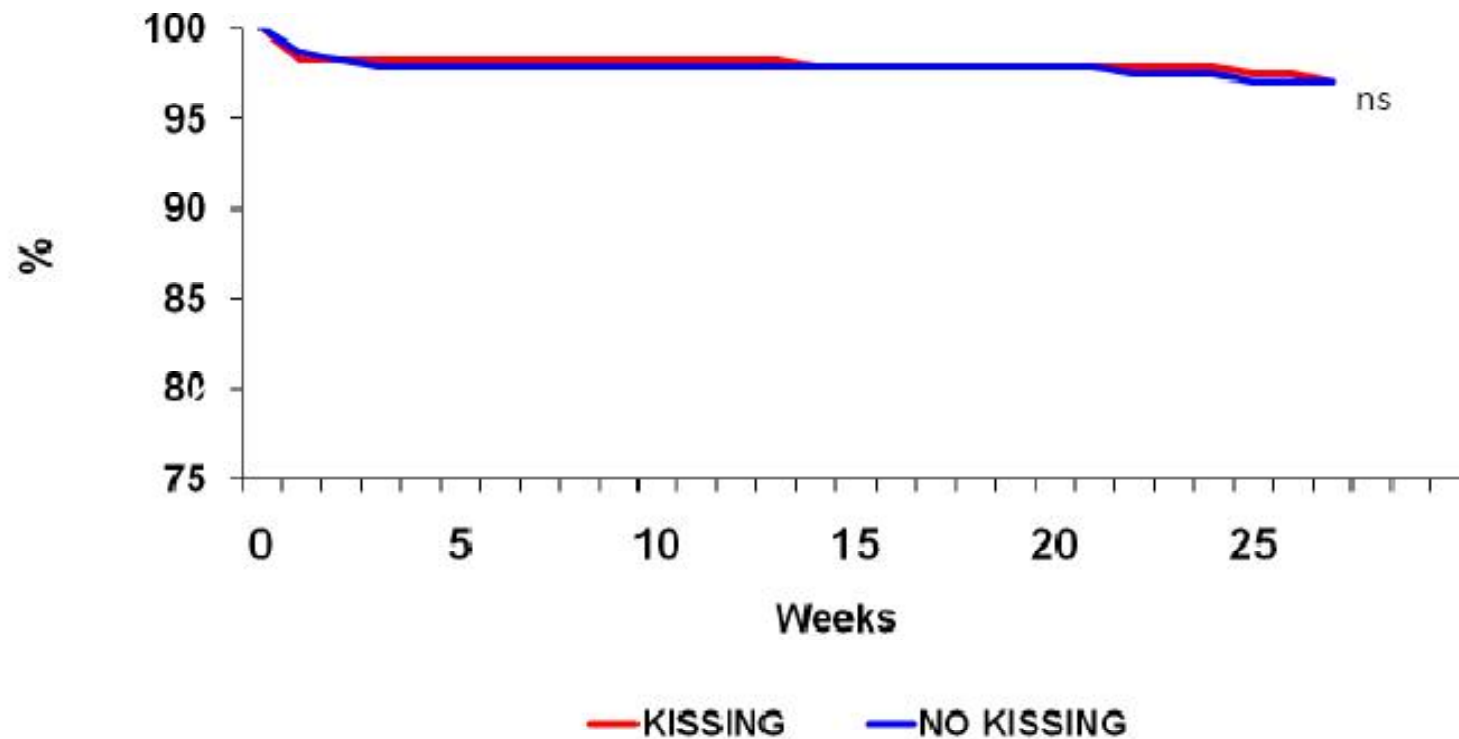
Provisional SB stenting



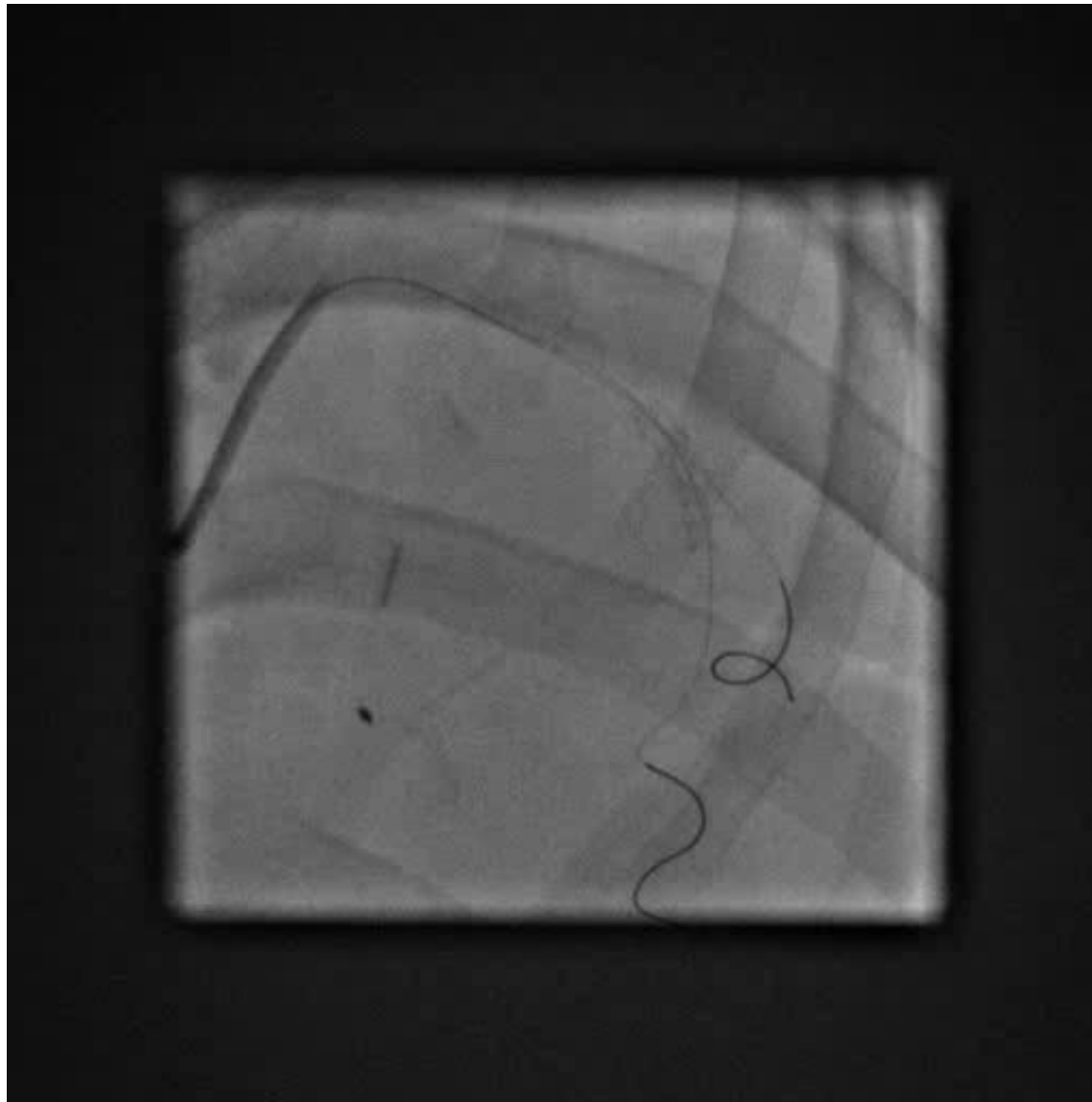
NORDIC III

Primary end point event free survival

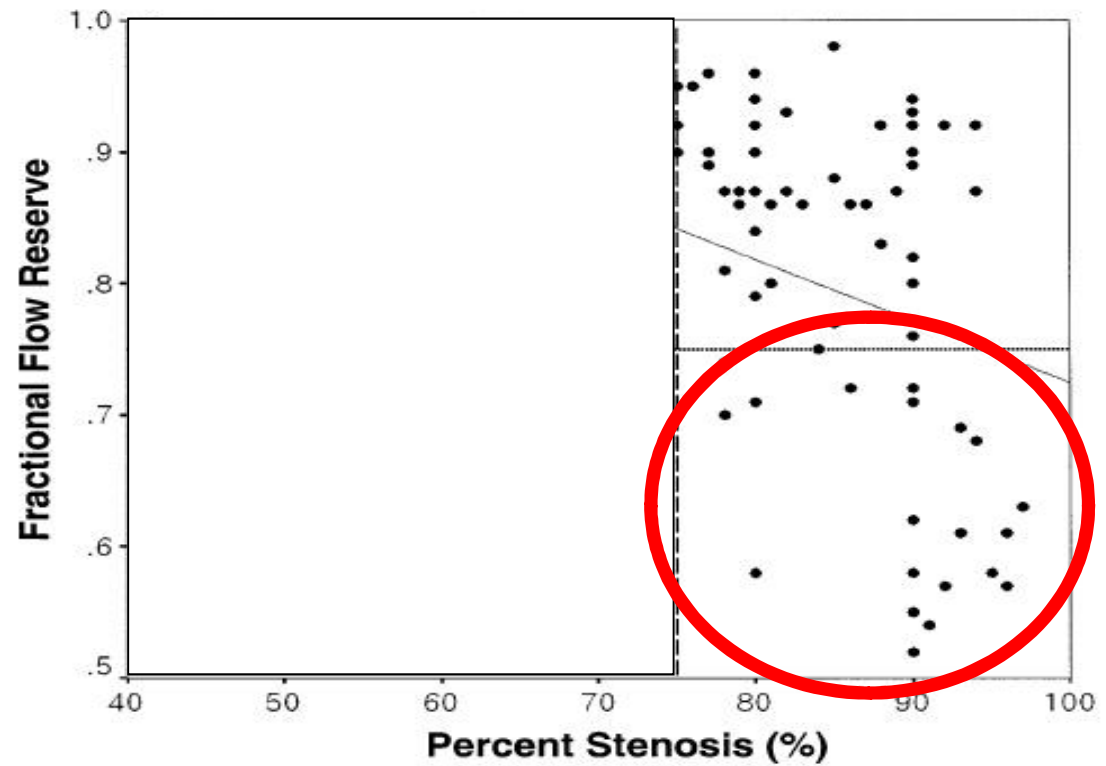
MACE (cardiac death, index lesion MI, TLR, stent thrombosis)



Provisional SB stenting



When to use 2 stents ?

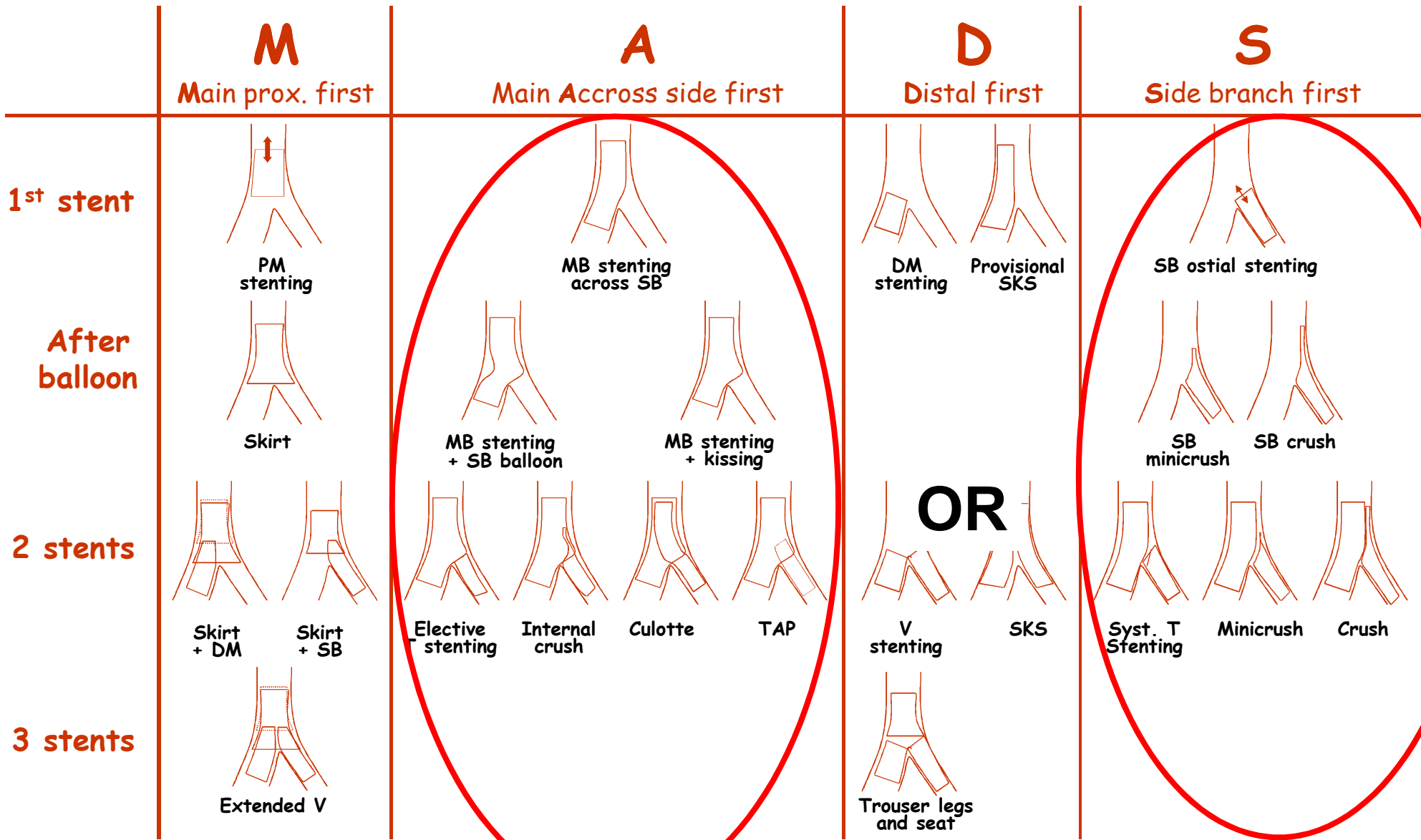


Koo et al JACC 2005; 46: 633-7

1 vs 2 stents

or

SB first / MB first

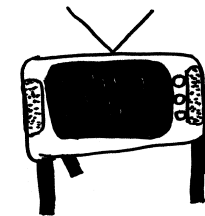


Systematic Two Stents Approach: 15% ?



Why SB Stenting First ?

- ✓ To simplify the procedure ?



BBC1: Procedural Endpoints

	2 stents	Provisional	P value
Patients (n)	250	250	
Procedure time (min)	78 ± 1.9	57 ± 1.6	<0.001
Fluoroscopy time (min)	22 ± 0.8	15 ± 0.7	<0.001
Diamentor (cGy.cm ²)	7900 ± 350	6140 ± 300	<0.001
No. guidewires used (n)	3.11 ± 0.08	2.21 ± 0.06	<0.001
No. balloons used (n)	3.97 ± 0.11	2.26 ± 0.09	<0.001
No. stents used (n)	2.21 ± 0.07	1.17 ± 0.04	<0.001

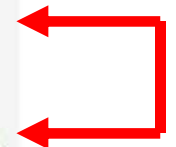
Why SB Stenting First ?

- ✓ To simplify the procedure ?
- ✓ To improve acute result ?

Why SB Stenting First?: improve acute result ?

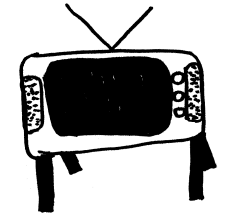
Procedural, QCA, and IVUS Data for Non-LM Lesions With IVUS of Both Branches (n = 20)

Variables	Main Vessel	Side Branch	p Value
IVUS			
Proximal reference lumen CSA, mm ²	9.0 ± 4.9	—	N/A
Distal reference lumen CSA, mm ²	7.2 ± 3.2	5.2 ± 2.5	0.06
MSA, mm ²	6.5 ± 1.7	3.9 ± 1.0	<0.0001
Proximal MV MSA, mm ²	8.1 ± 3.2	—	N/A
Crush MSA, mm ²	6.7 ± 2.3	—	N/A
Crush length, mm	5.0 ± 2.0	—	N/A
Distal MSA, mm ²	7.0 ± 2.8	4.5 ± 2.3	0.004
SB ostium MSA, mm ²	—	4.2 ± 1.0	N/A
Stent expansion, %	92.1 ± 16.6	79.9 ± 12.3	0.02
Stent CSA <4 mm ²	10% (2/20)	55% (11/20)	0.007
Stent CSA <5 mm ²	20% (4/20)	90% (18/20)	0.006



Why SB Stenting First ?

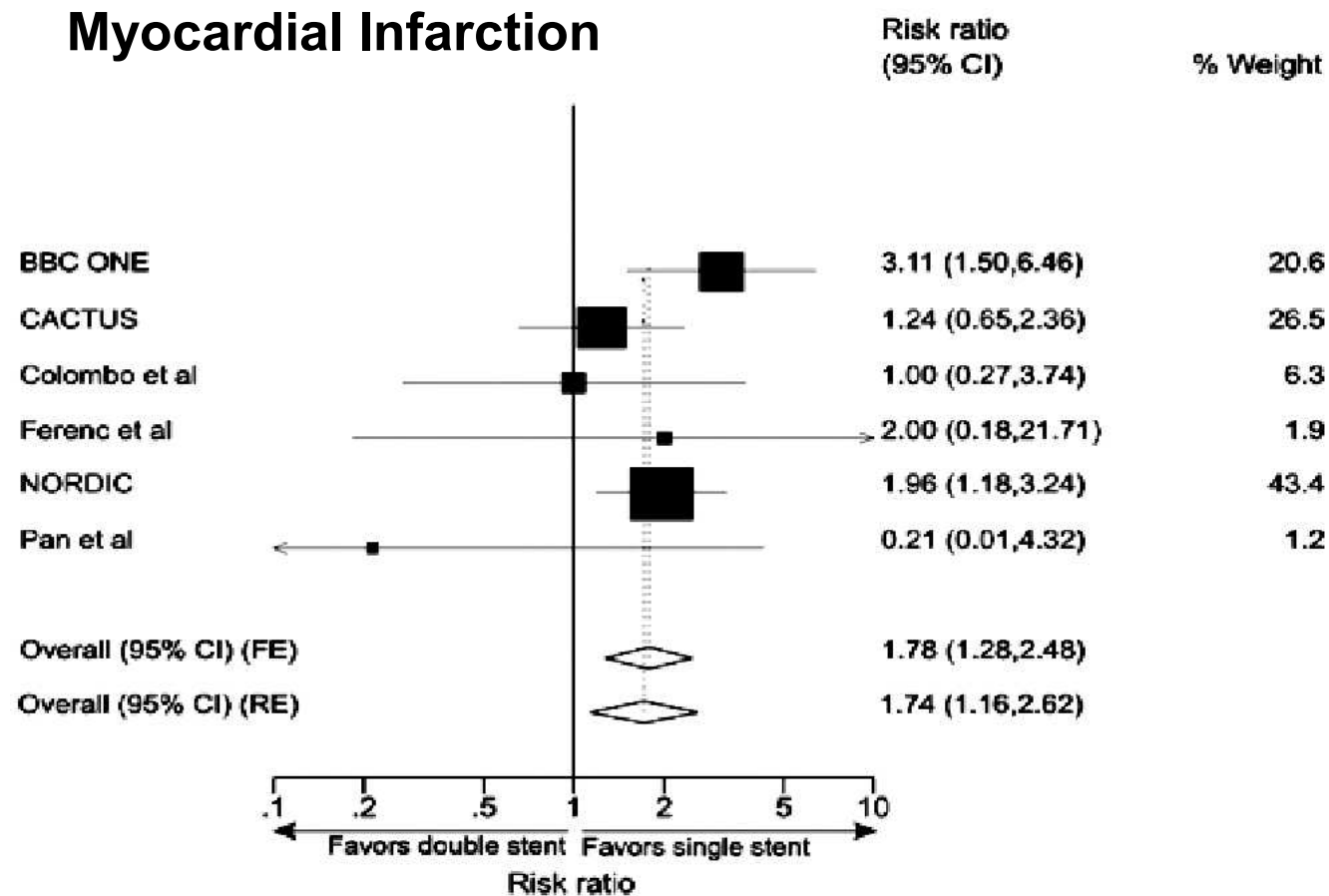
- ✓ To simplify the procedure ?
- ✓ To improve acute result ?
- ✓ To improve immediate outcome ?



BBC1: In-Hospital MACE

	Complex	Simple	P value
Patients (n)	250	250	-
MACE (%)	8.0	2.0	0.002 RR 4.0 (1.5 to 10.5)
Death (%)	0.4	0	NS
MI (%)	7.2	2.0	0.01
CABG (%)	1.2	0	NS

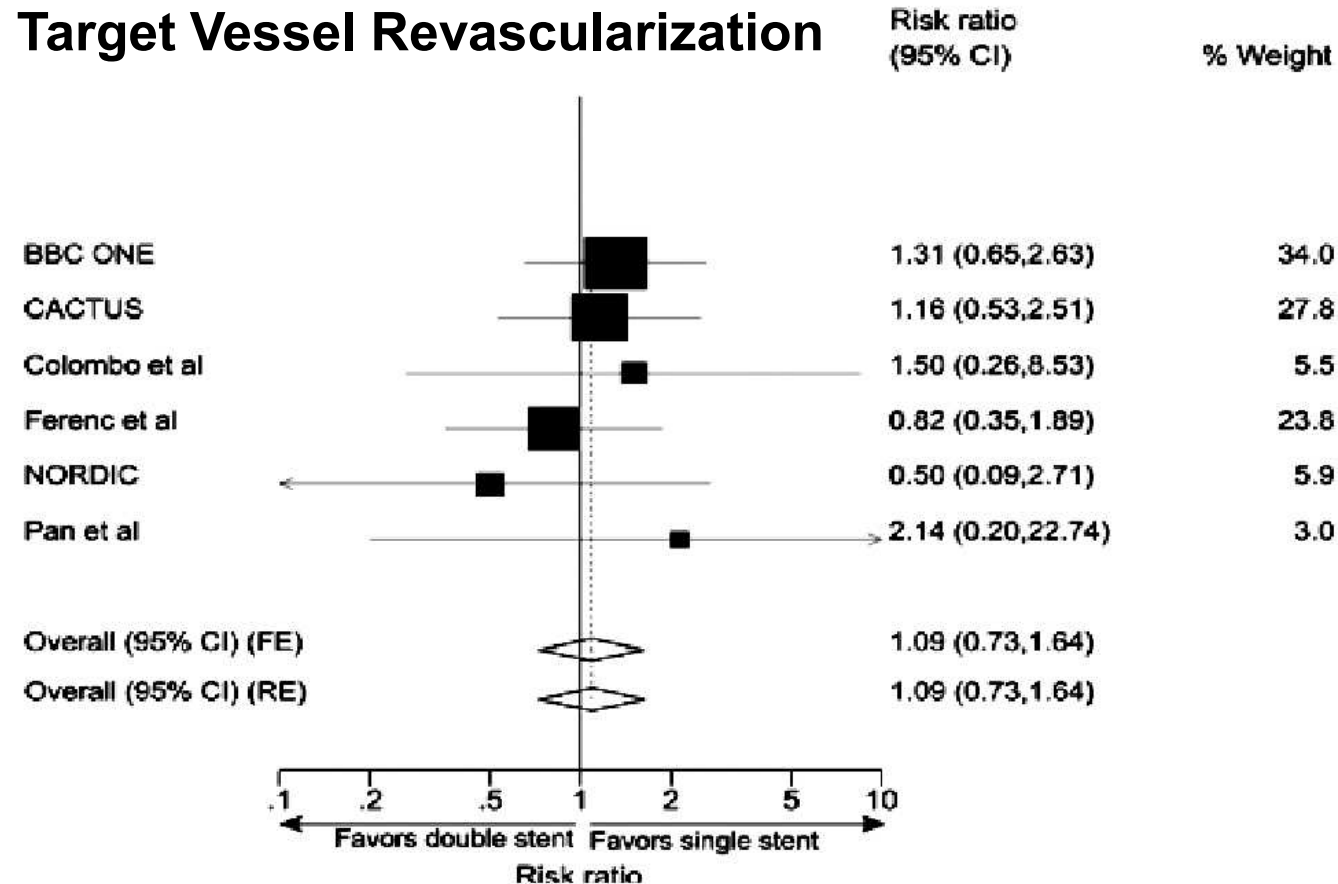
Why SB Stenting First?: to improve immediate outcome ?



Why SB Stenting First ?

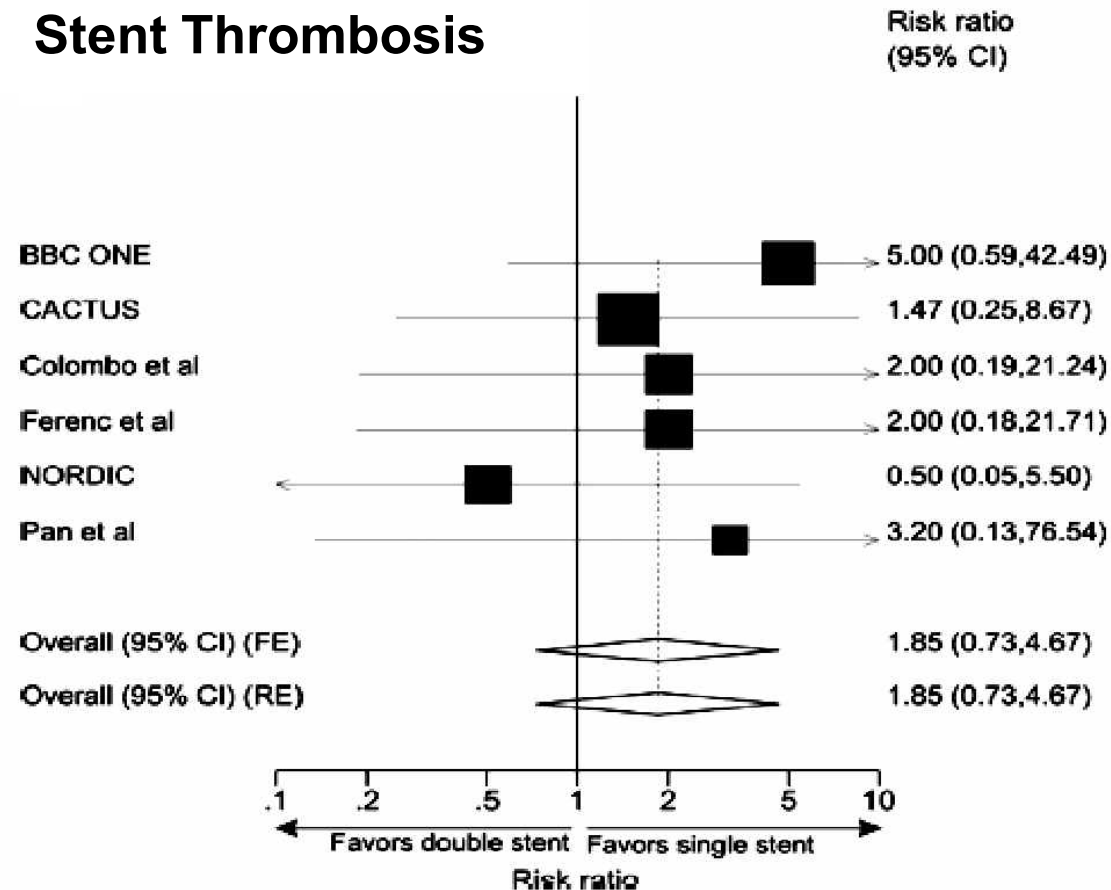
- ✓ To simplify the procedure ?
- ✓ To improve acute result ?
- ✓ To improve immediate outcome ?
- ✓ To improve mid term outcome ?

Why SB Stenting First?: to improve mid-term outcome ?

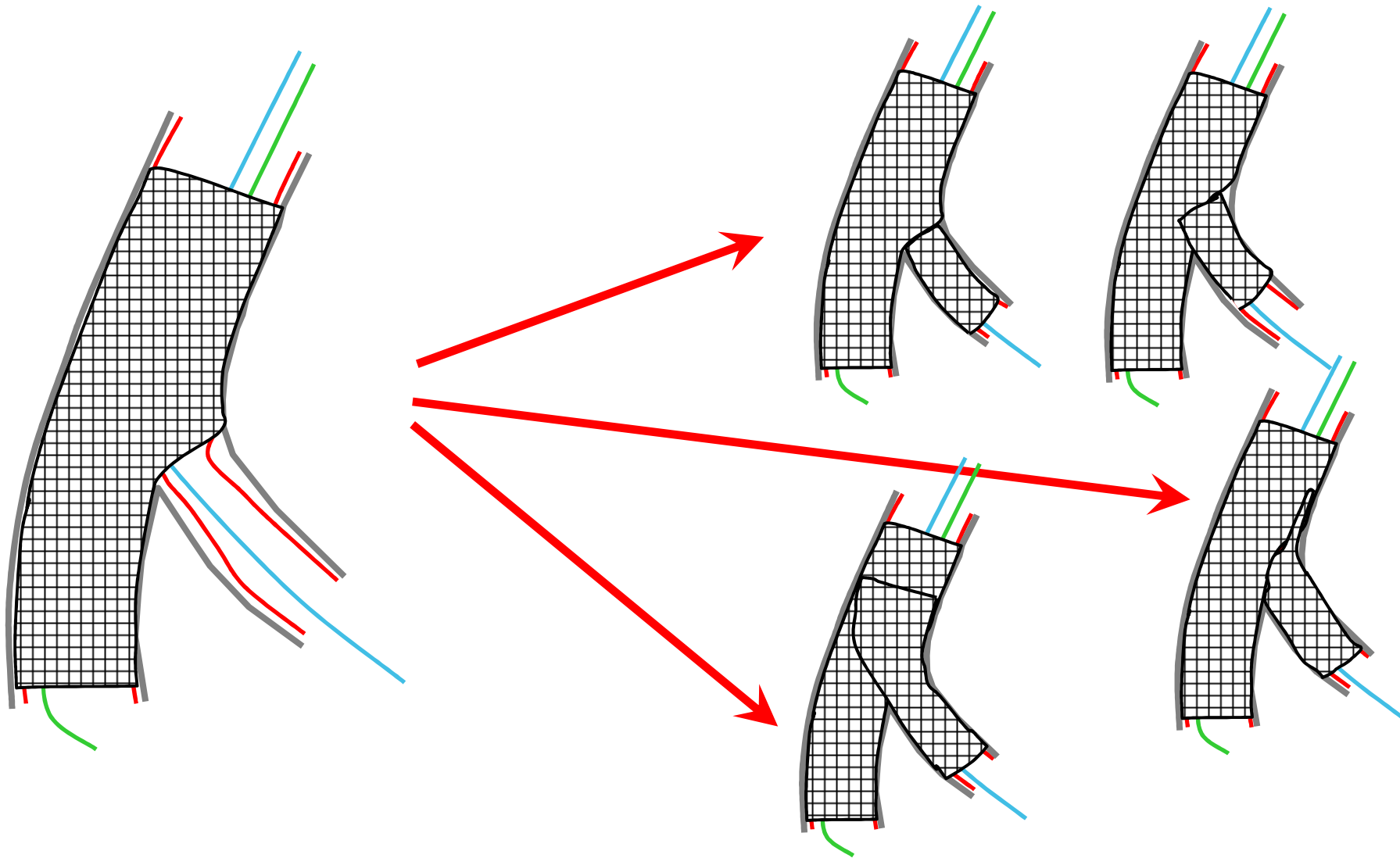


Why SB Stenting First?: to improve mid-term outcome ?

Stent Thrombosis

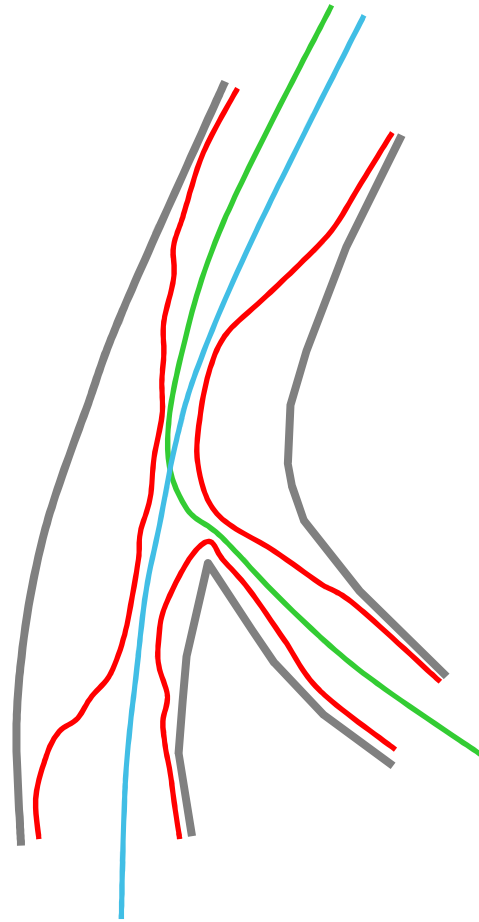


Main Branch Stenting First



Main Branch Stenting First

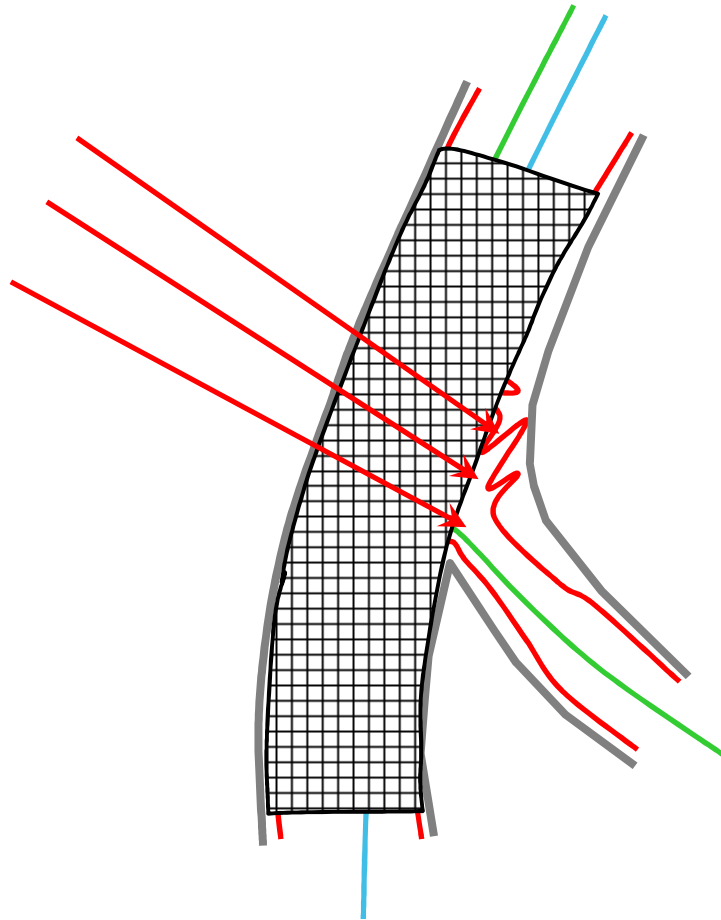
Following the Rules of Provisional SB Stenting



No SB predilatation

Main Branch Stenting First

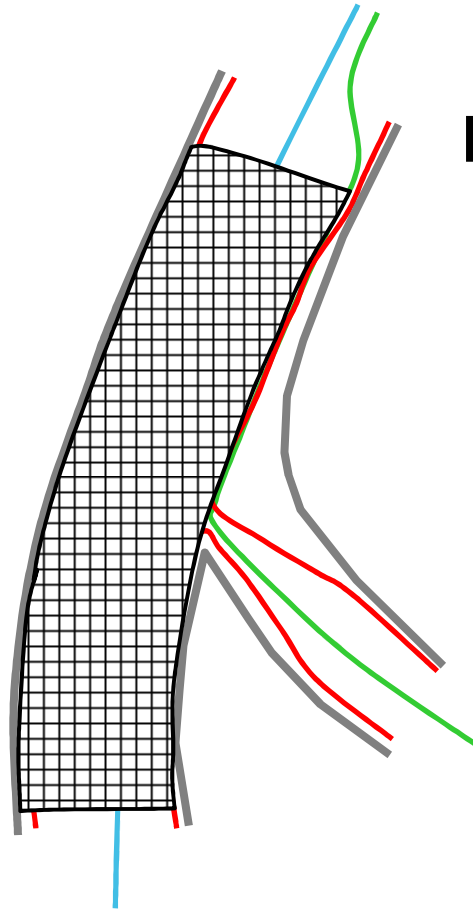
Following the Rules of Provisional SB Stenting



No SB predilatation

Main Branch Stenting First

Following the Rules of Provisional SB Stenting

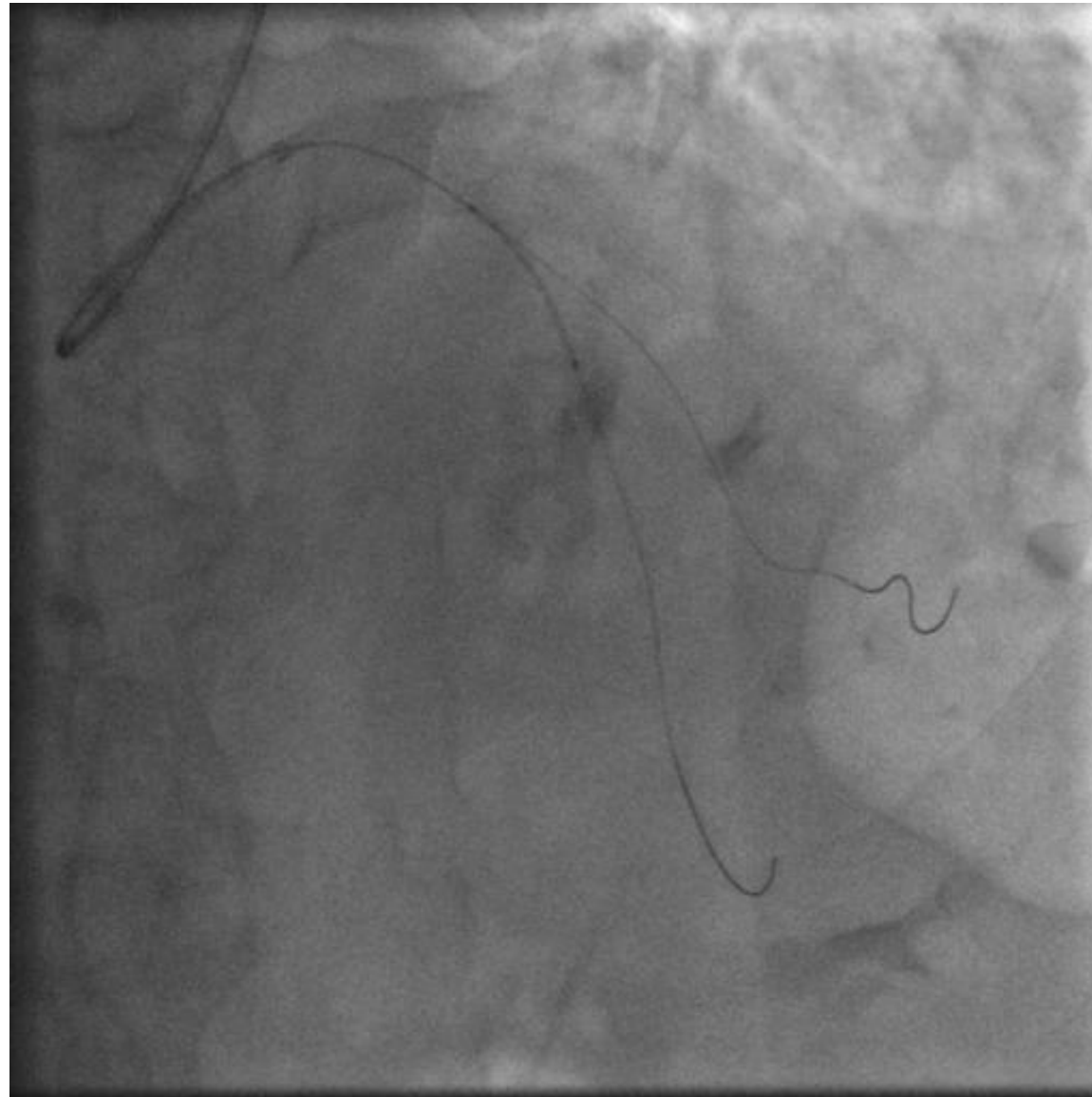


Respect the Murray's law:

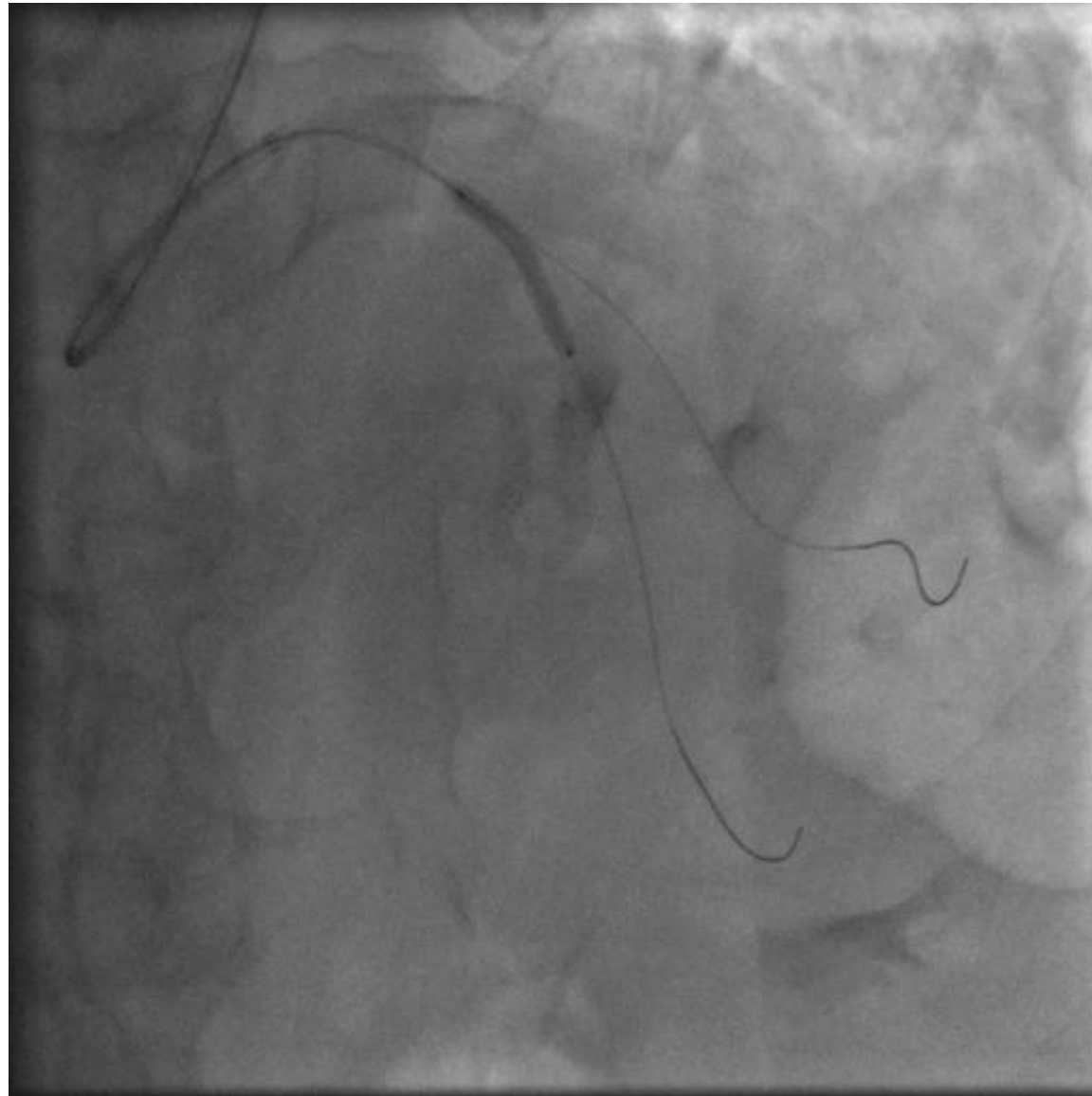
Stent diameter according to the Distal MB reference

1. No Carena shift
2. Jailed wire not really jailed

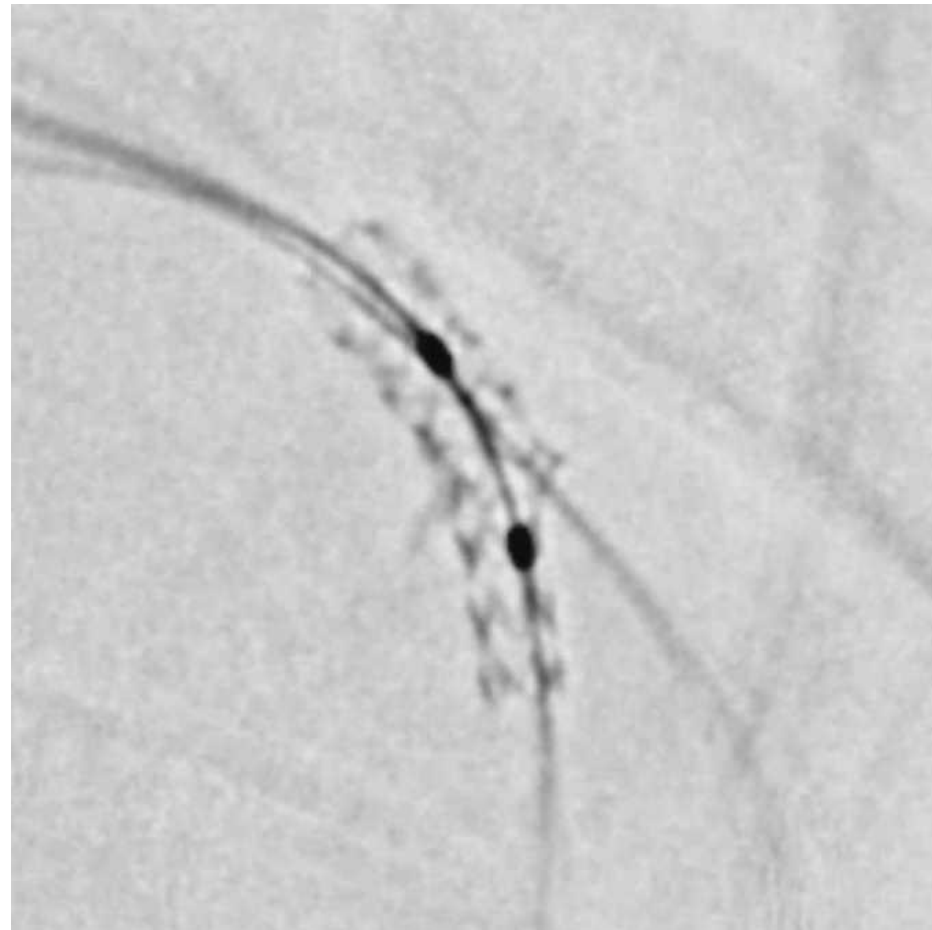
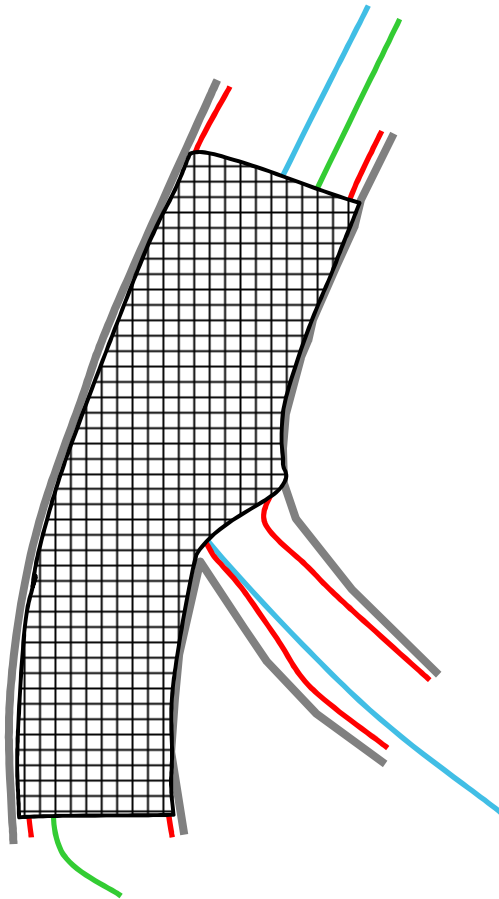
Main Branch Stenting First

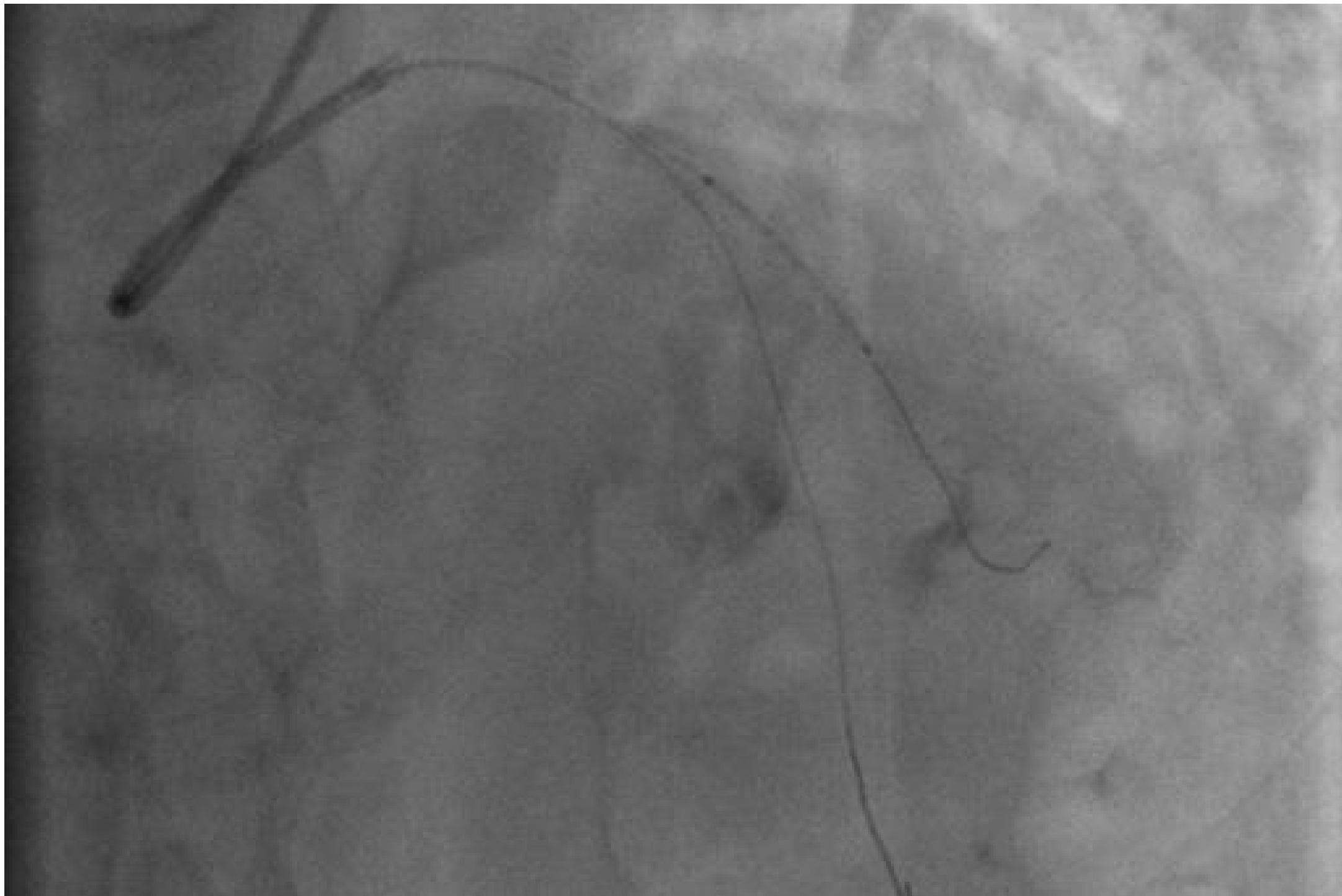


Main Branch Stenting First



POT and kissing balloon





SB Stenting after MB stenting: BBK study

In 19 patients assigned to provisional T-stenting, a stent was placed in the side branch because of a relevant residual stenosis after the kissing-balloon manoeuvre in 14 patients and because of a flow-limiting dissection in five patients. In three patients assigned to routine T-stenting, the main-branch stent could not be crossed with the side-branch stent, despite multiple kissing-balloon pre-dilatations. Two patients received abciximab periinterventionally.

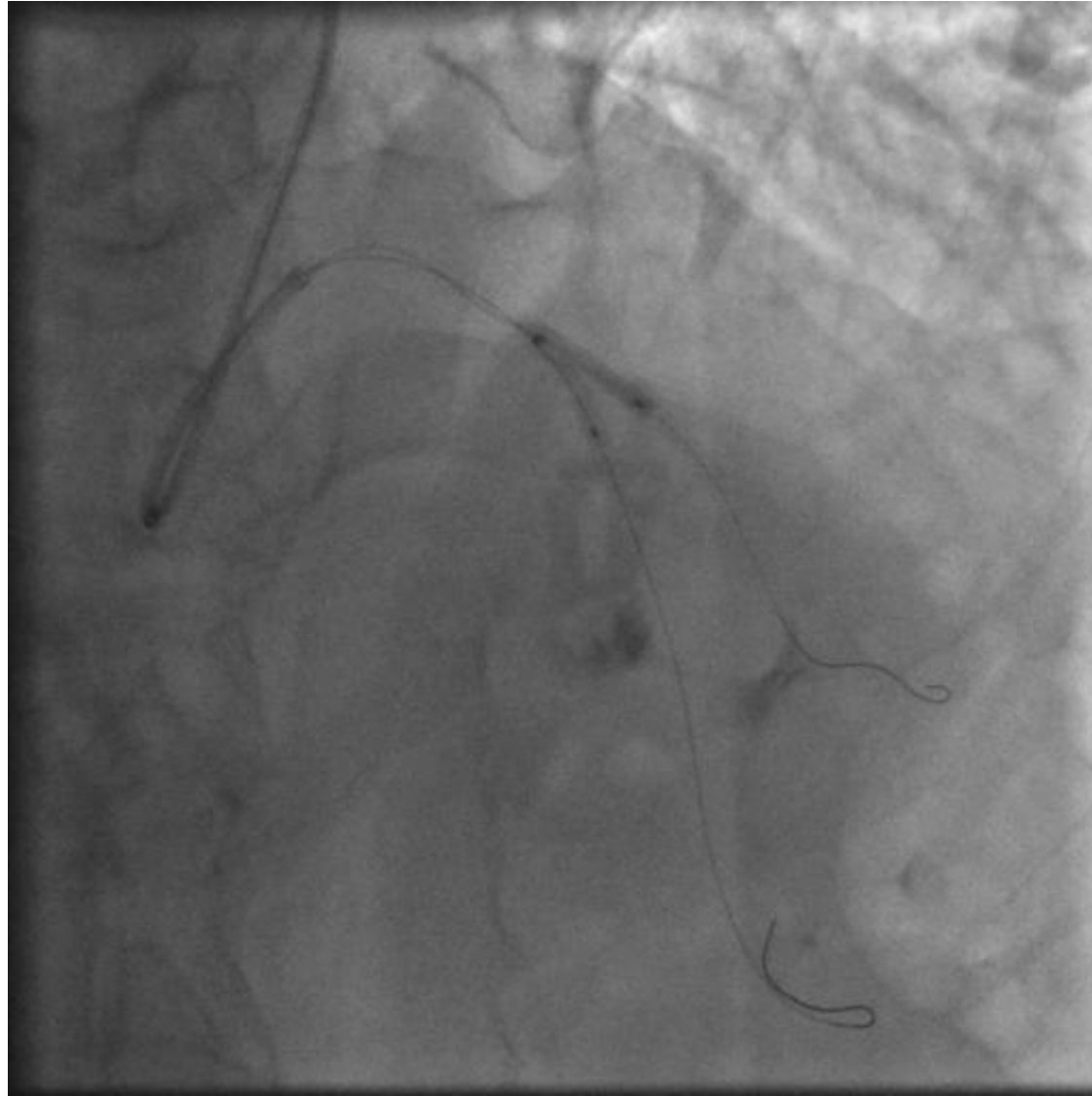


SB stenting failure 1.5%

Main Branch Stenting First



Main Branch Stenting First

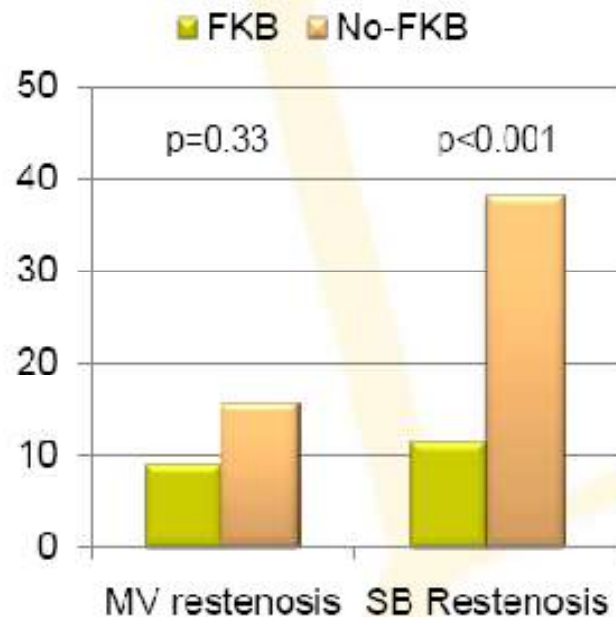


Mandatory final kissing in complex techniques

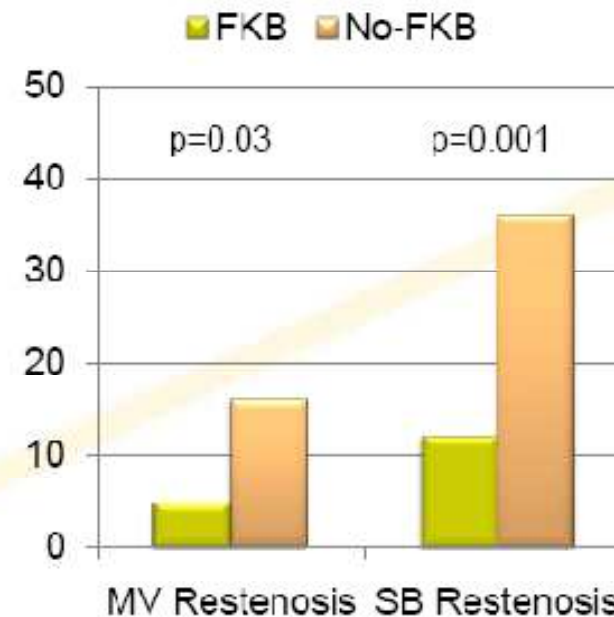


Final Kissing Ballooning Is Important in 2-Stent Technique

Crush Technique¹

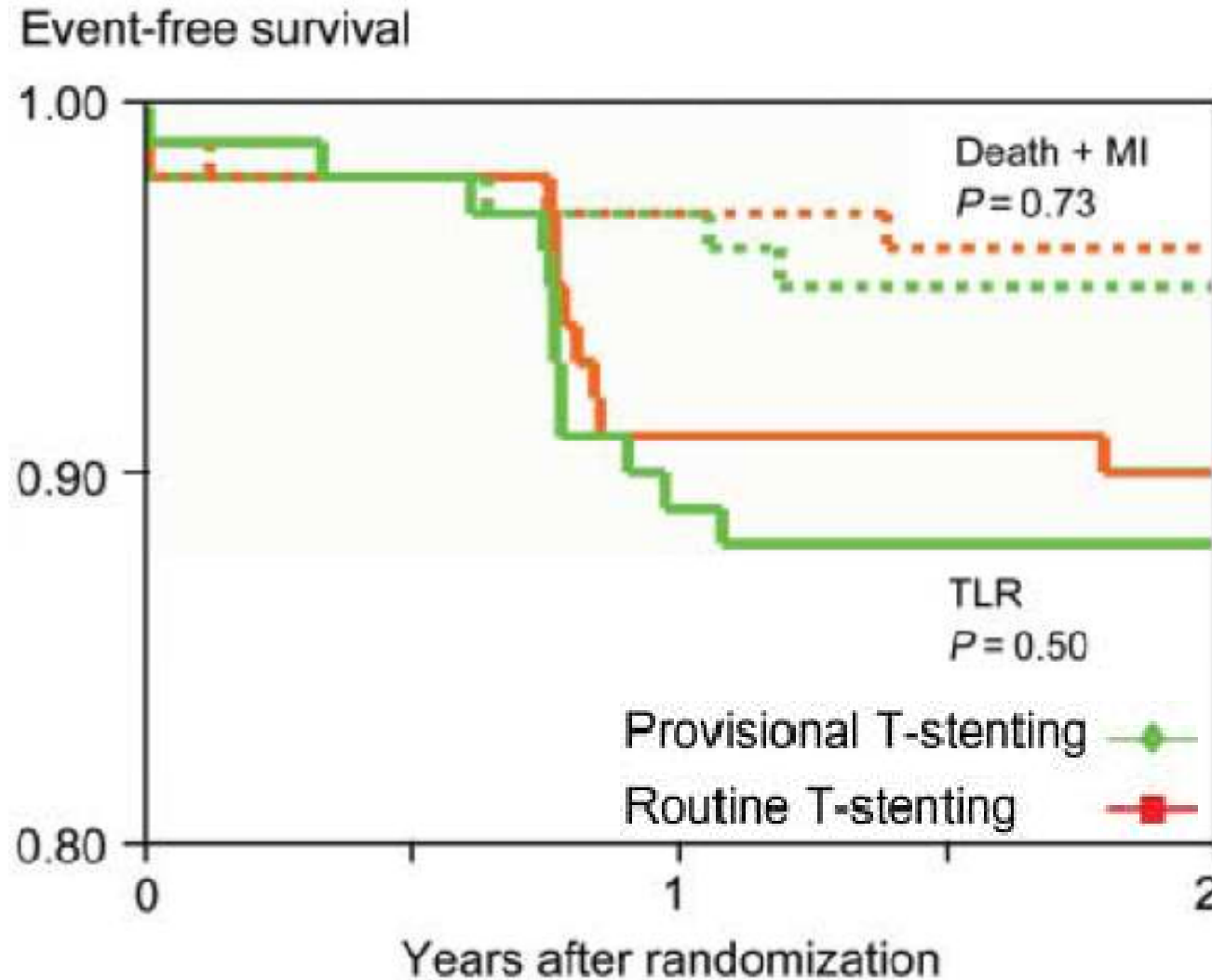


Crush and Provision-T Technique²



1. Ge L, JACC 2005
2. Colombo A, CACTUS, Circulation 2009

Randomized trial on routine vs. Provisional T-stenting in the treatment of de novo coronary bifurcation lesions (BBK)



Conclusion

Provisional SB stenting is the gold standard for bifurcation stenting

A two stent approach is probably needed in < 15% of cases.

In those cases the main reason for stenting the SB first is to decrease the risk of SB failure.

By doing that we increase the complexity of the procedure and may compromise the result in the MB.

Conclusion (cont.)

Why not stenting the MB first following the rules of provisional SB stenting approach ?

It may simplify the procedure, improve the MB result and decrease the need for SB stenting in relatively short SB lesions (< 5 mm).

This approach will be evaluated in the EBC 2 randomized study.

