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**26 & 27 septembre  
2024**

## Trépied Endovasculaire : Technique et Résultats

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GROUPE  
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# Disclosures

I have the following potential conflicts of interest to report:

**Research funding from:** BD, Boston Scientific, COOK, General Electric, Sensome, WL Gore

**Personal fees and grants from:** Abbott, BD, Biotronik, Boston Scientific, Cook, General Electric, Medtronic, Penumbra, Terumo, Veryan, WL Gore (medical advisory board, educational course, speaking)



# Open surgery for CFA offers similar primary patency rate than endovascular surgery

Systematic review and meta-analysis of endovascular versus open repair for common femoral artery atherosclerosis treatment

Mourad Boufi, MD, PhD,<sup>a,b</sup> Meghan Ejargue, MD,<sup>a</sup> Magaye Gaye, MD,<sup>a</sup> Laurent Boyer, MD, PhD,<sup>c</sup> Yves Alimi, MD, PhD,<sup>a,b</sup> and Anderson D. Loundou, PhD,<sup>c</sup> Marseille, France

At maximum follow-up, primary patency did not differ between common femoral endarterectomy and endovascular treatment with routine stenting (88% and 83%, respectively)

*Research Article*

**Systematic Review and Proportional Meta-Analysis of Endarterectomy and Endovascular Therapy with Routine or Selective Stenting for Common Femoral Artery Atherosclerotic Disease**

Khalid Hamid Chungal <sup>1</sup>, Mubbasher Ameer Syed,<sup>2</sup> Tawseef Dar,<sup>3</sup> Muhammad Asif Mangi,<sup>2</sup> and Mujeeb Abdul Sheikh <sup>4</sup>

At 1 year no benefit of one technique over the other was noted in terms of primary patency (OR=0.49; 95%CI 0.29-3.06)

# ESVS 2024 guidelines for Common Femoral Repair

## Recommendation 61

For patients with disabling intermittent claudication undergoing revascularisation, with common femoral artery stenosis or occlusion not extending down to the femoral bifurcation, endovascular treatment may be considered as an alternative to open surgery due to similar midterm patency rates compared with open surgery in non-complex common femoral artery lesions.

Class	Level	References	ToE
Ib	B	Changal <i>et al.</i> (2019) <sup>543</sup> Boufi <i>et al.</i> (2021) <sup>544</sup>	

## Recommendation 62

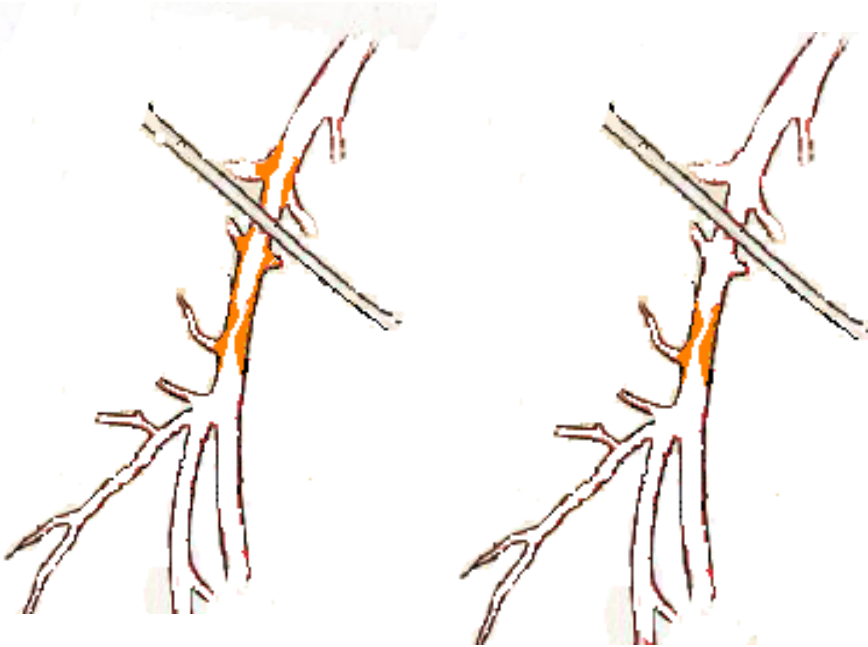
For patients with disabling intermittent claudication and a hostile groin (e.g., prior ipsilateral common femoral endarterectomy, morbid obesity, or previous regional radiotherapy to the groin region) undergoing revascularisation, endovascular treatment of steno-occlusive disease of the femoral bifurcation may be considered over open surgery due to the lower risk of surgical wound complications.

Class	Level	Reference
Ib	C	Consensus

# Simple and complex lesions

## Simple lesions

*(Type 1 and 2)*



Nitinol

Nitinol

## Complex lesions

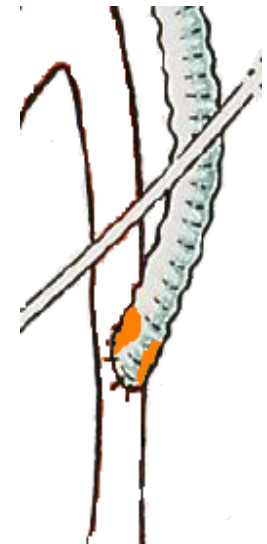
*(Type 3)*



Nitinol and/or BES

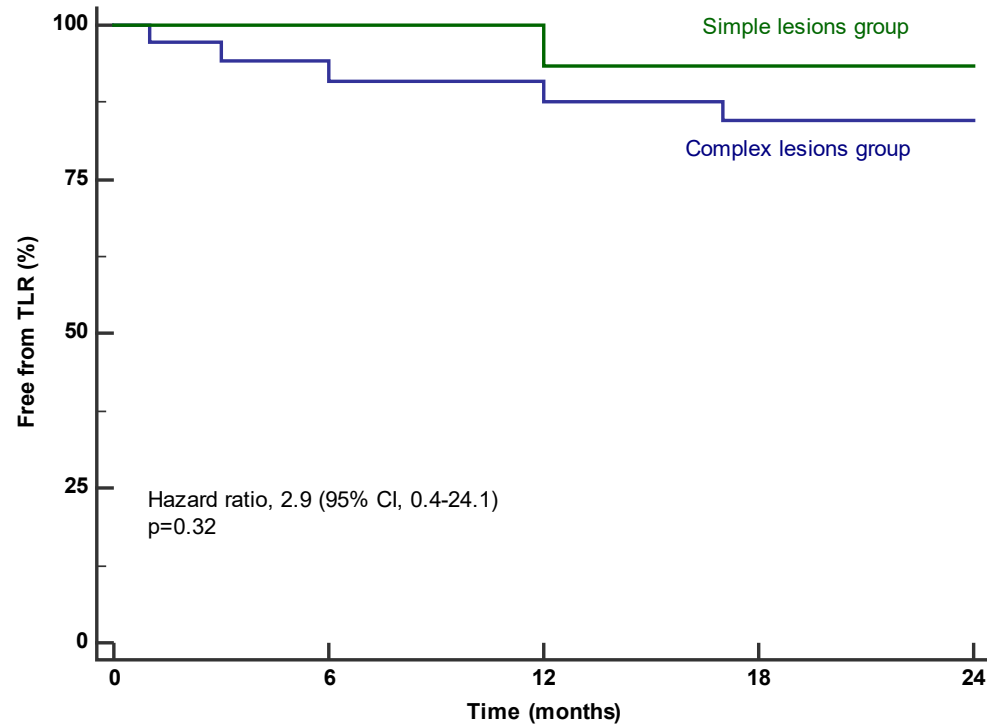
## Restenosis lesions

*(Type 4)*



Nitinol

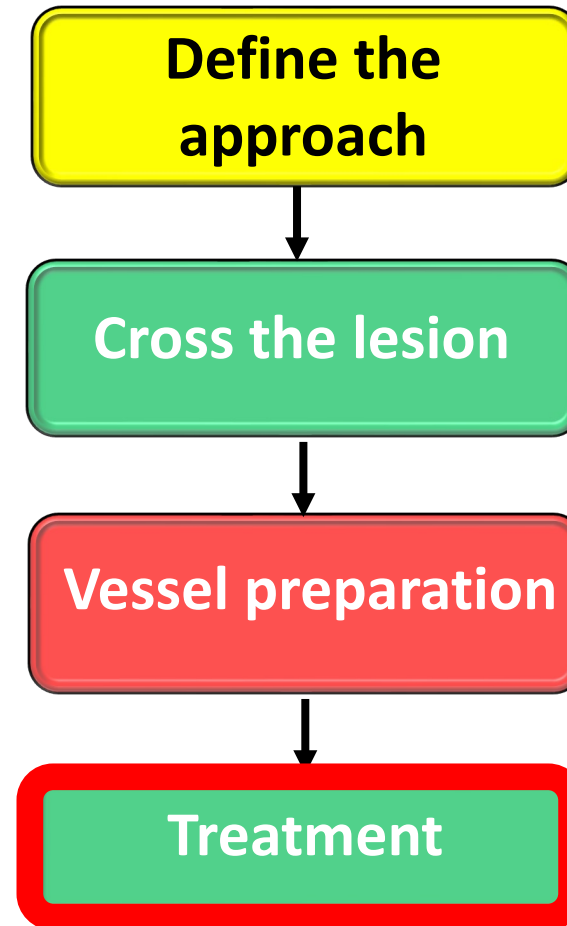
# Complex CFA Lesions and In-Stent Restenosis



The significant predictors of in-stent restenosis were:

- Deep femoral artery stenting (p=0.0007)
- Type III lesions (p=0.014)

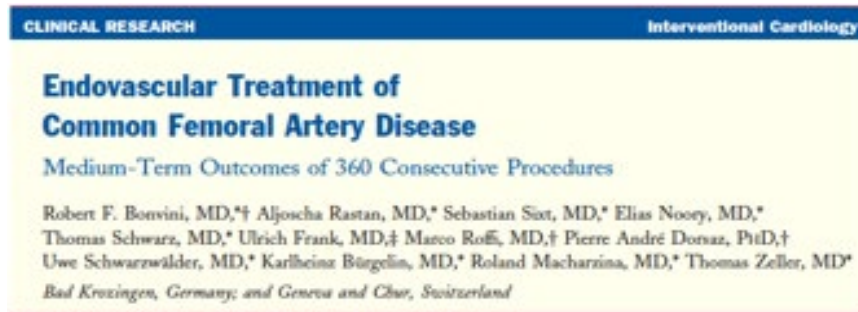
# Common Femoral Artery Algorithm



Gouëffic Y, EMC, 2024

Dubosq M, Gouëffic Y, Medicina (Kaunas), 2022

# The best endovascular treatment for CFA: UNKNOWN



The use of stents was identified as the only independent protective factor against procedural failure, TLR and 1-year restenosis

Bonvini, JACC, 2011



Primary sustained clinical improvement was significantly better in patients in whom stents had been implanted

Baumann, J Vasc Surg, 2011

# TECCO - Primary Endpoint

## Modified intent to treat analysis

	Surgery (n=61)	Stenting (n=56)	p
Morbidity-mortality rate @ 1 month, n (%)	16 (26)	7 (12.5)	0.05

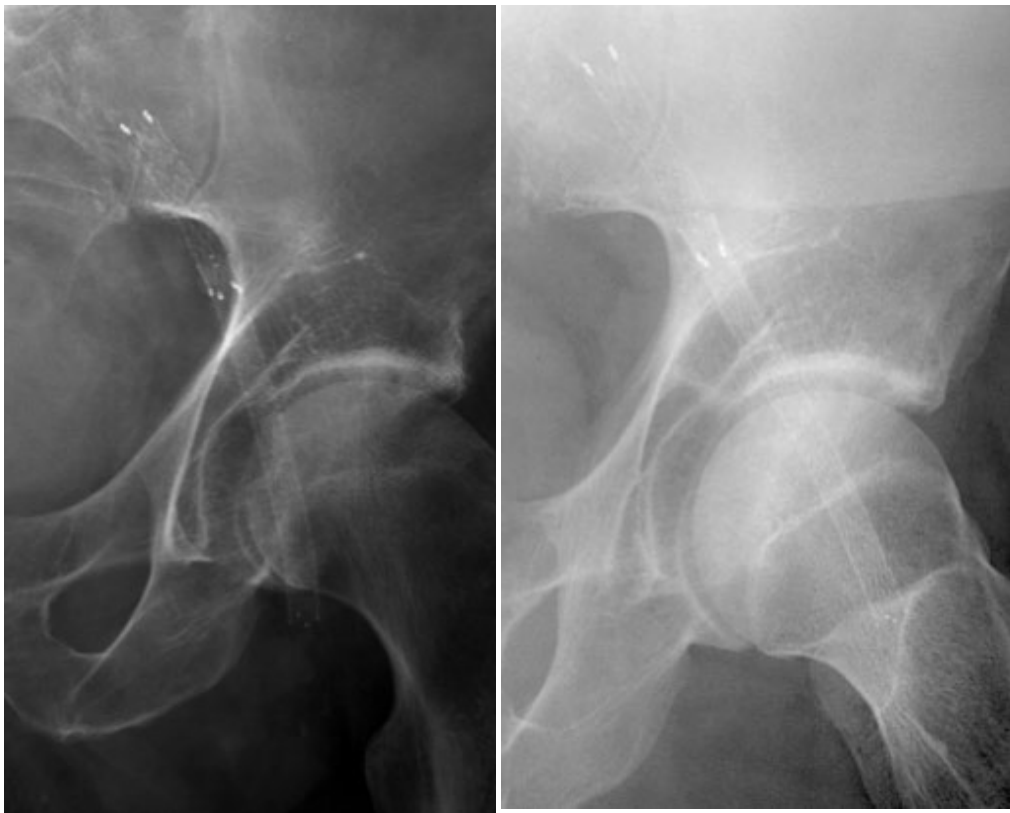
## Per protocol analysis

	Surgery (n=58)	Stenting (n=47)	p
Morbidity-mortality rate @ 1 month, n (%)	16 (26)	3 (6.4)	0.005



## Simple lesions (Type 1 and 2)

Type 1



Type 2

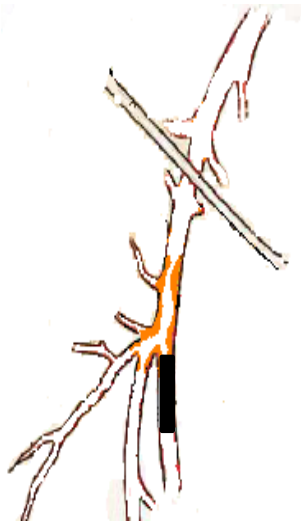


*X-rays @ 36 months*

# Complex Lesions (type 3) = CFA Bifurcation Is Involved

CFA to DPA or CFA to SFA stenting

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Kissing stent  
Effeil tower  
T-stent

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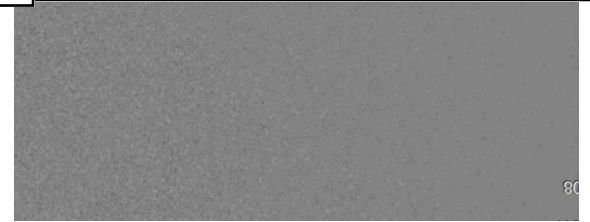
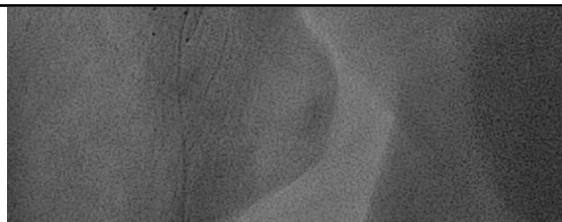
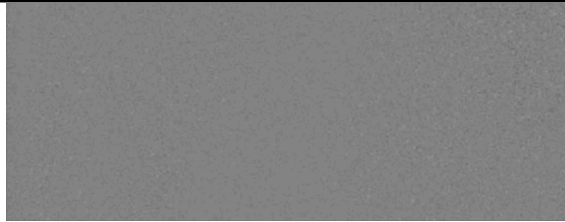
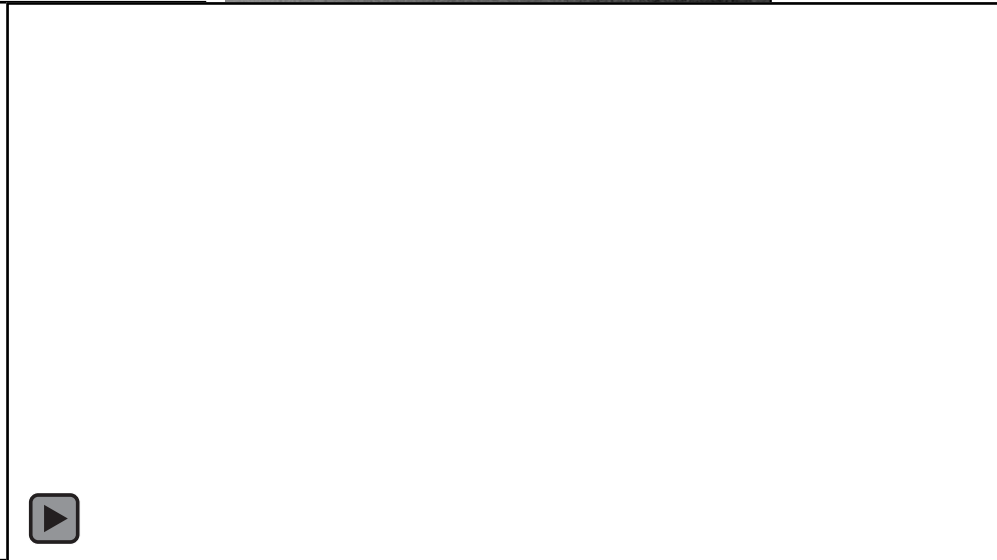
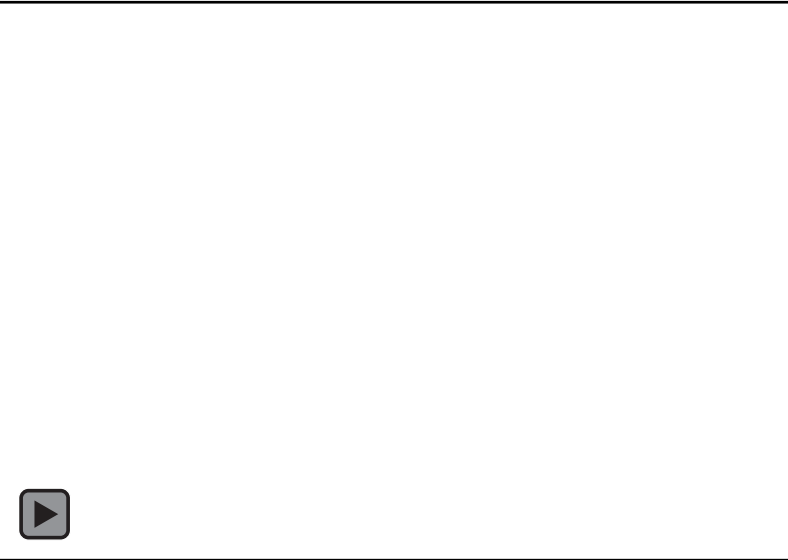
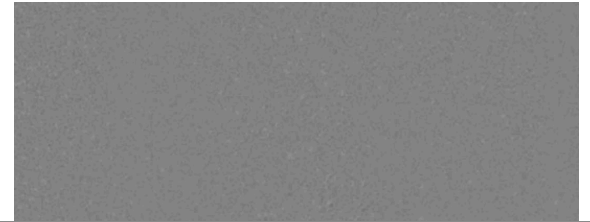
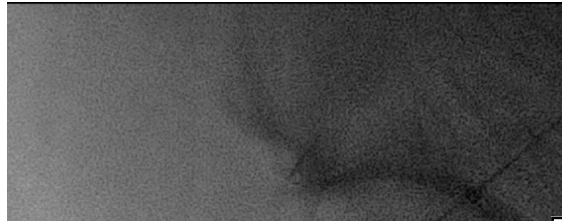
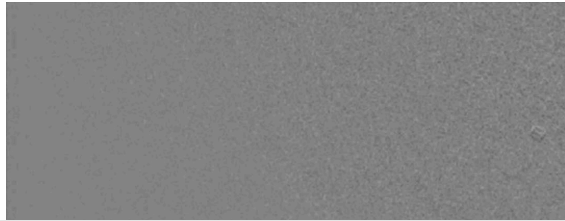
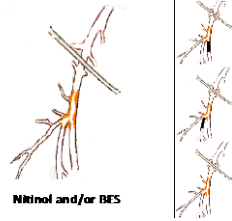


In TECCO RCT, 61% of the lesions were type 3

Gouëffic, JACC Interv, 2017

# CFA Deep femoral artery stenting

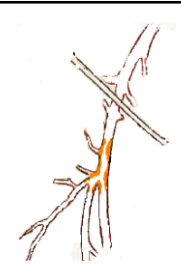
Complex lesions  
(Type 3)



# CFA kissing stent



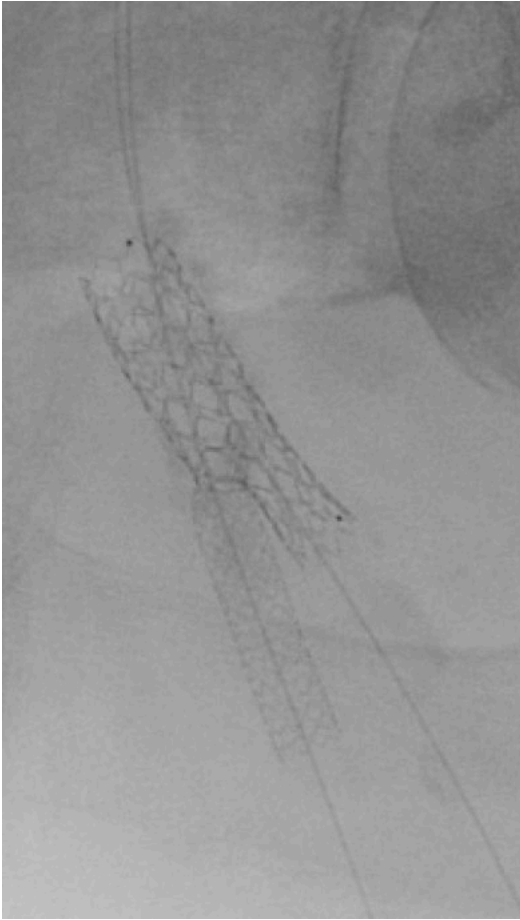
**Complex lesions**  
(Type 3)



Nitinol and/or BES



## *T stenting*



## *Culotte technique*



Y. Gouëffic, M. Raux, M. Dubosq, C.C Bamdé, Alexandra Hauguel, Mar Alonso Chornet, L. Salmi, A. Baron et B. Nasr, EMC, In press

# Eiffel Tower Stenting

**-7Fr-45cm Destination introducer**

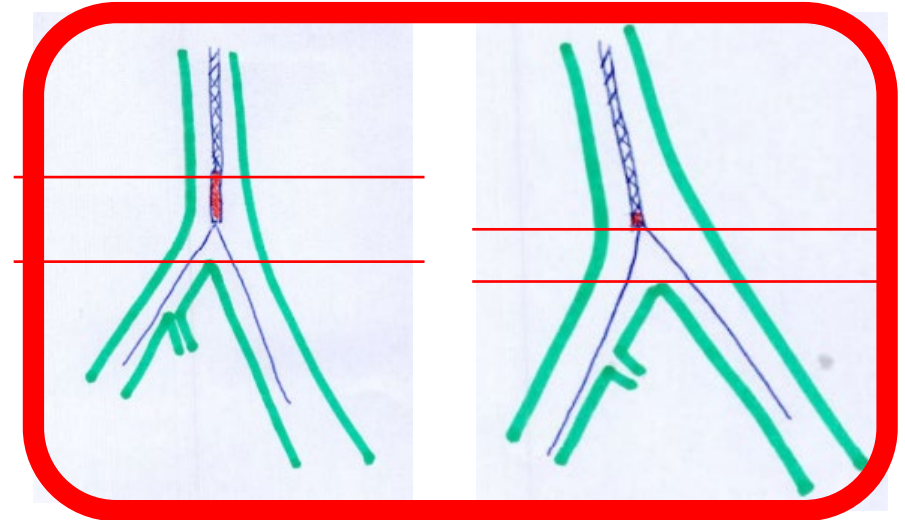
**Catherization of SFA and DFA by 2 .014 GW**

**-To choose a co-axial .035 SES**

**-To cut the catheter tip of the delivery system**

**-To deliver 2 BES by 0.014 GW**

(Diameter: 4-6mm / Length: 12-18mm)



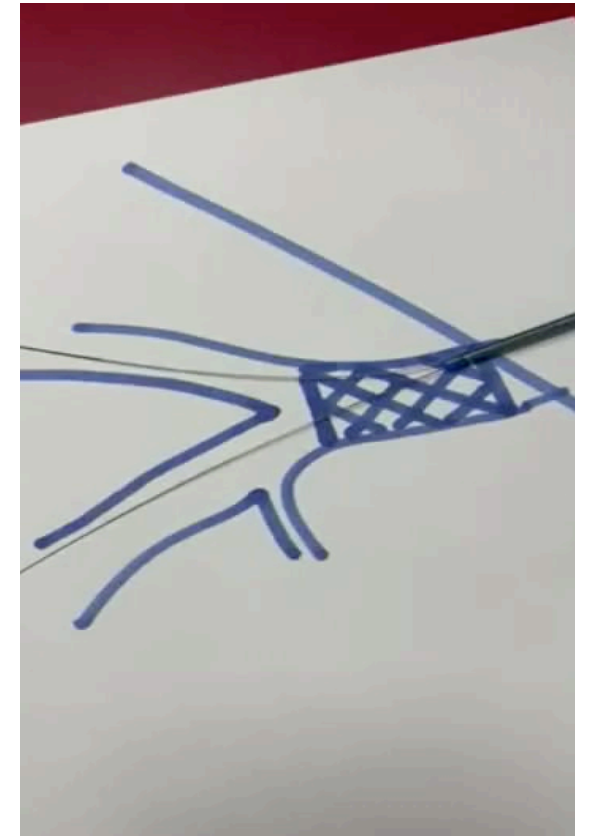
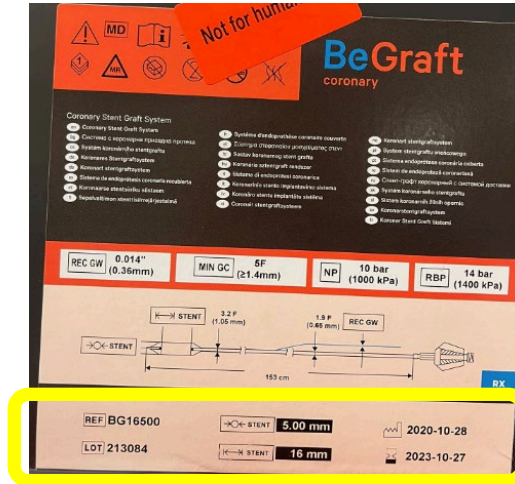




## **Rationale for Covered Stent for CFA Complex Lesions**

- To have an easier catheterization of the stented CFA in case of reintervention**
- To decrease potentially the risk of in-stent restenosis.**

# Covered Stent for CFA Complex Lesions



# Patient history

**Male, 80 year-old**

## **Symptomatology**

Claudication right limb (Rutherford 3)

## **Medical history**

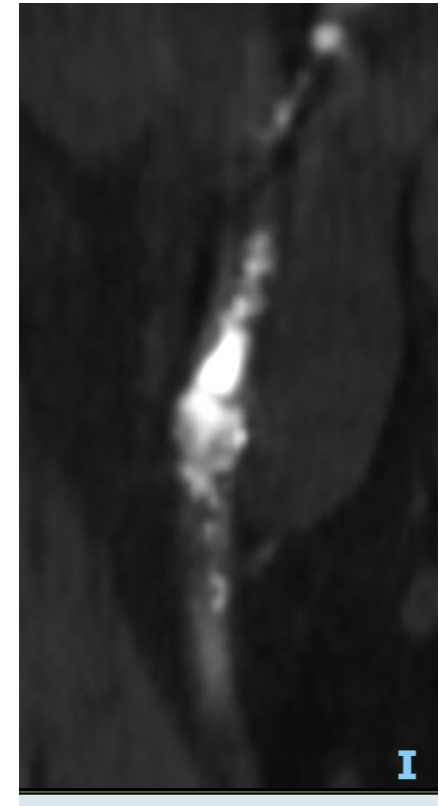
- HTA, smoking
- Peripheral arterial disease
- Coronary disease

## **Duplex scan**

CFA and SFA stenoses



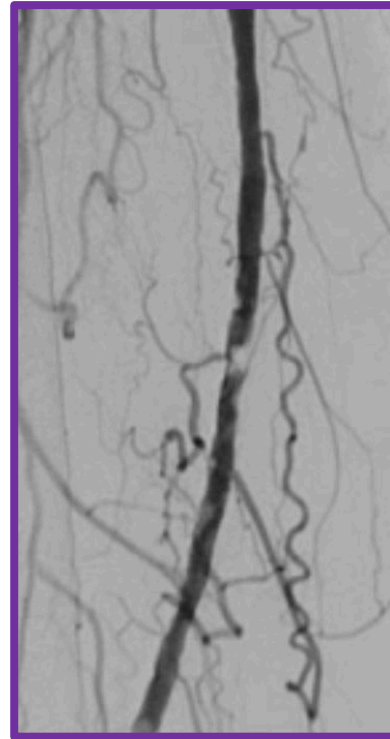
CT scan



CT scan

# Bolus Chase

(cross over approach / 7Fr-45cm sheath)



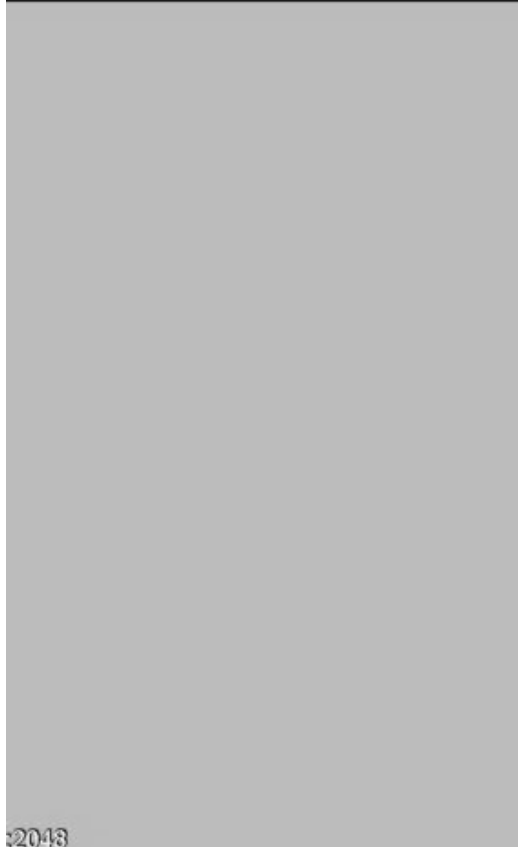
SFA first  
DCB



## 1<sup>st</sup> Troubleshooting: Crossing the Deep Femoral Artery



0.035 GW

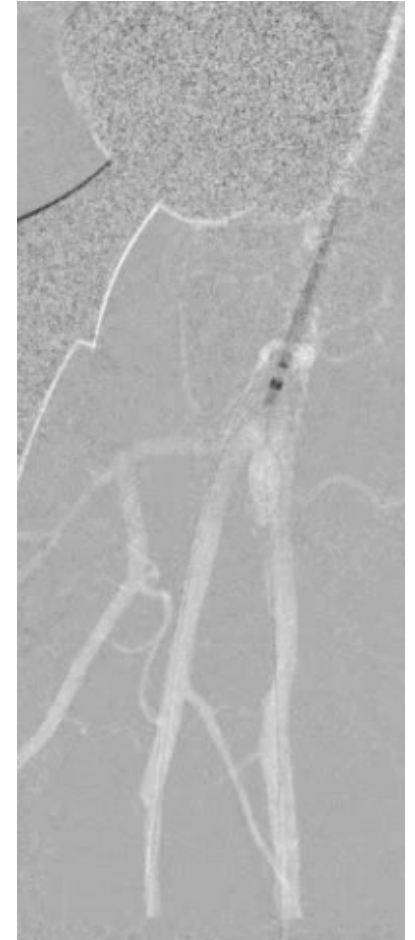
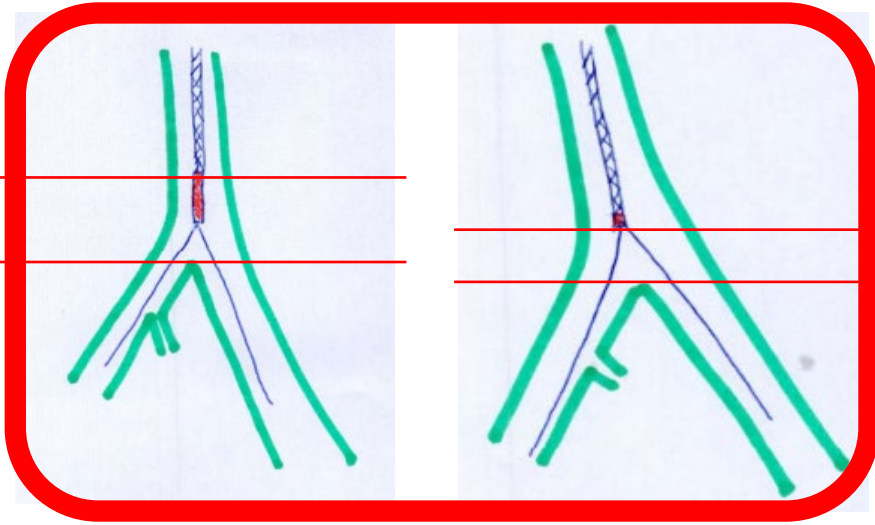


BER 2 + 0.035 GW



0.014 GW into the SFA  
and the DFA

# Stenting of the CFA Trunk



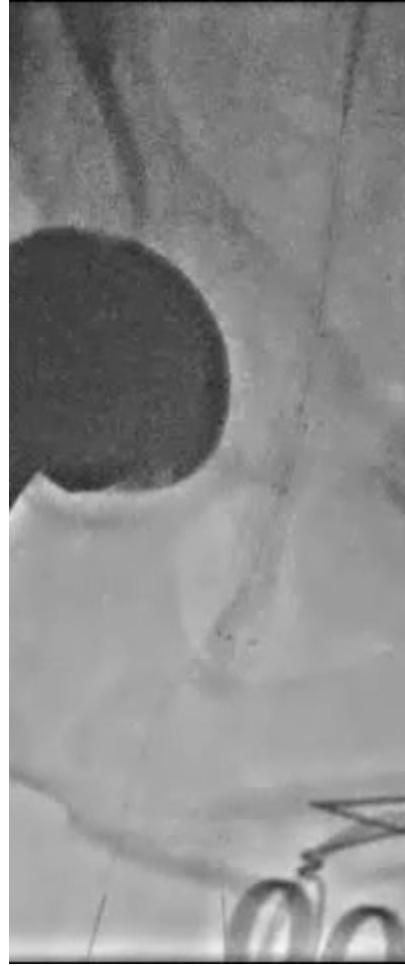
ELUVIA® DES (7-40mm)



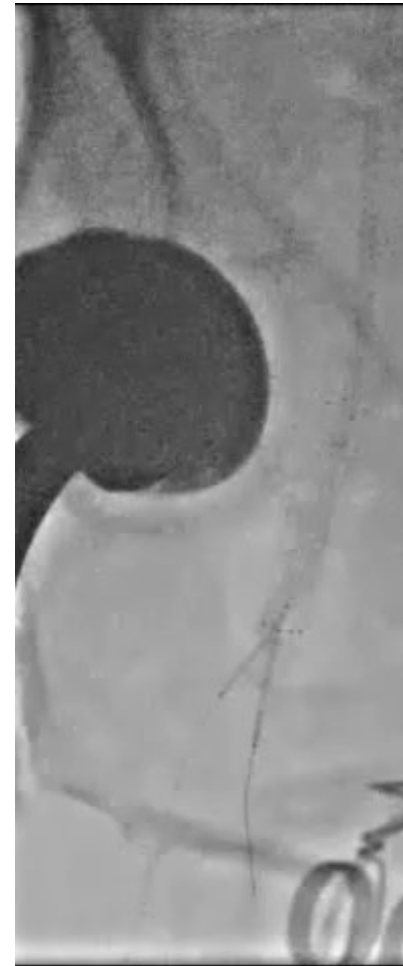
## Kissing Stenting by Balloon Expendable Covered Stents



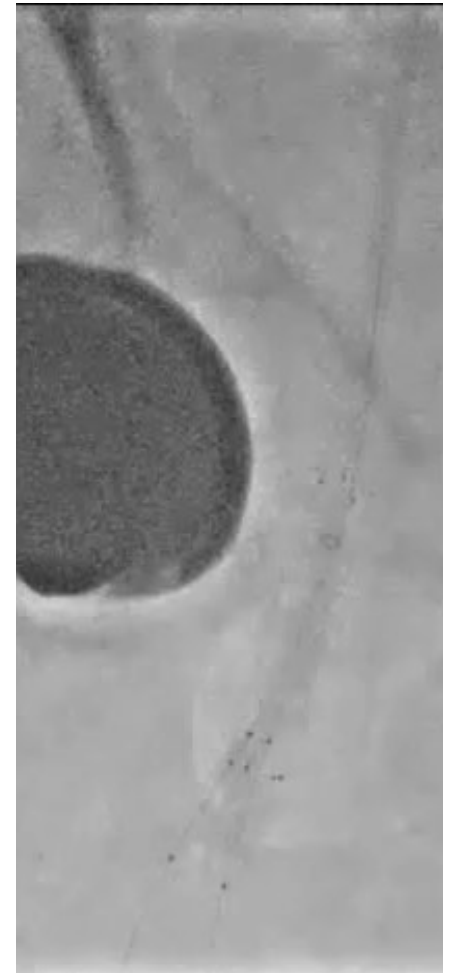
7Fr sheath into the  
Eluvia stent



Bentley Covered stents  
5-18mm)



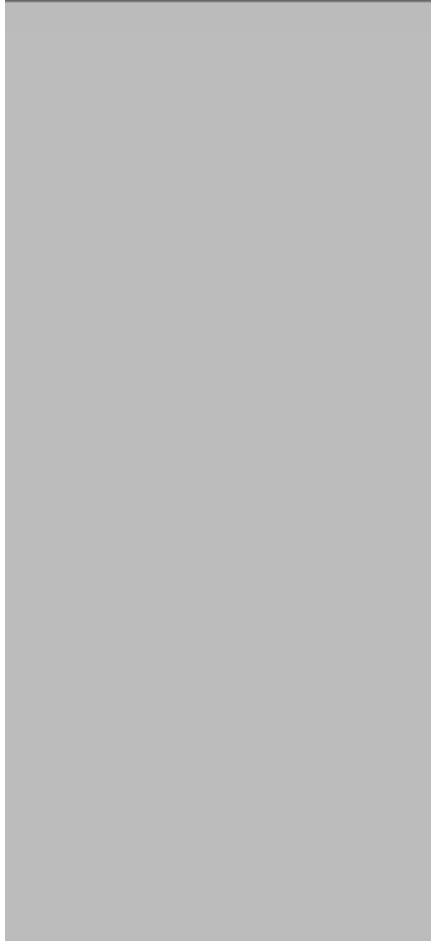
SFA GW...



Kissing stent



## 2<sup>nd</sup> troubleshooting: Dissection of the SFA



Dissection

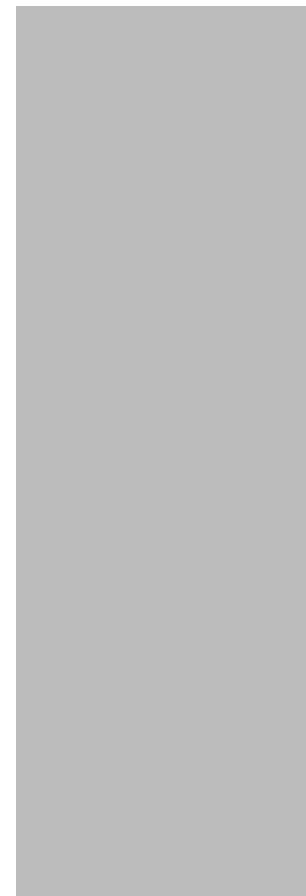
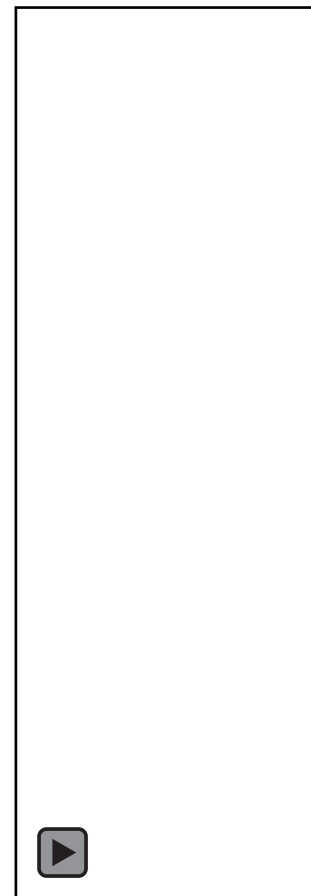
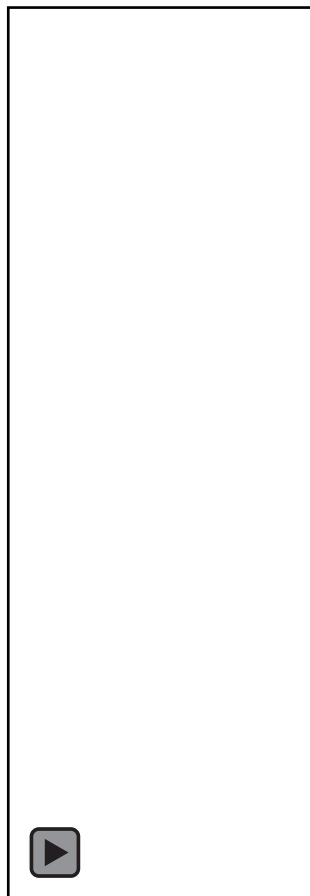
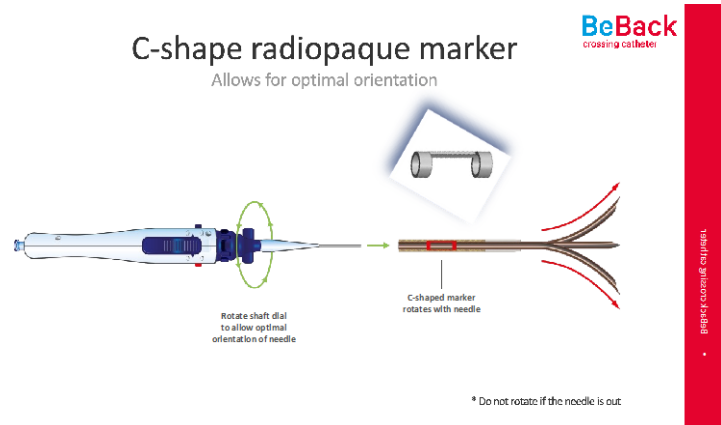
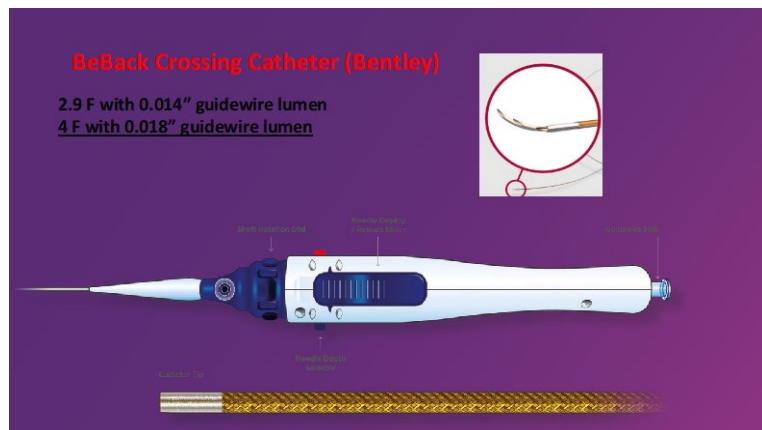


Failure of the antegrade  
recanalization



Failure of the retrograde  
recanalization

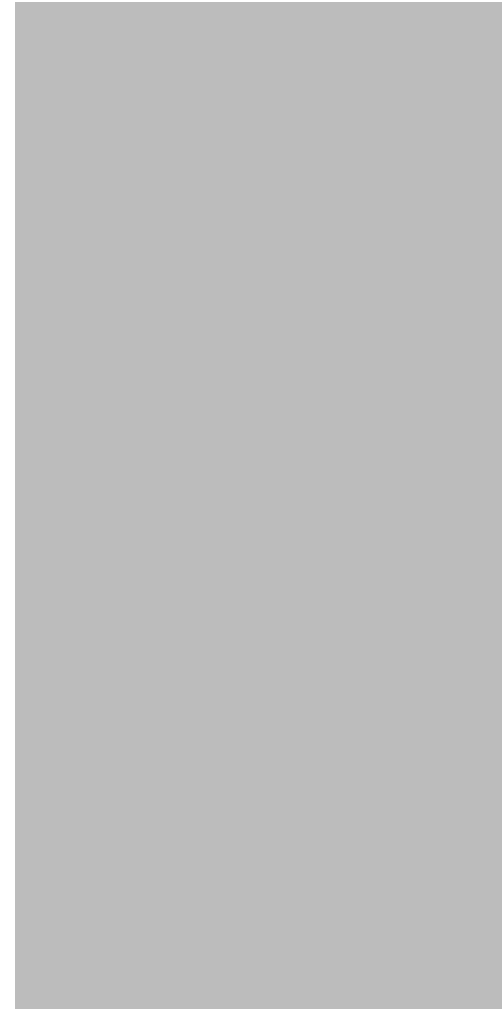
# Re-entry Catheter



# Femoropopliteal covered stenting



Viabahn 6-100 mm



Final control

## Take home message

- Eiffel Tower technique for CFA bifurcation lesions by covered stenting allows further endovascular procedures at the ipsilateral limb.
- Re-entry devices are mandatory for complex peripheral endovascular procedures
- More evidences are required regarding the mid and long-term outcomes of CFA endovascular stenting for complex lesions



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