

Endoprothèses Aortiques

**Stéphan Haulon,
Blandine Maurel, Jonathan Sobocinski,
Matthieu Guillou, Richard Azzaoui**

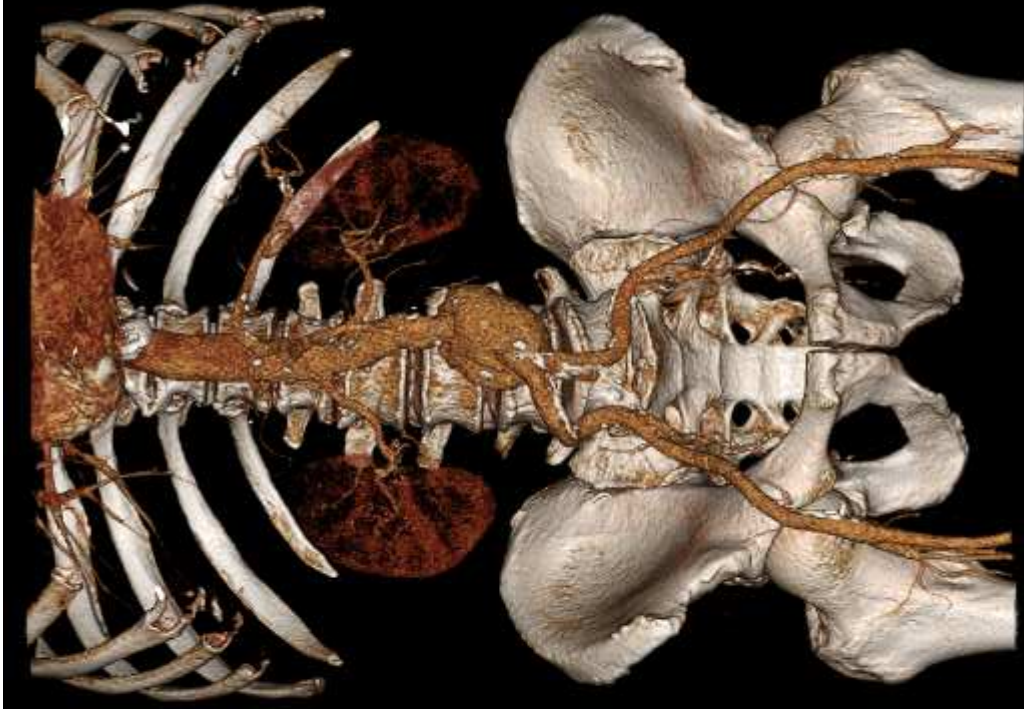
Service de Chirurgie Vasculaire
Clinique Médico-Chirurgicale Vasculaire
Hôpital Cardiologique
CHRU de Lille

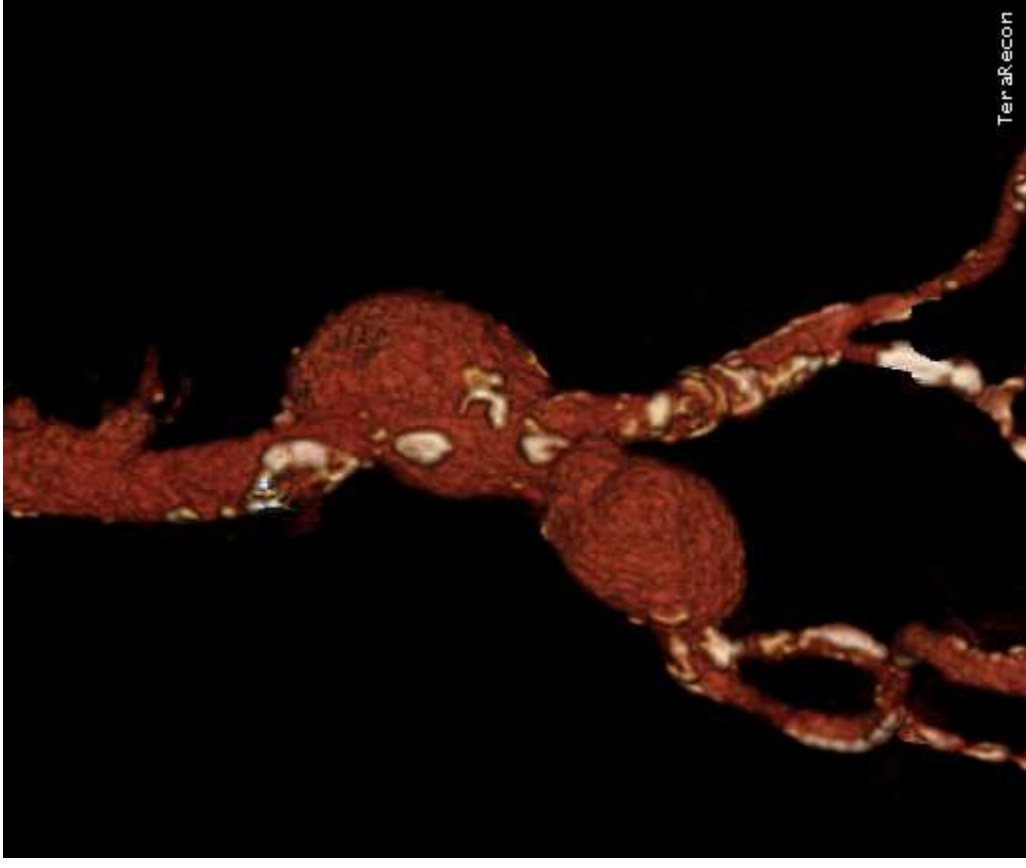


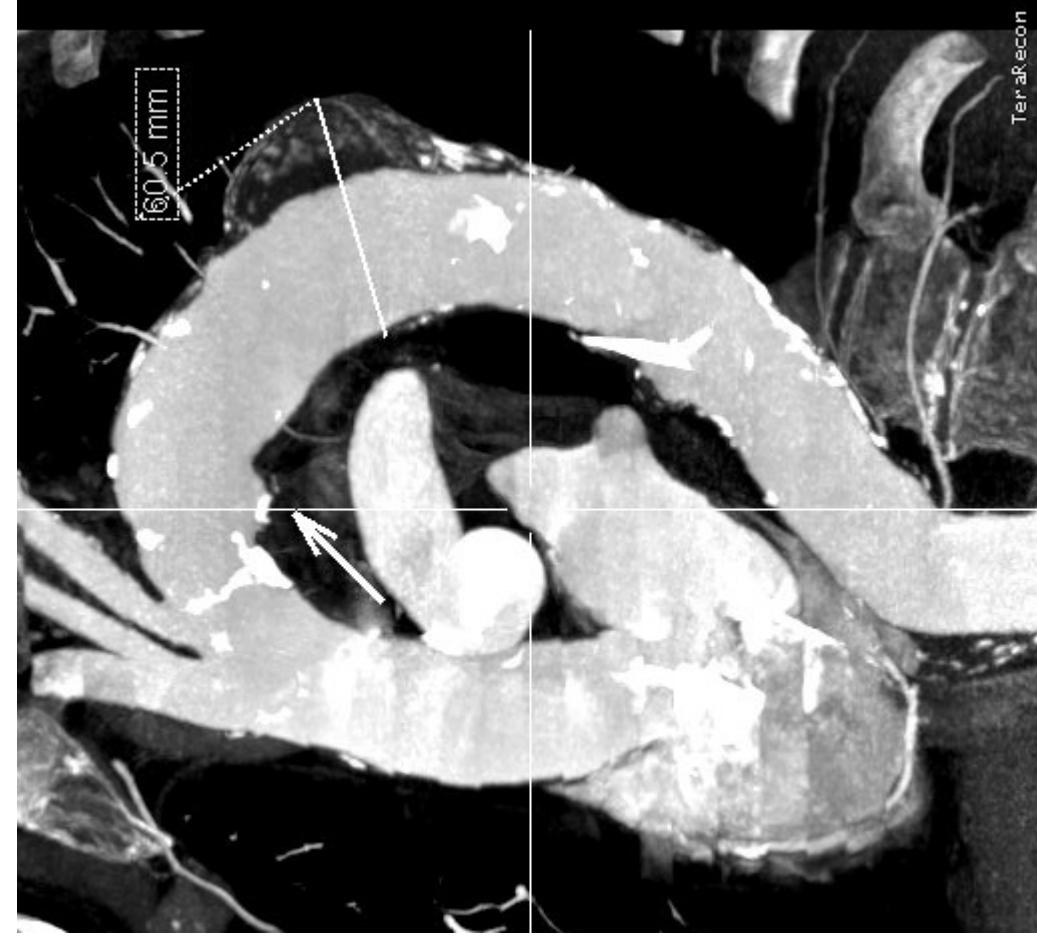
Disclosures

- Research support, Consulting:
 - Cook Medical, GE Healthcare

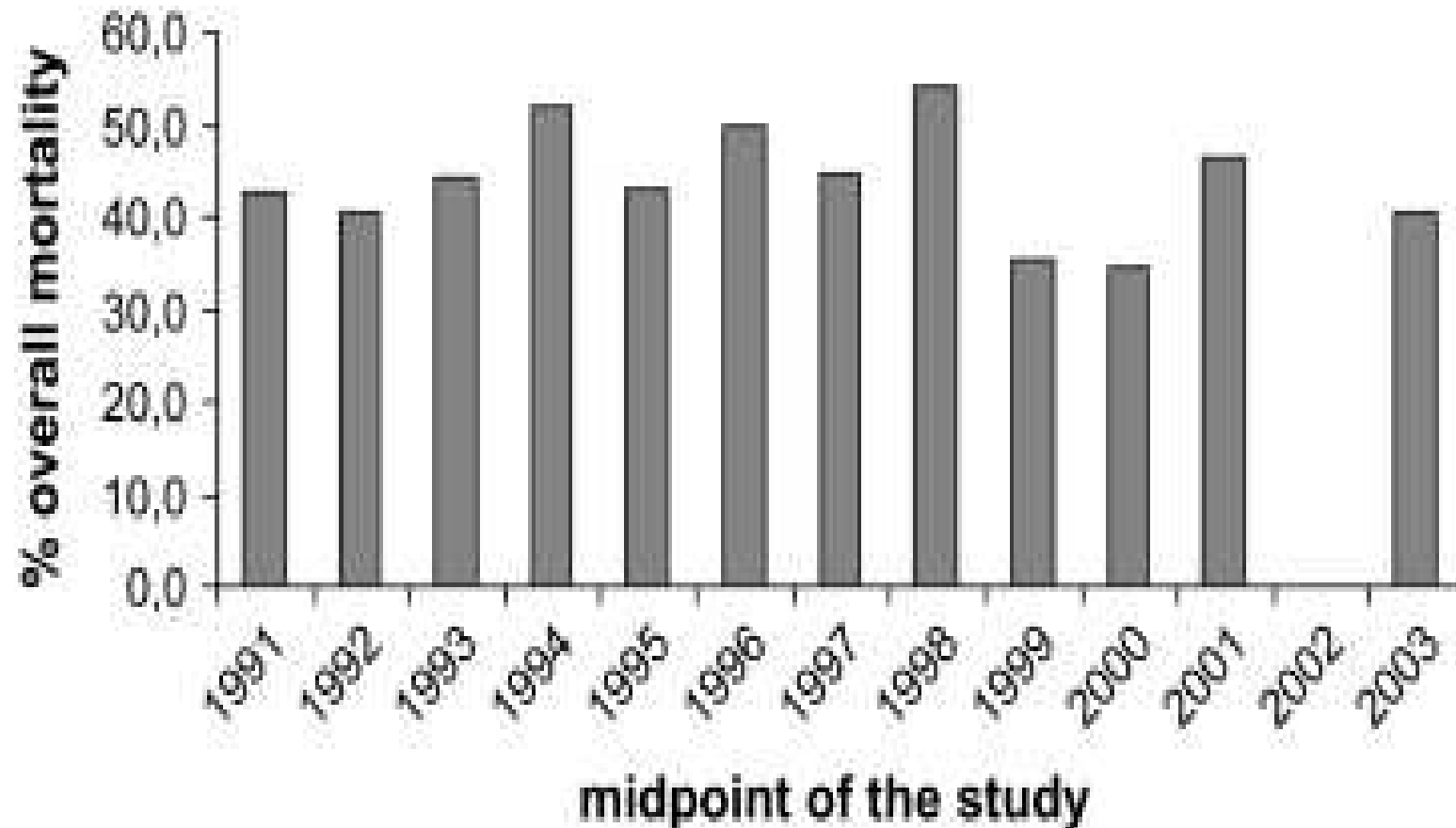








Métanalyse AAAr

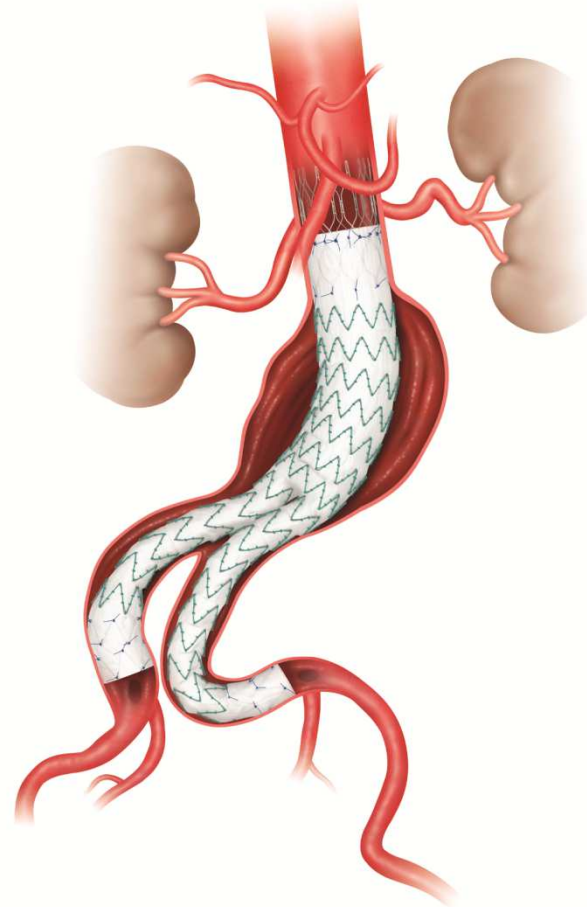
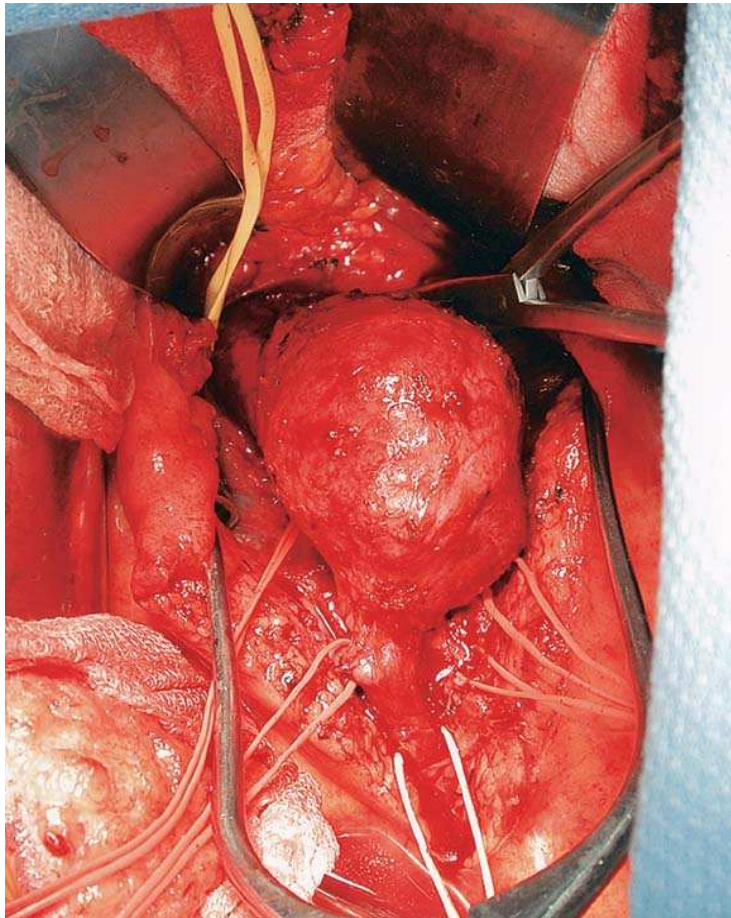


Hoornweg et al. Eur J Vasc & Endovasc surg 2008

Risque de Rupture

- 5-year rupture rates for AAA
 - 5-5.9 cm: 25% (5% within the year)
 - 6-6.9 cm: 35% (7% within the year)
 - >7cm: 75% (15% within the year)

Chirurgie Ouverte vs Endovasculaire



Chirurgie Ouverte vs Endovasculaire

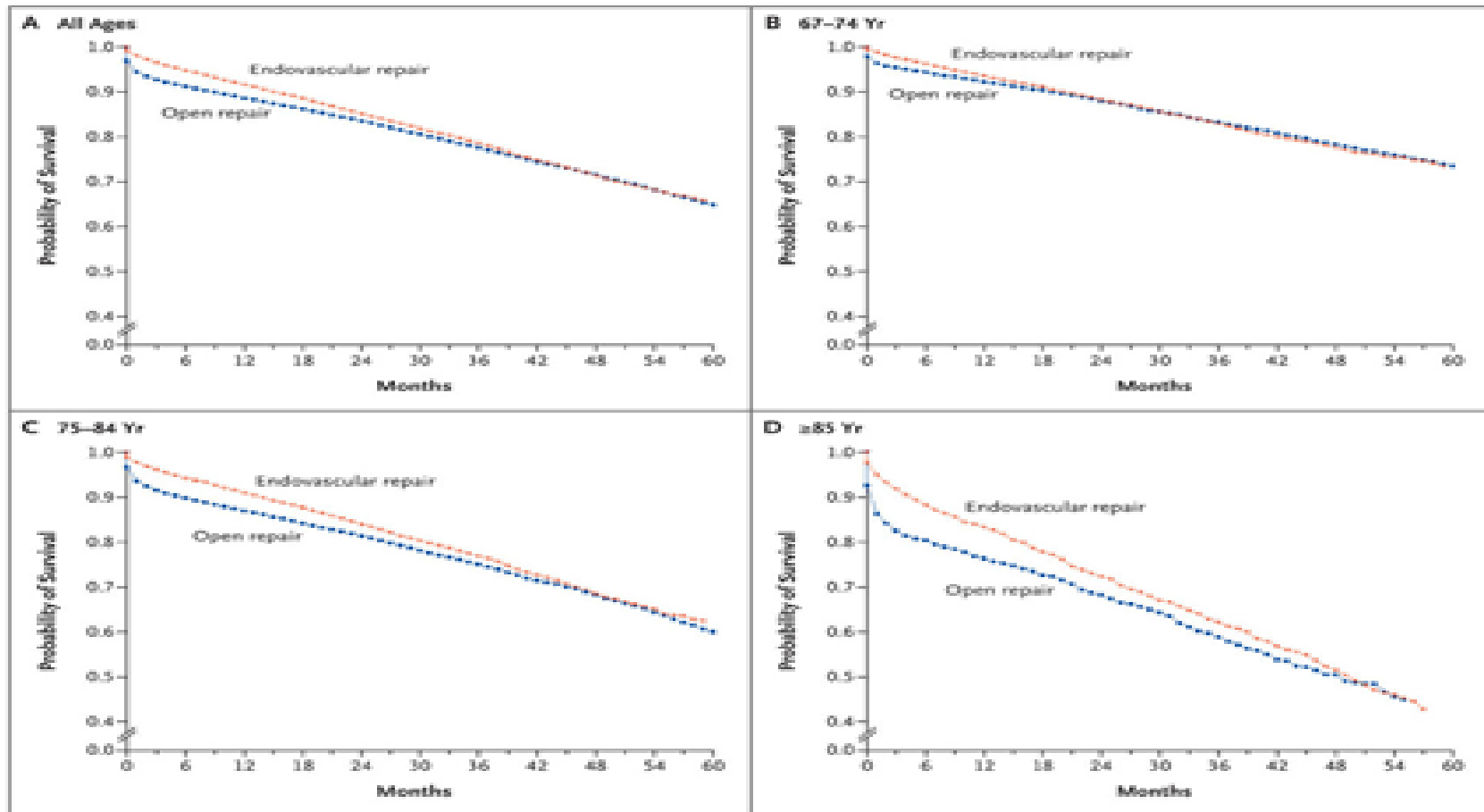
30 day mortality:
patients fit for surgery

	EVAR	Open repair
EVAR 1* (n = 1082)	1,7 %	4,8 %
DREAM** (n= 345)	1,2 %	4,6 %

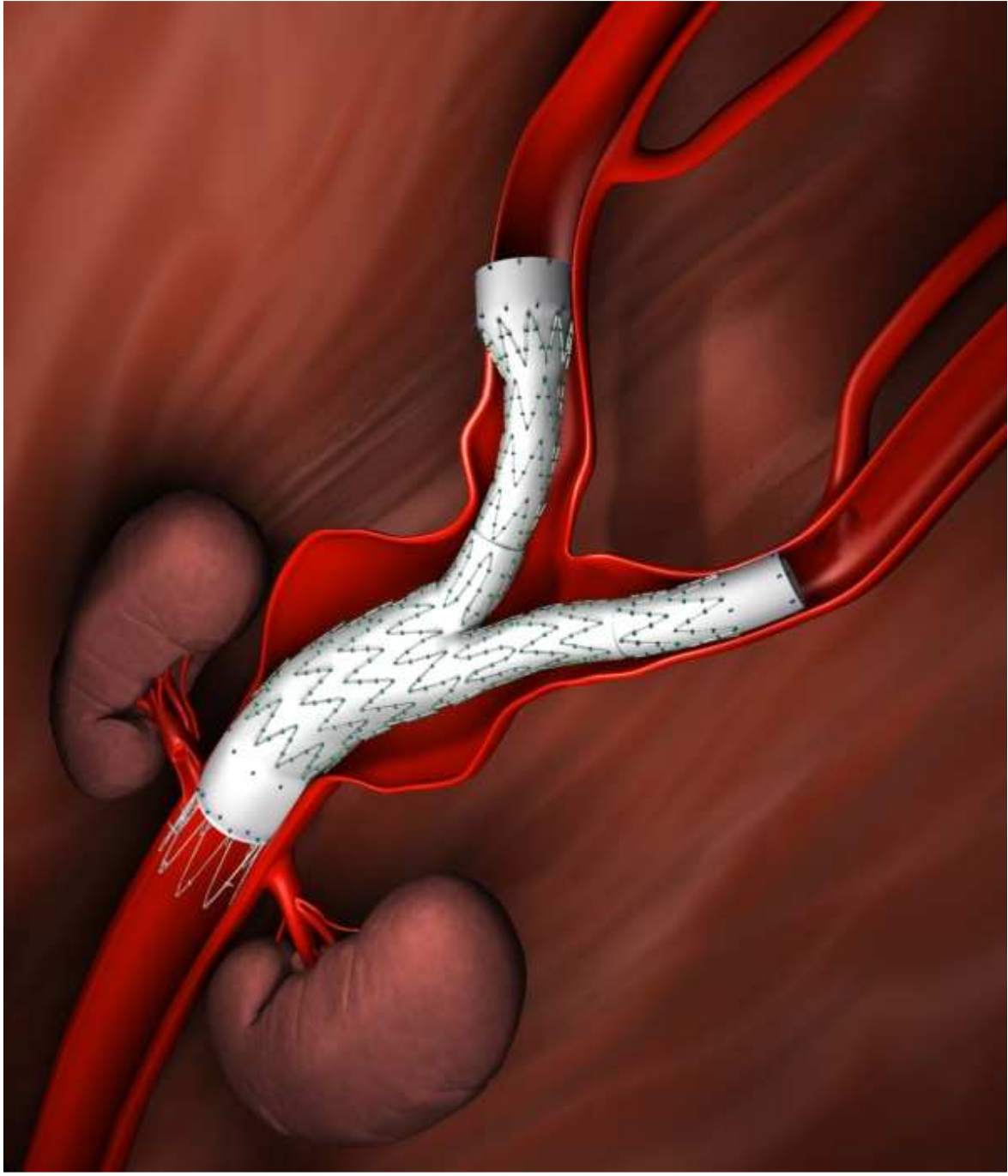
* Lancet 2004 ** N Engl J Med, 2004

Chirurgie Ouverte vs Endovasculaire

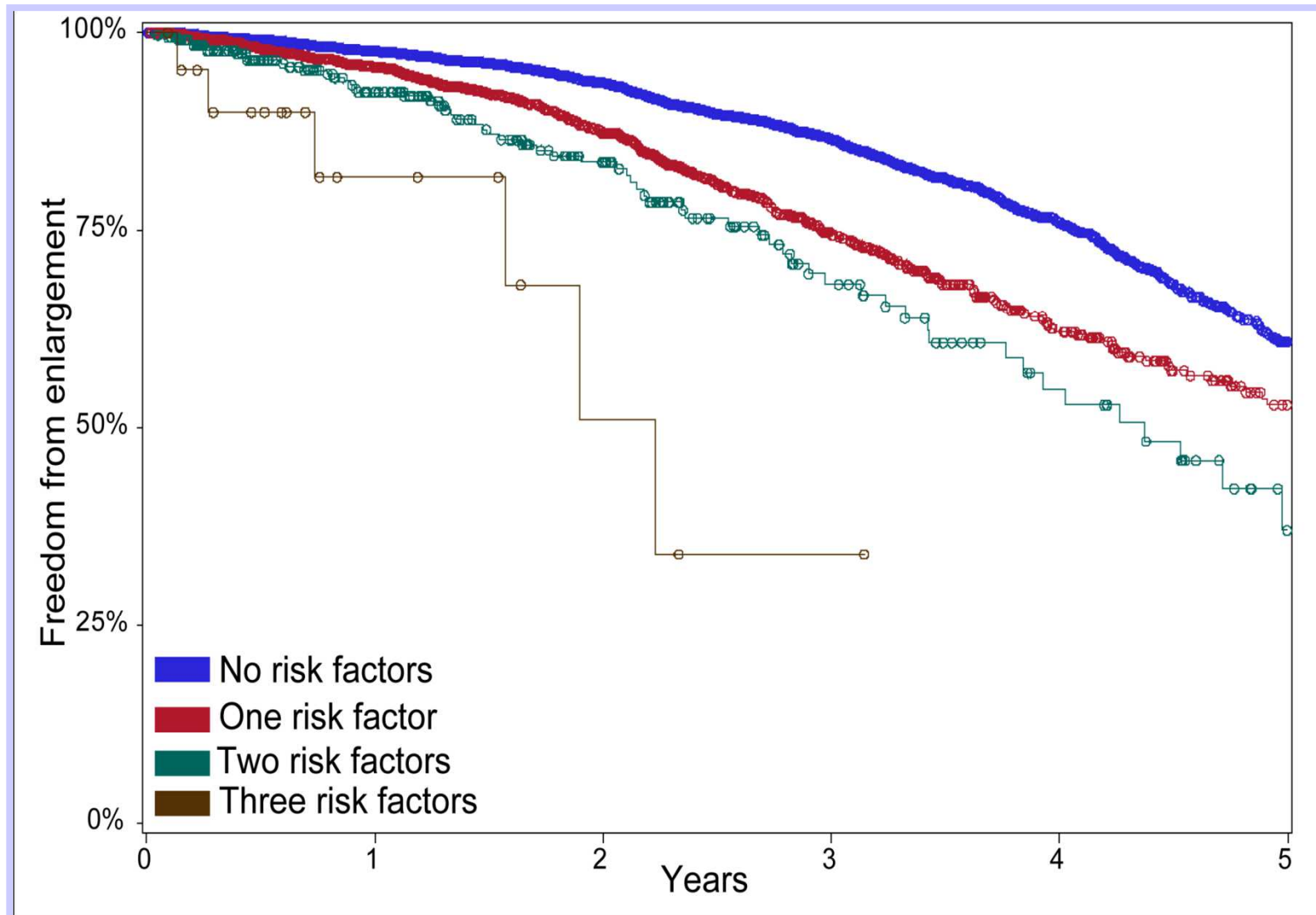
45660 matched patients



Schmerhorn et al. N Engl J Med, 2008.



Outcome Versus Extent of IFU Infringement

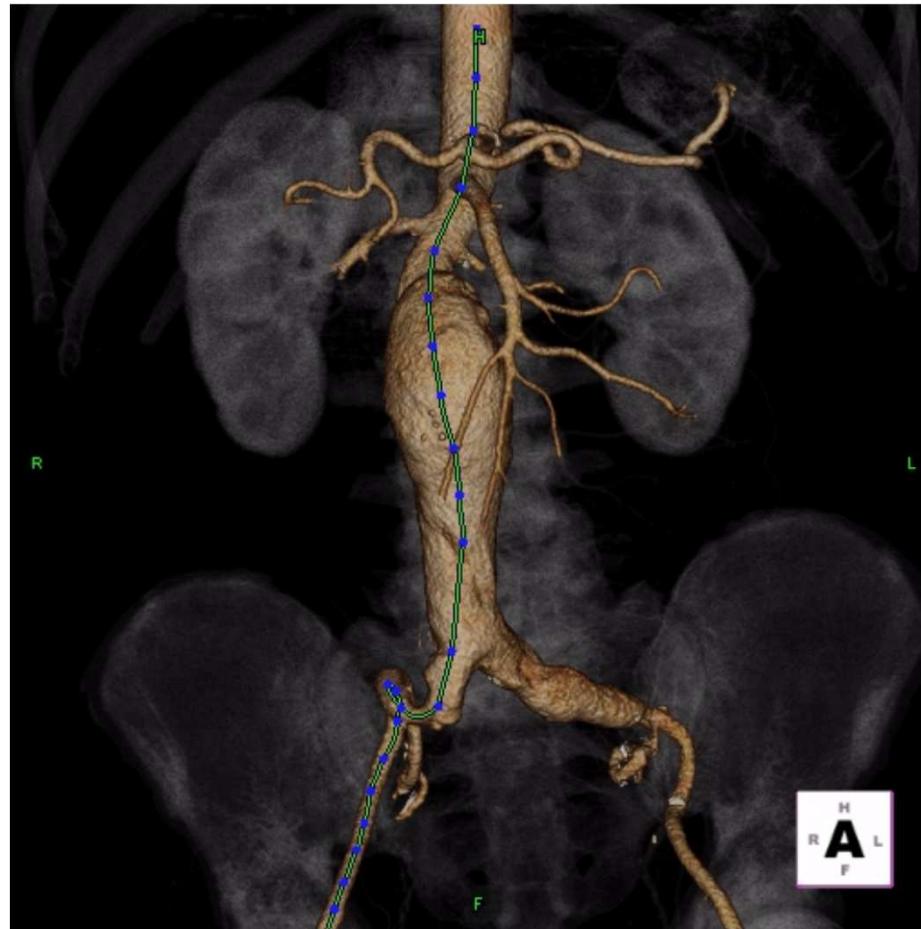


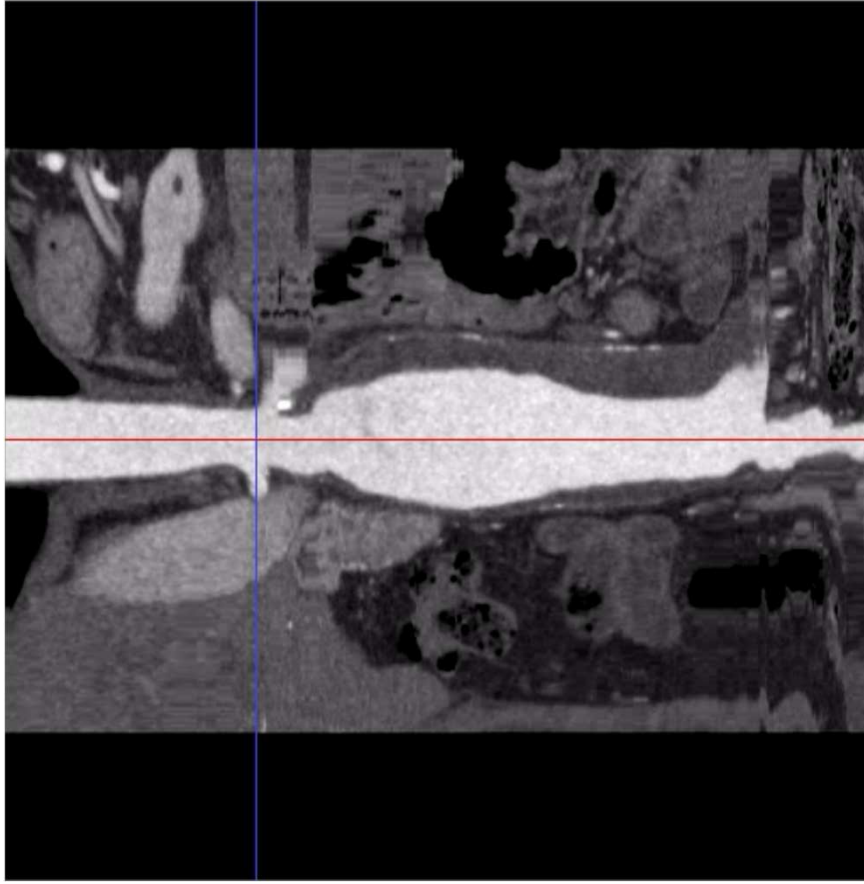
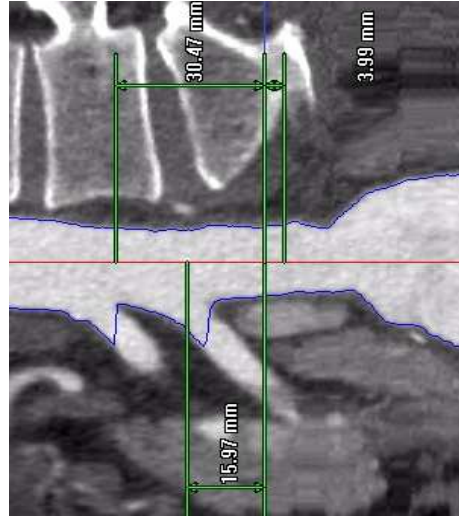
Schanzer, Circulation 2011

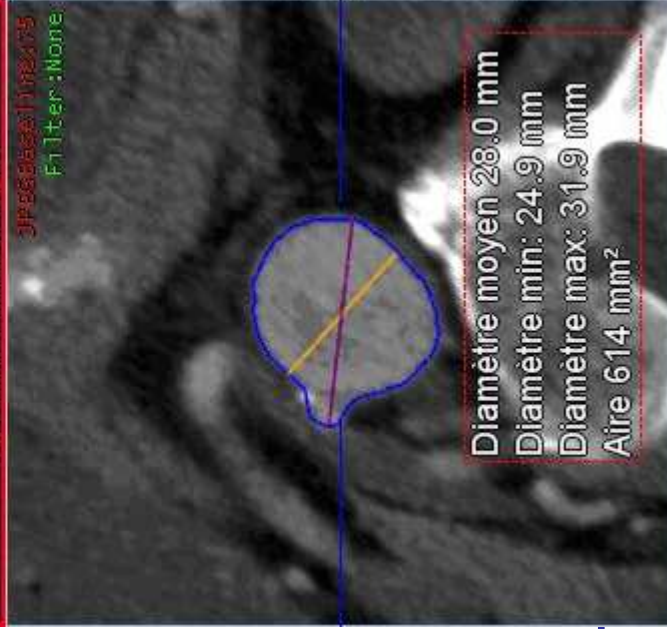
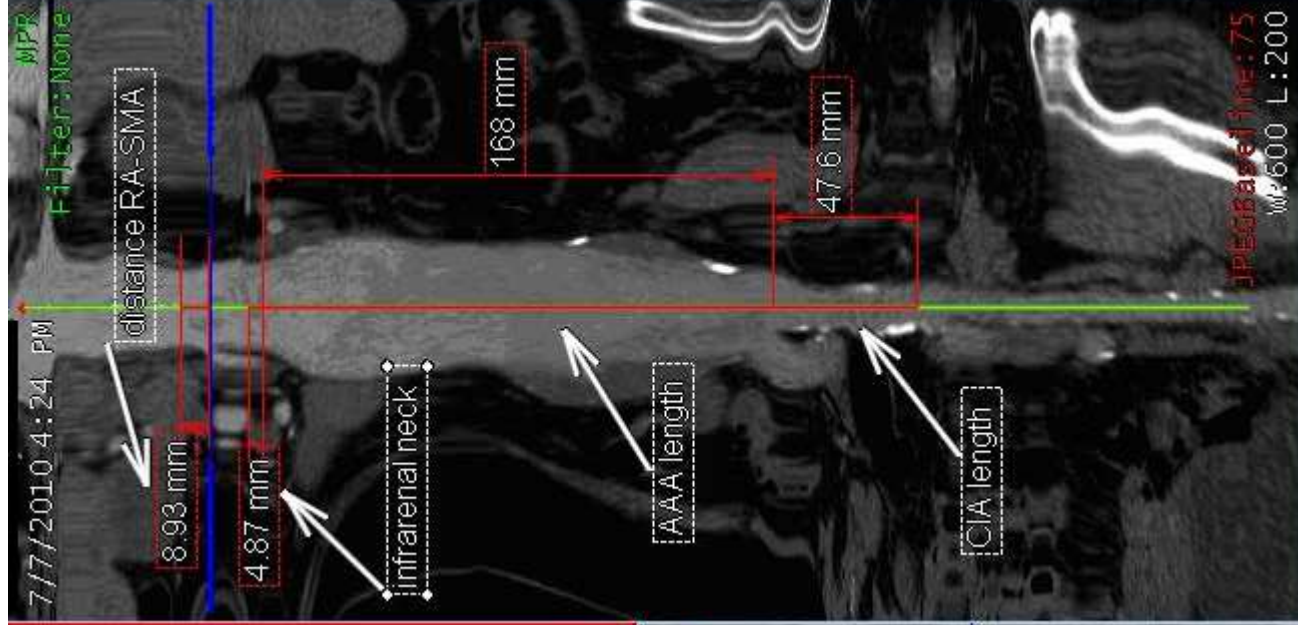
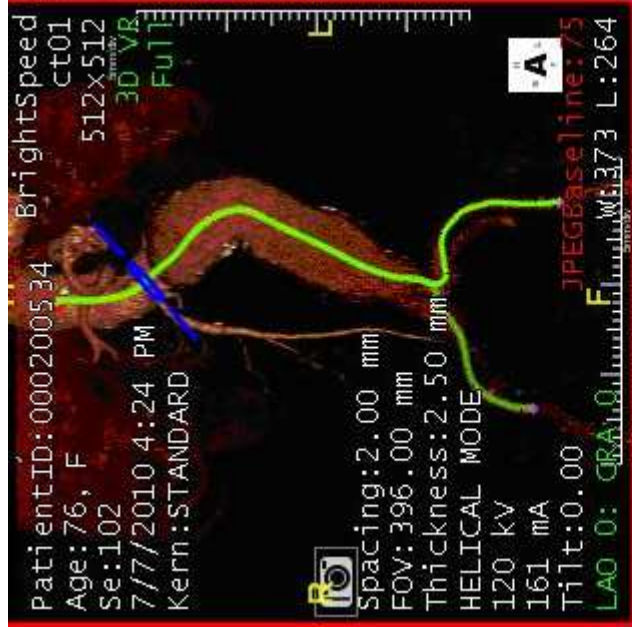
New Endografts?



Dedicated Planning Software

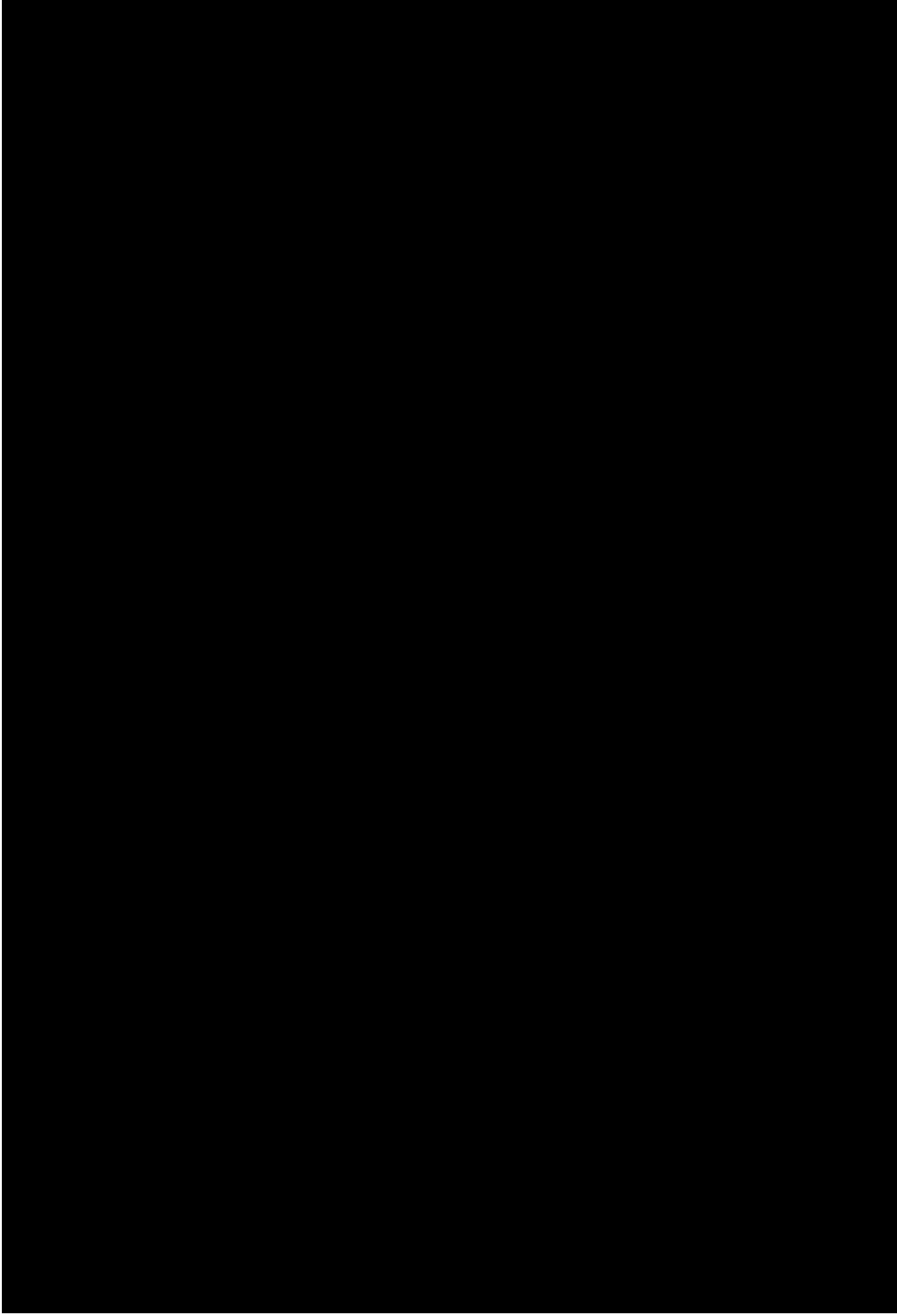


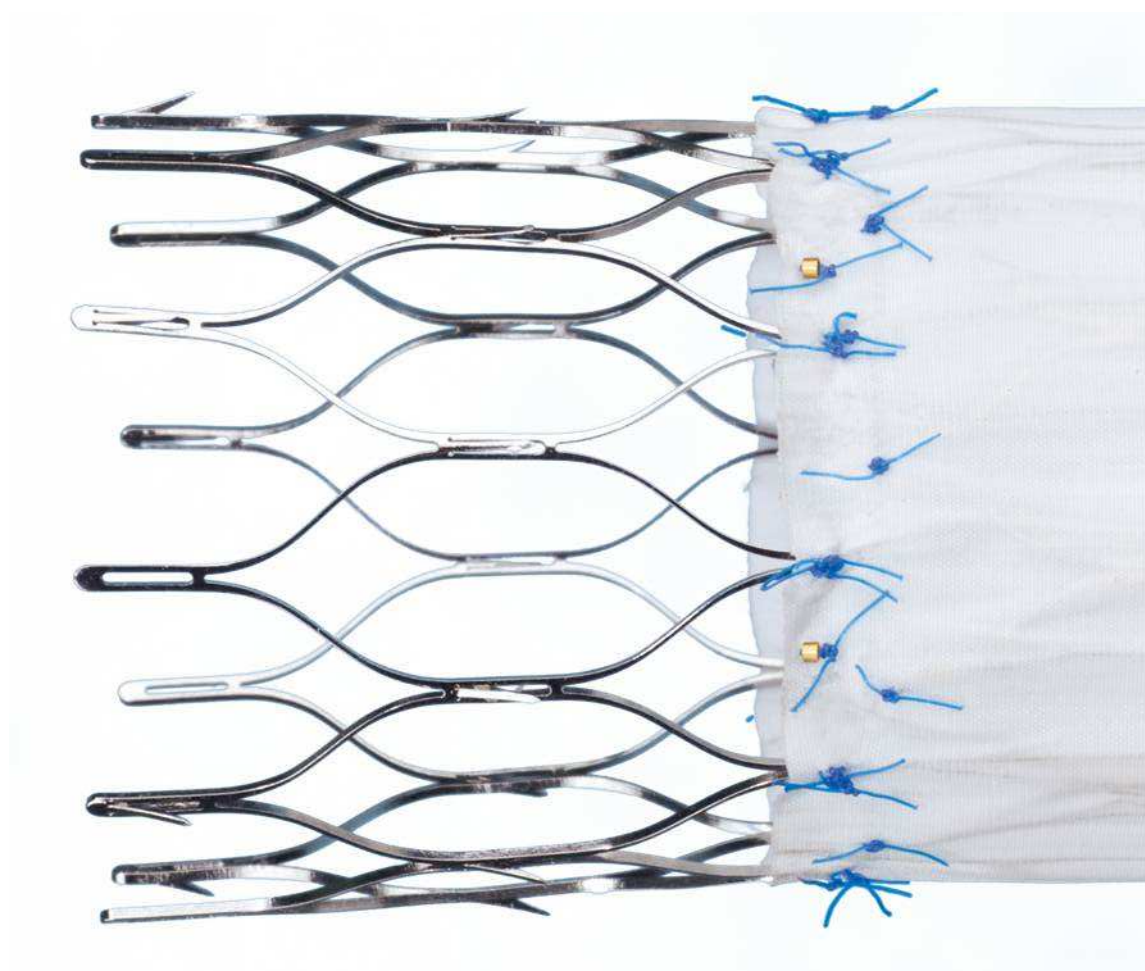
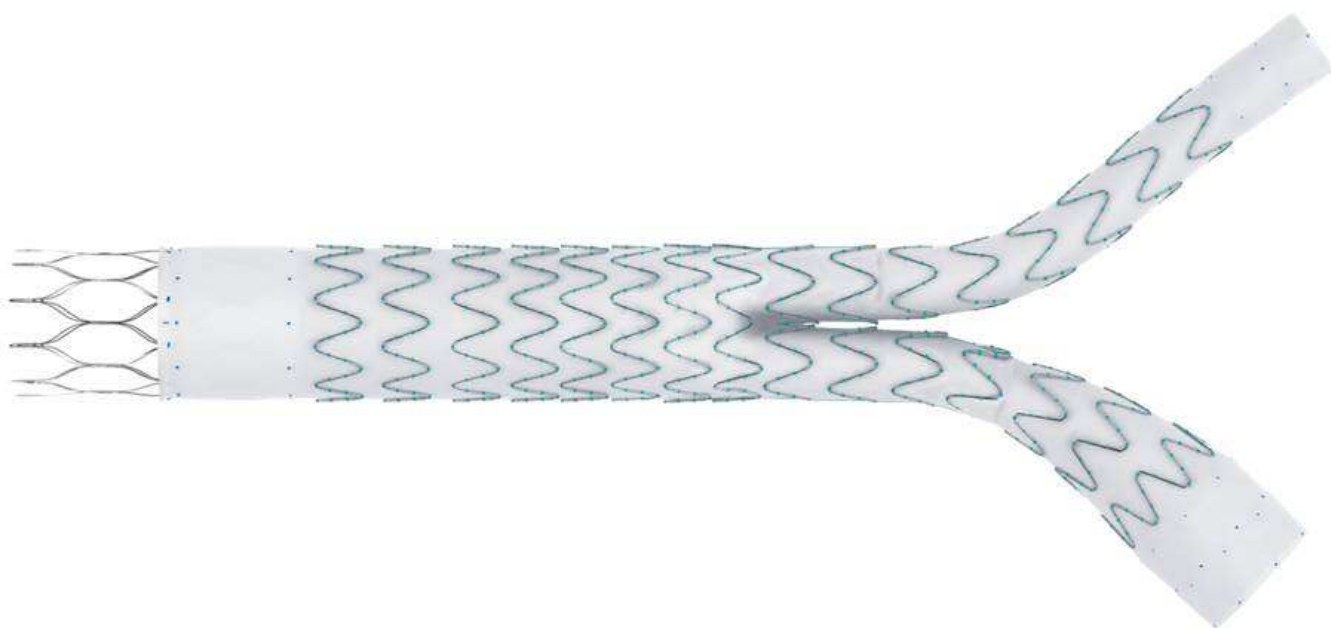




PROCEDURE





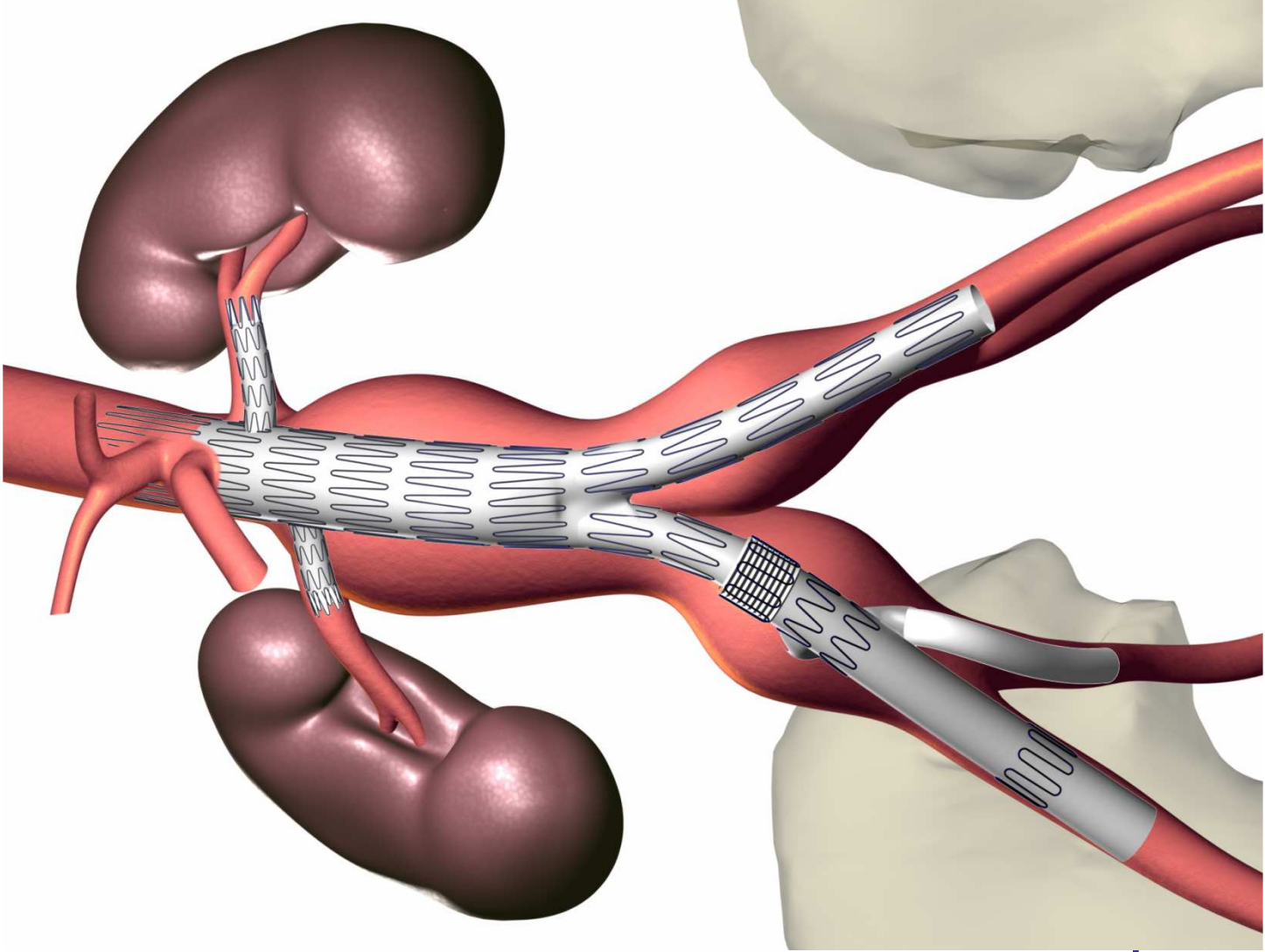






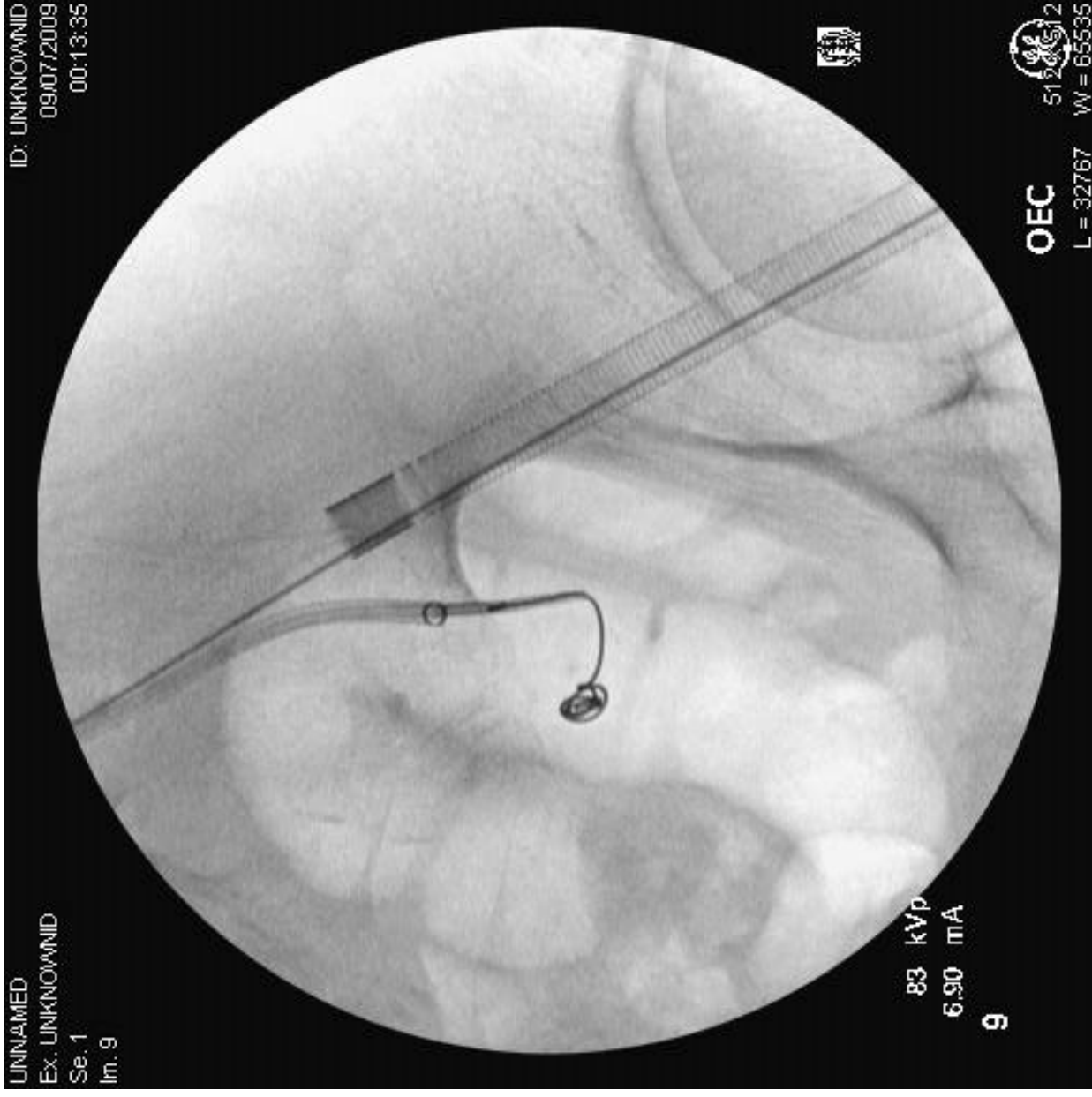


32mm Devices:	Zenith LP	Medtronic c Endurant	Medtronic Talent™	Gore Excluder®	Zenith Flex® AAA
	Inner Diameter 16 Fr	Inner Diameter N/A	Inner Diameter N/A	Inner Diameter 20 Fr	Inner Diameter 20 Fr
Outer Diameter:	18 Fr	20 Fr	24 Fr	23 Fr	23 Fr
Hydrophilic Coating:	Yes	Yes	Yes	N/A	Yes



UNNAMED
Ex. UNKNOWNID
Se. 1
Im. 9

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09/07/2009
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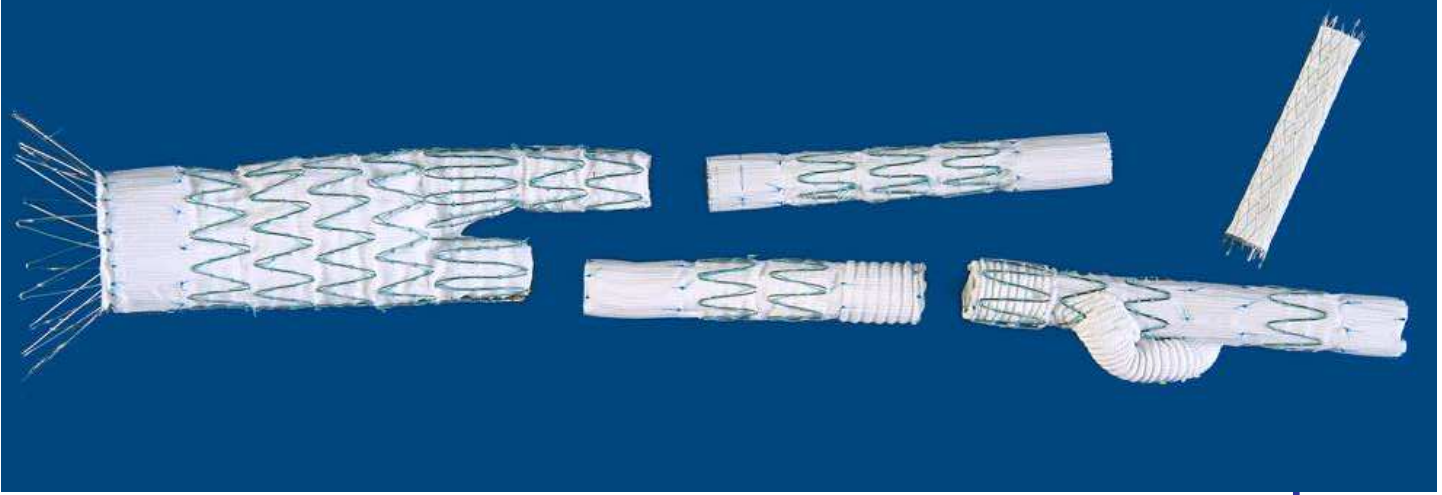


83 kVp
6.90 mA
9

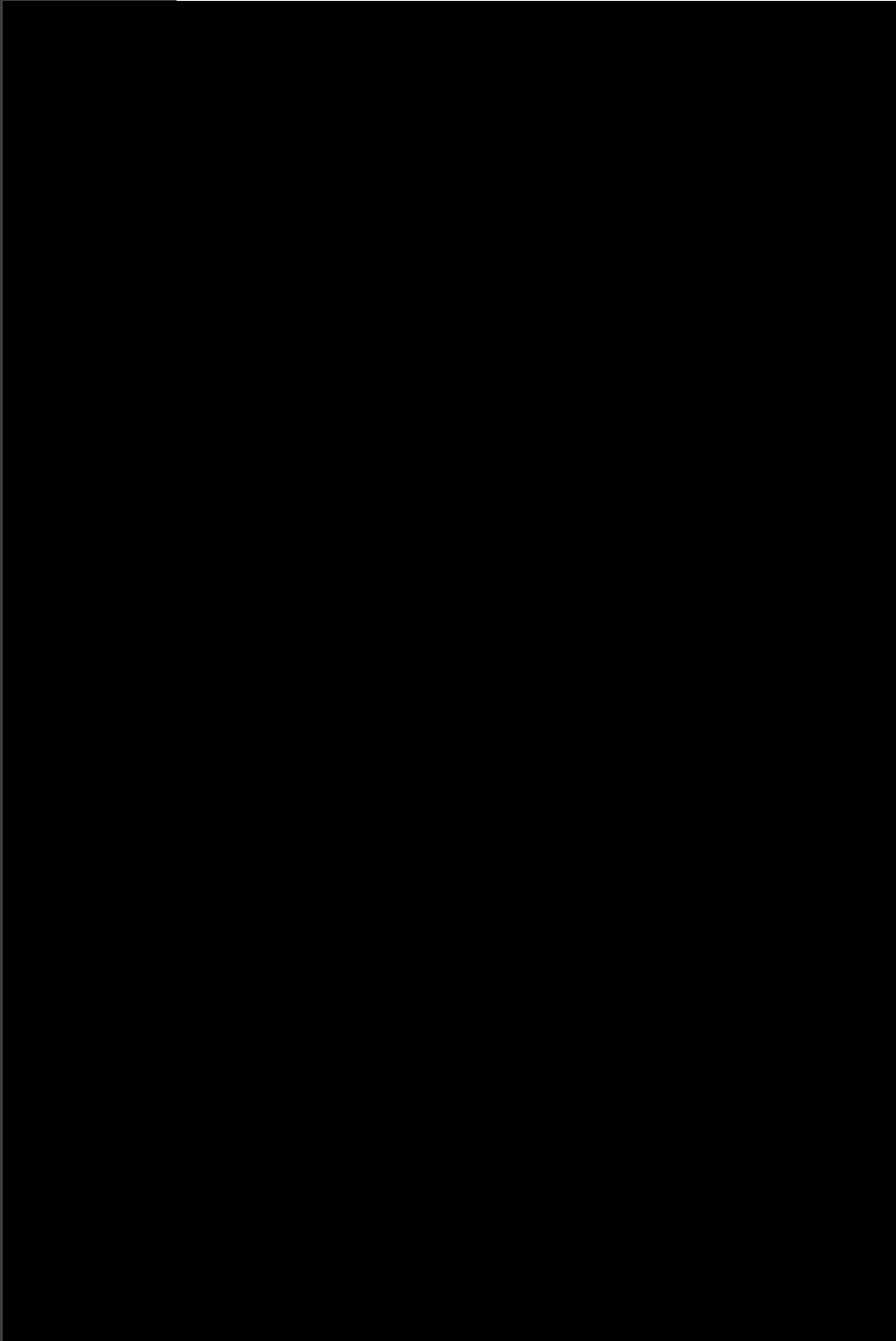
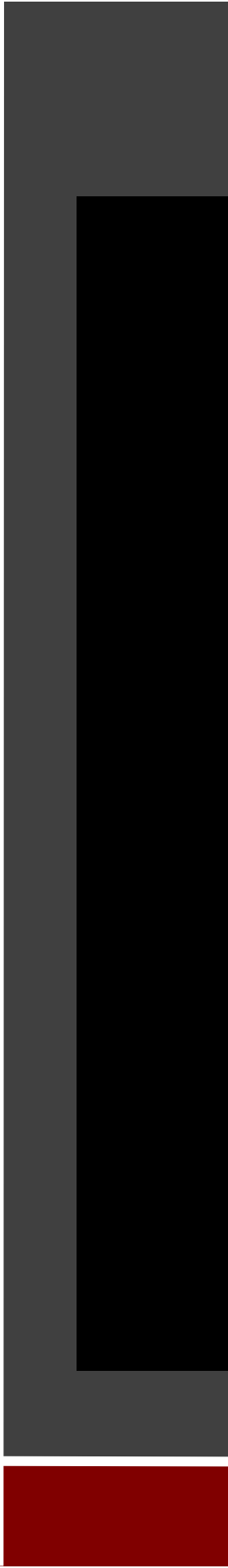
OEC
L = 32767 W = 65535
512x512



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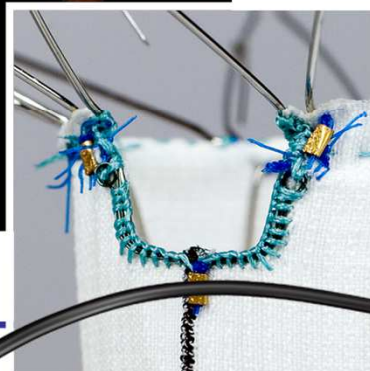
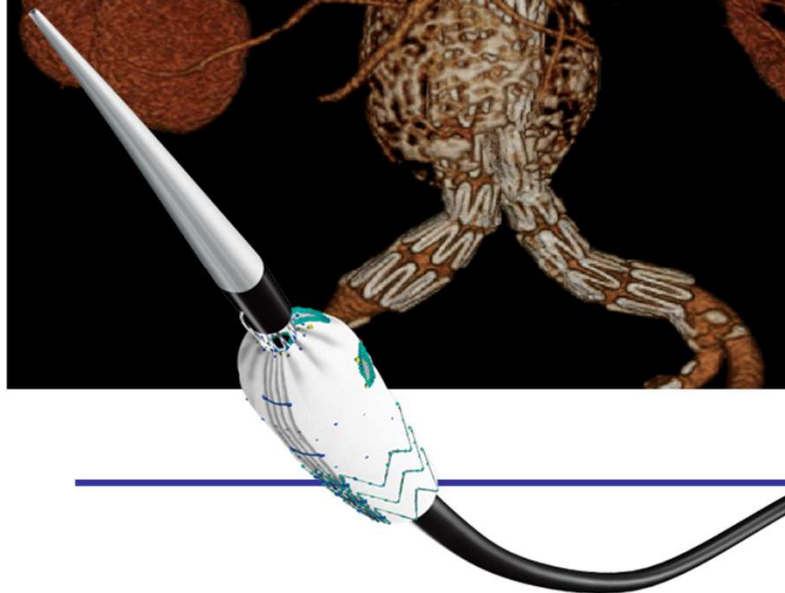


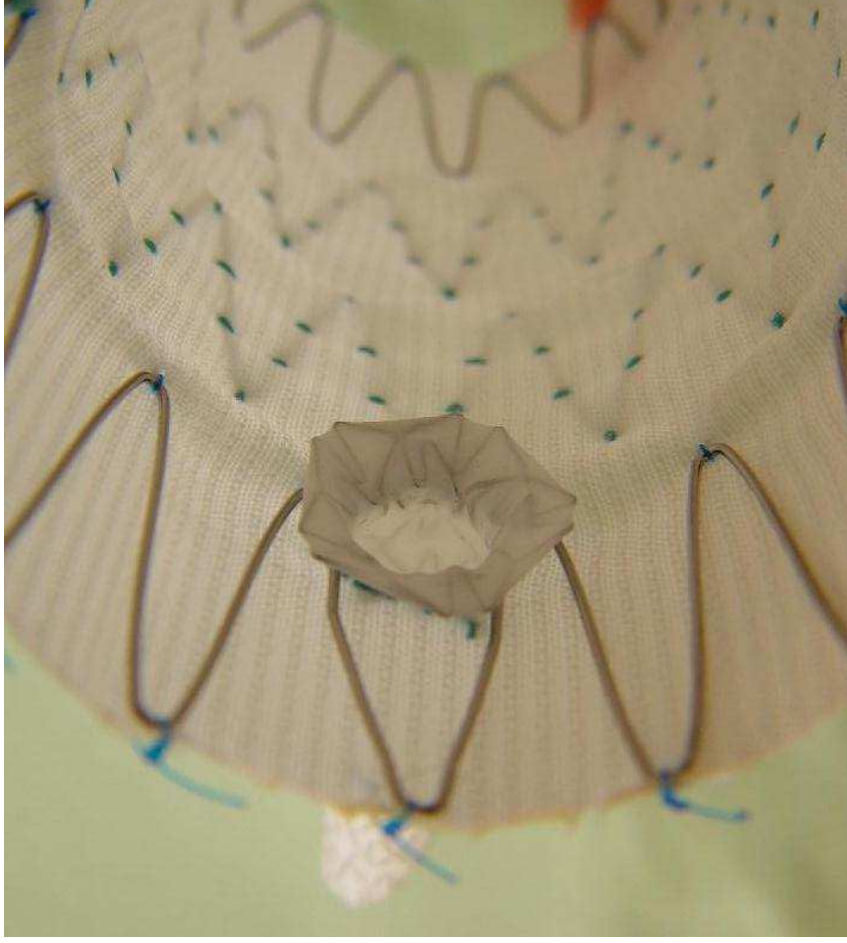
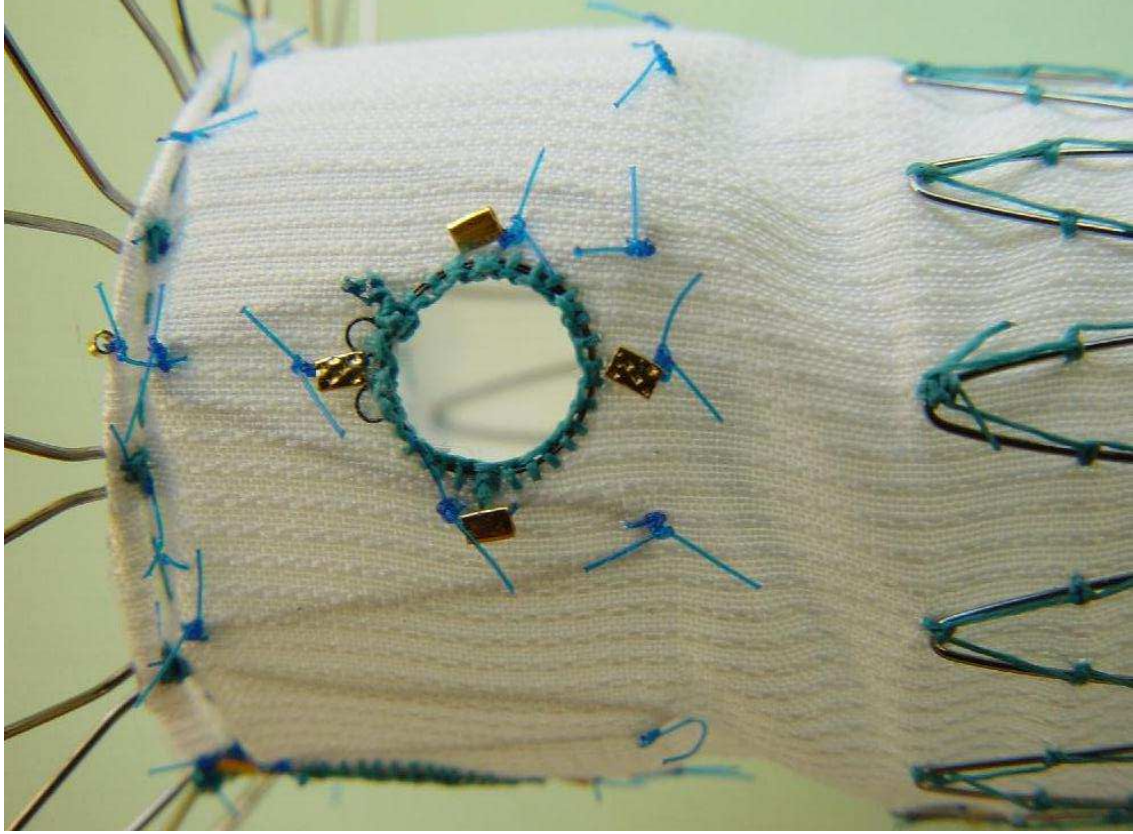


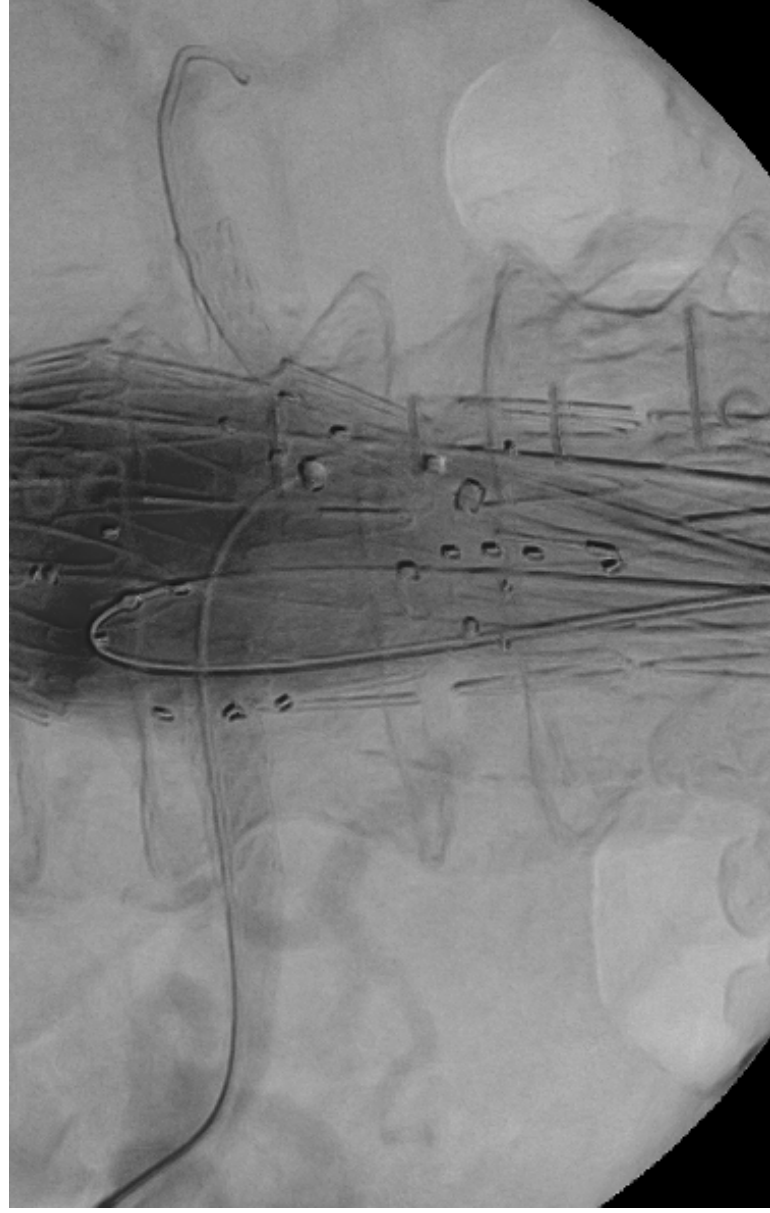




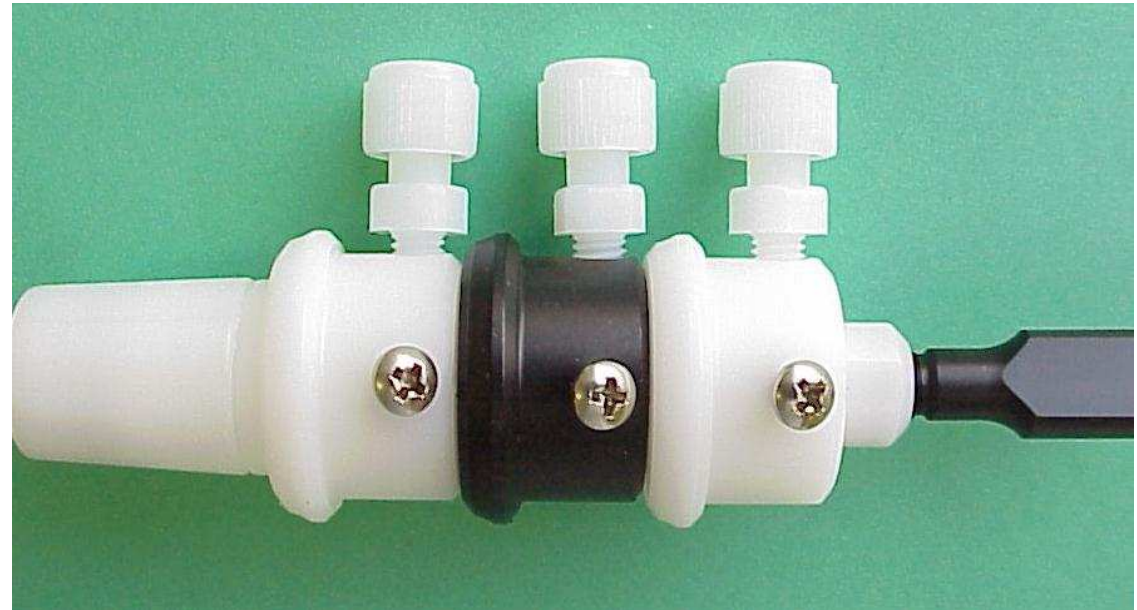
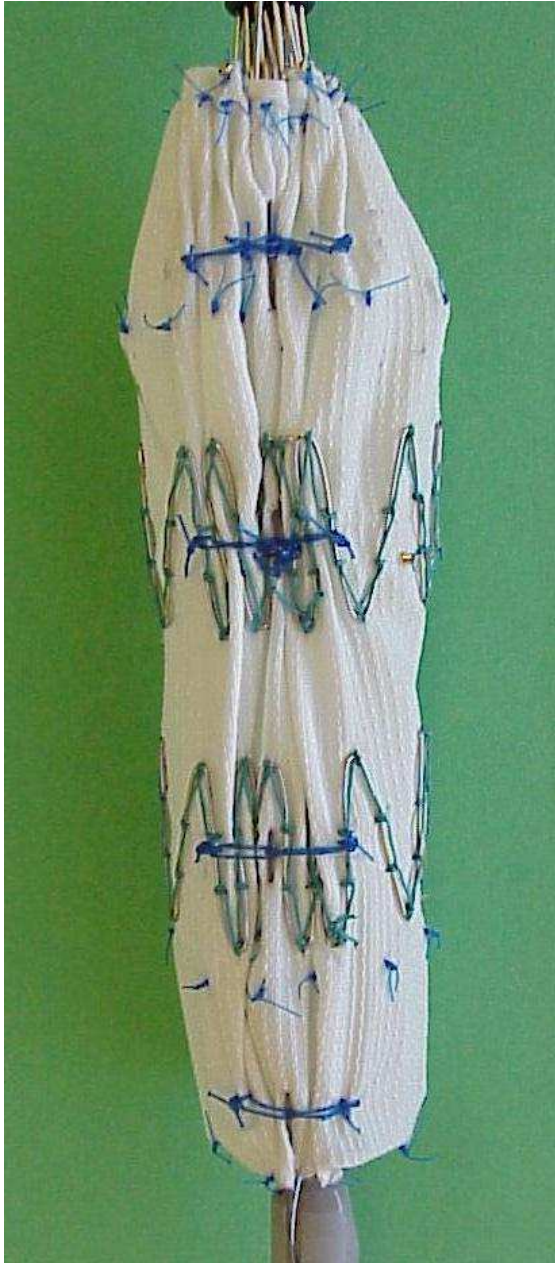
Zenith® Fenestrated

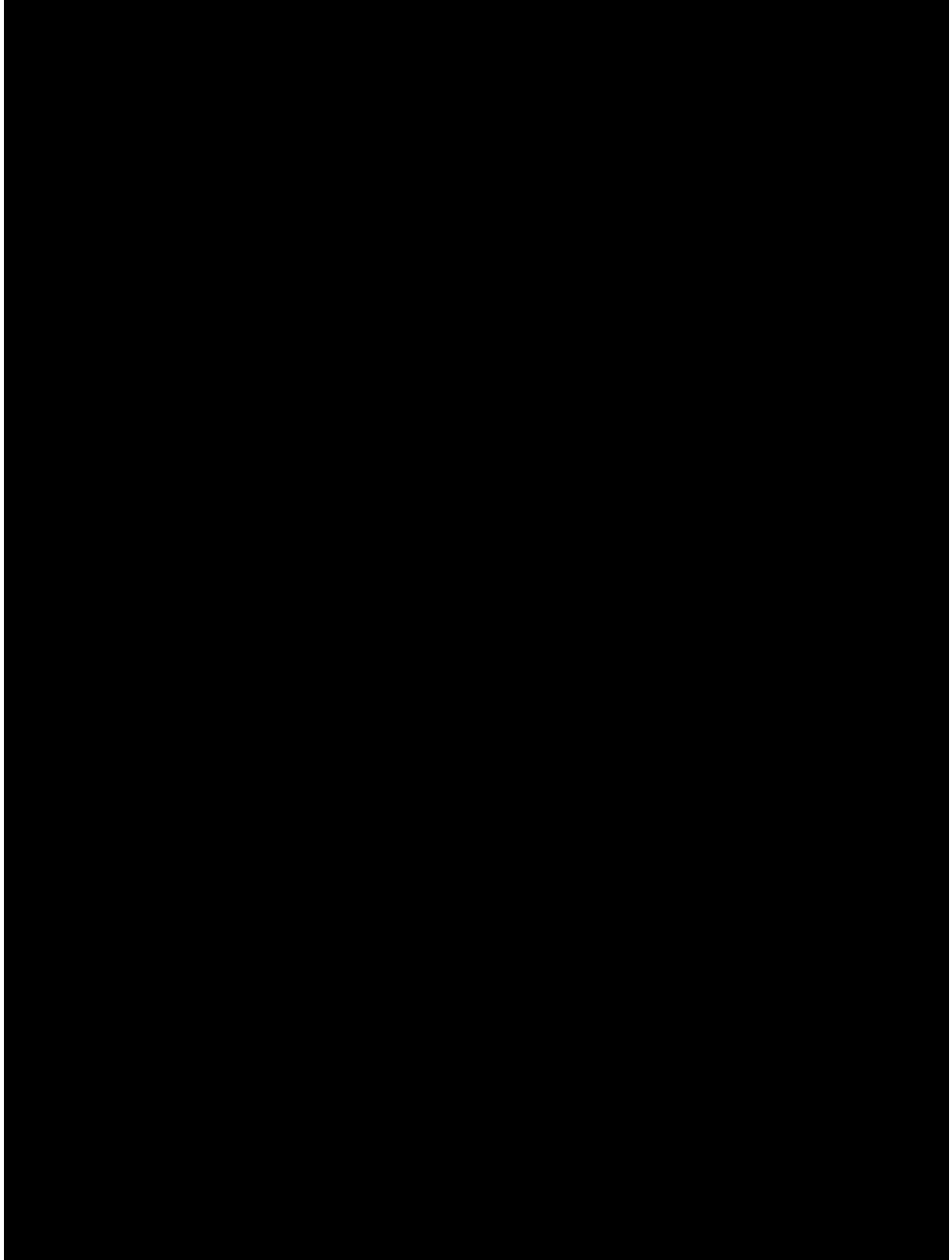






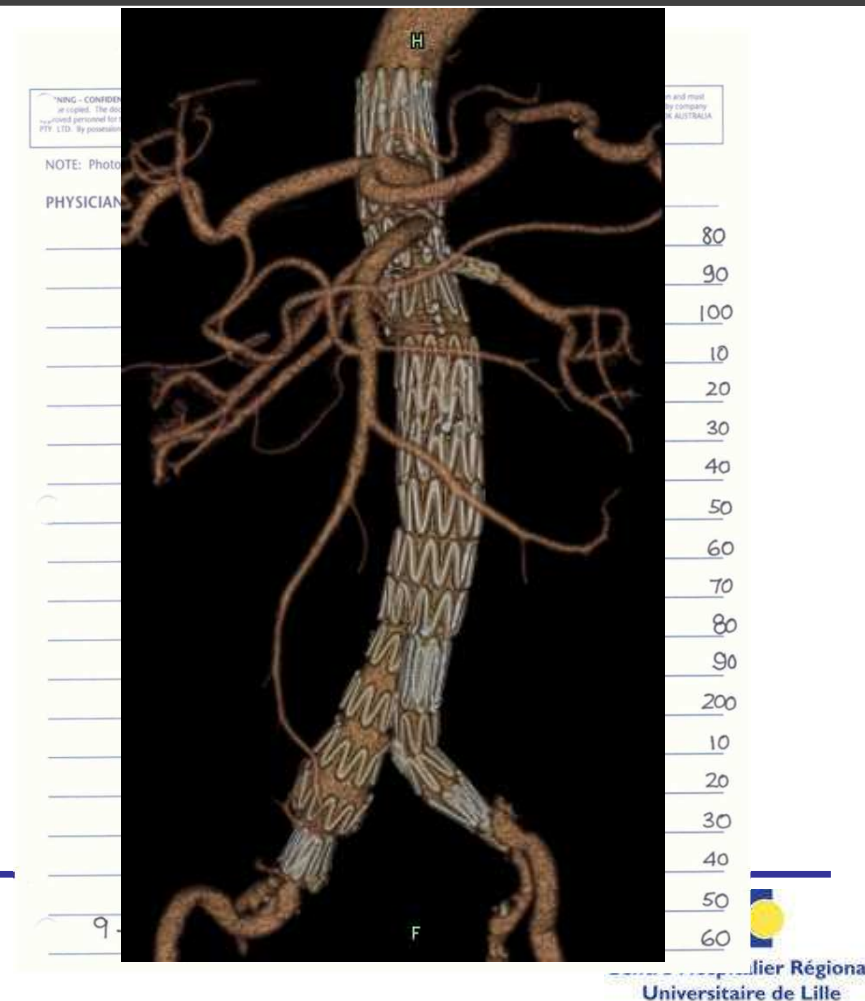
Diameter Reducing Ties

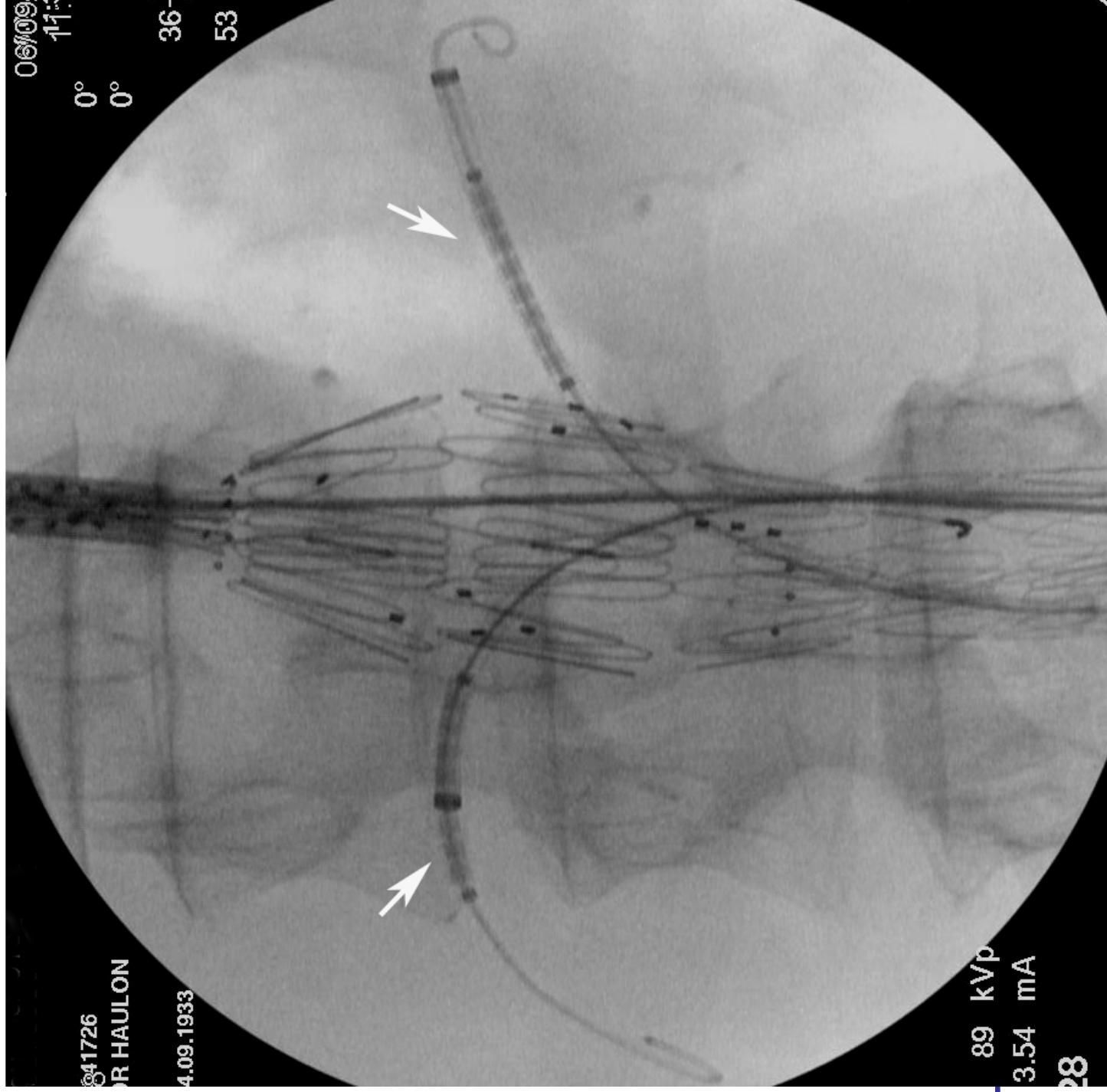




The Standard Fenestrated Graft

- Scallop
- Small fenestration
- Composite graft
- Variety of lengths





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Frm. 64 / 211

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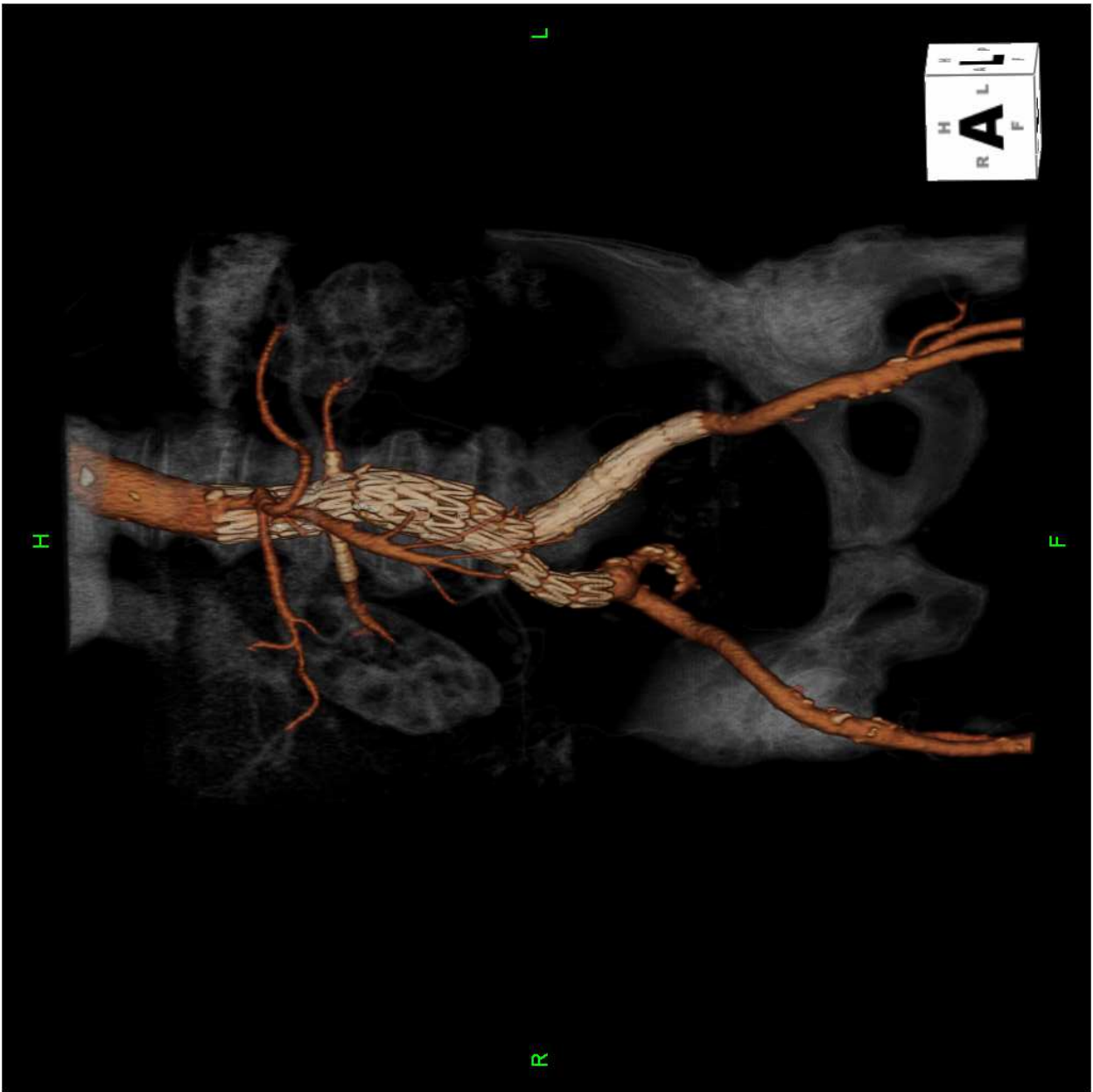


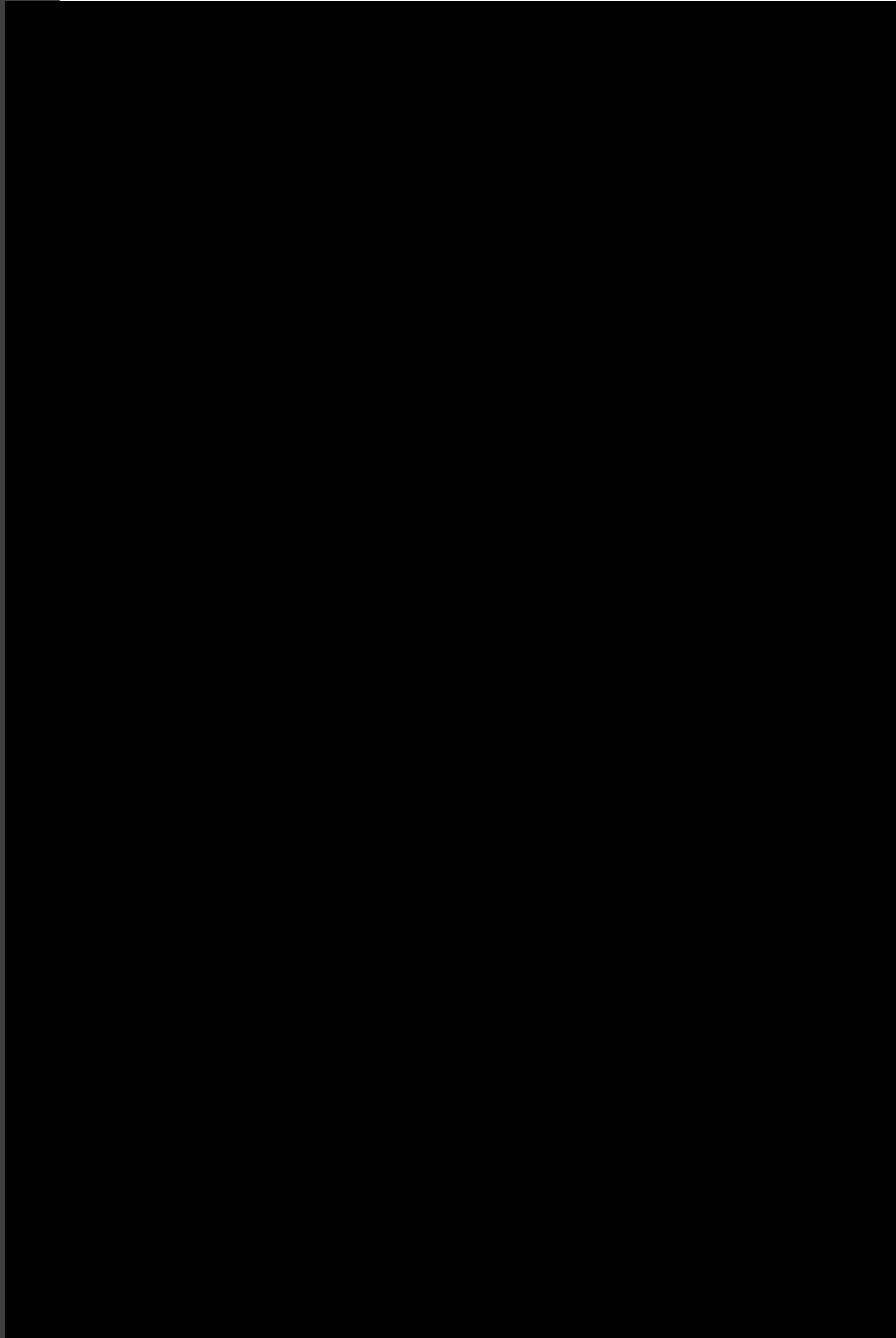
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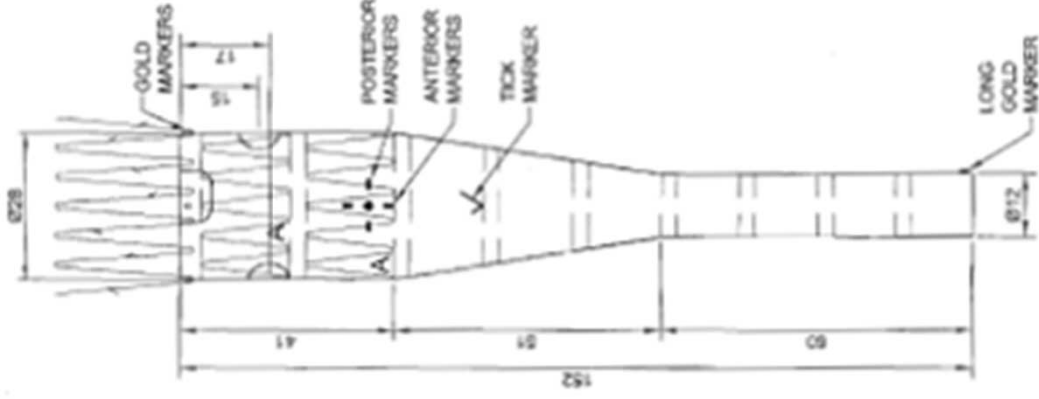
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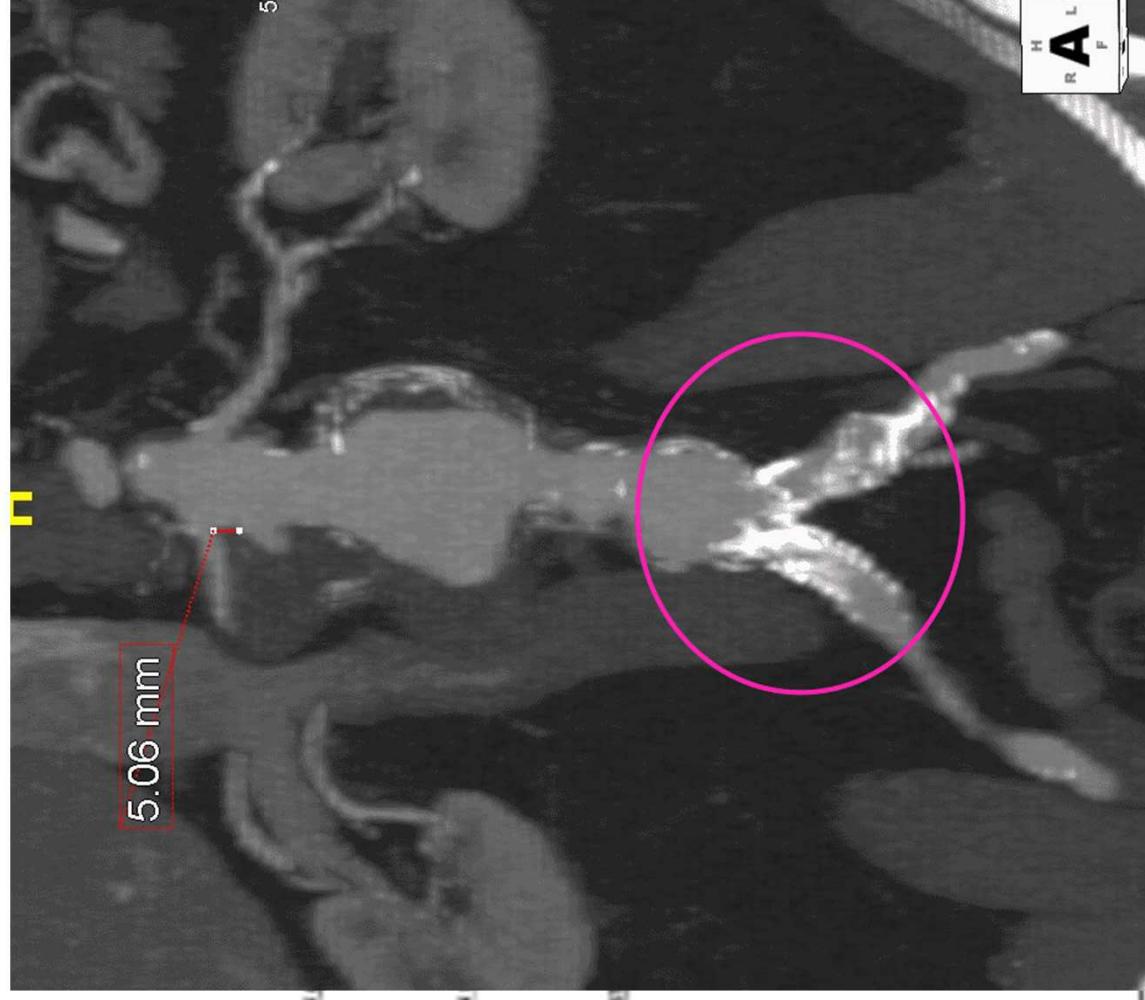
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- REINFORCED SCALLOP #1**
WIDTH: 10mm
HEIGHT: 6mm
CLOCK: 12:15
IND: 24mm
- REINFORCED SMALL FENESTRATION**
WIDTH: 6mm
HEIGHT: 8mm
DIST FROM PROX EDGE: 15mm
CLOCK: 3:00
IND: 24mm
- REINFORCED SMALL FENESTRATION**
WIDTH: 6mm
HEIGHT: 8mm
DIST FROM PROX EDGE: 17mm
CLOCK: 9:00
IND: 24mm
- PRELOADED FENESTRATED SYR**
- SINGLE REDUCING TIES**

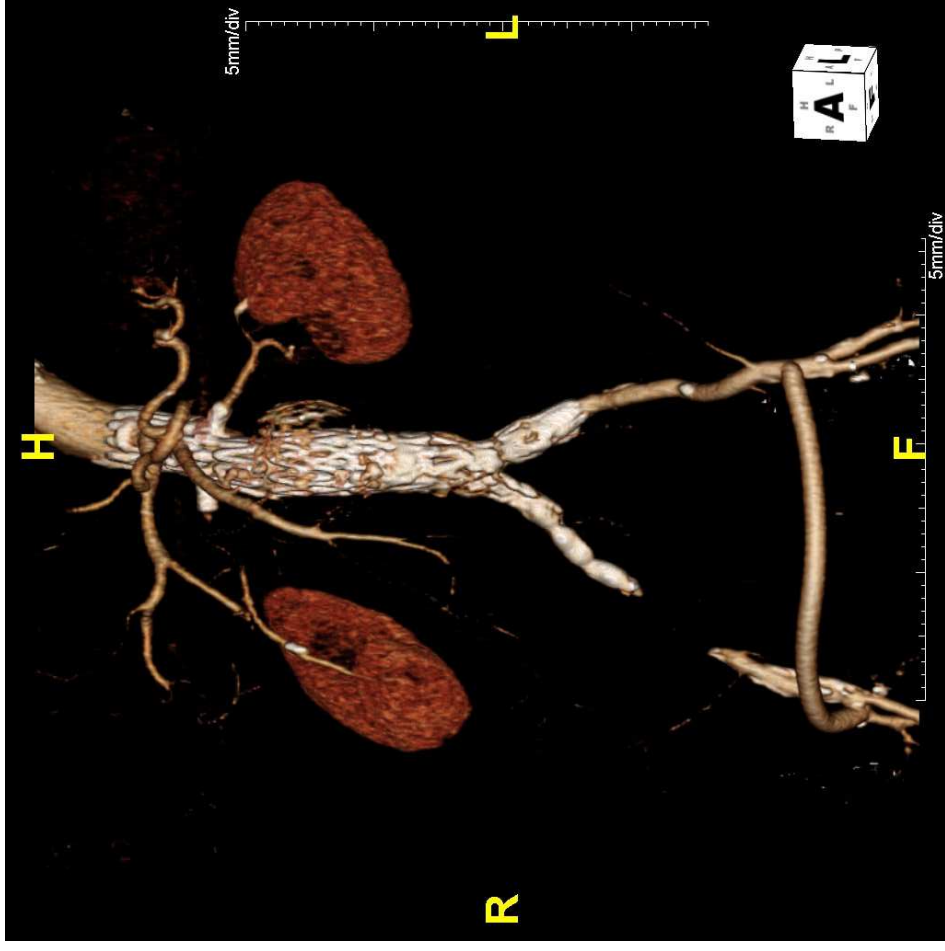


Sheath Size: 20FR FLEXOR
O.D.: 7.8mm
Sheath Length: 50cm

PATIENT ID: [REDACTED]
DOCTOR: Stephan HAULON
HOSPITAL: LILLE

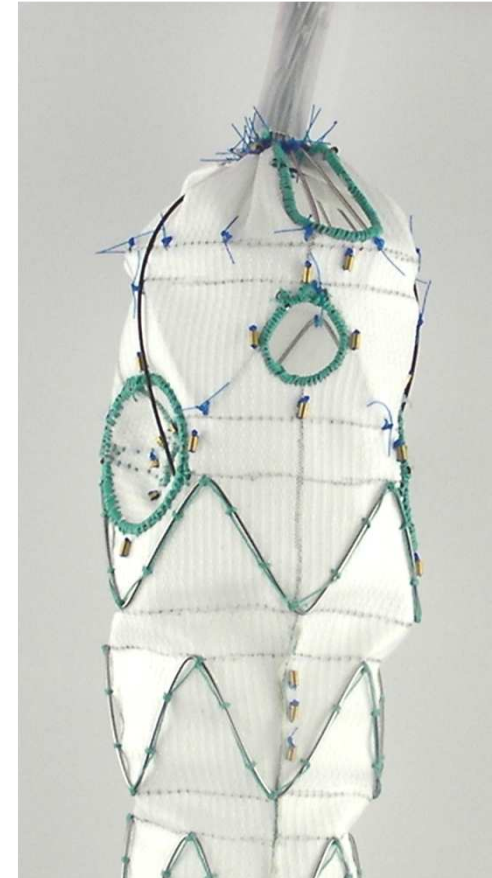


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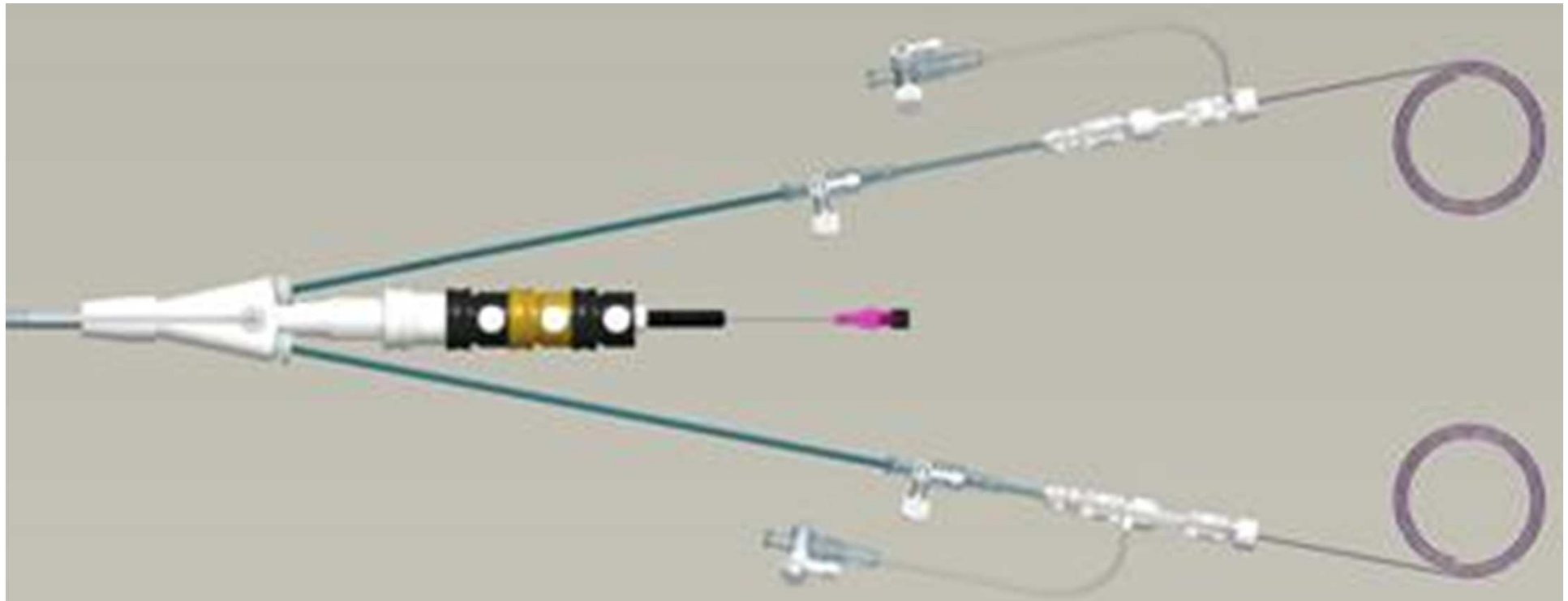


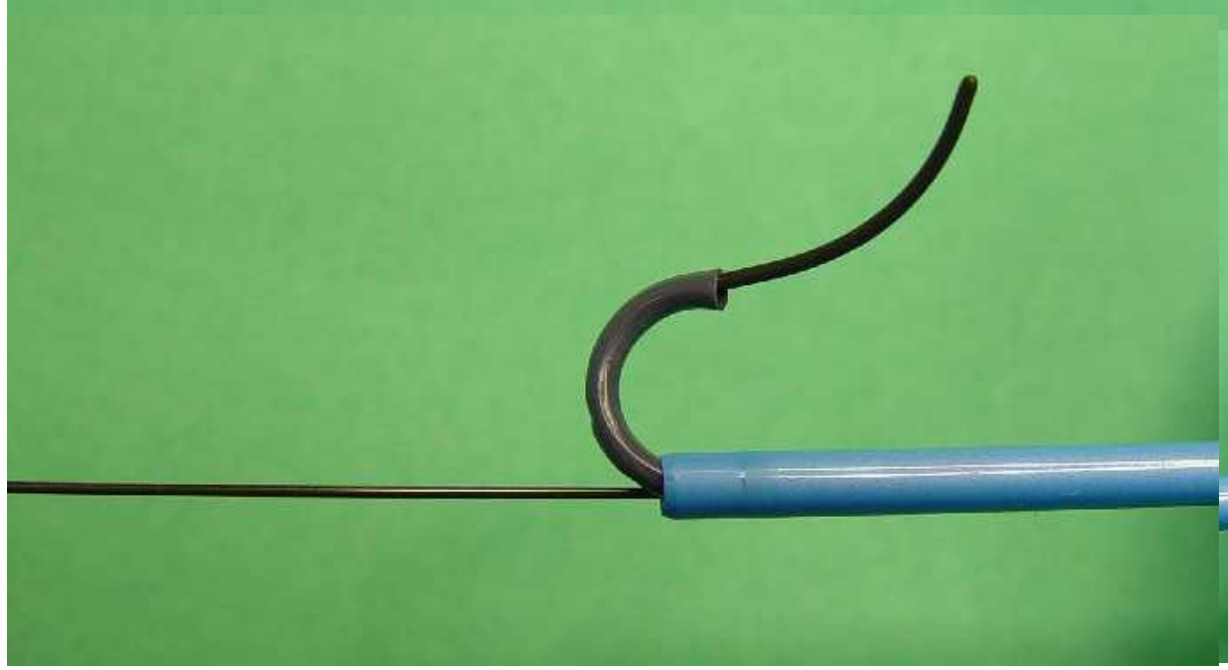
Latest Version

- One preloaded wire through renal fenestrations
- Self Retrieving Top Cap



Zenith® Preloaded Delivery System







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 ELSEVIER
FULL-TEXT ARTICLE

Ann Vasc Surg. 2011 Apr;25(3):315-21. Epub 2011 Feb 2.

Anatomic study of juxta renal aneurysms: impact on fenestrated stent-grafts.

 Azzaoui R, Sobocinski J, Maurel B, D'Elia P, Perrot C, Bianchini A, Guillou M, Haulon S.
Chirurgie Vasculaire, Hôpital Cardiologique, CHRU de Lille, Université Lille, Lille, France.

Abstract

BACKGROUND: Fenestrated stent-grafts allow for treatment of patients with juxtarenal aneurysms (JRA) when they present with contraindications for conventional treatment. The fenestrated module is a custom-made module, specially designed to fit a specific patient, using computed tomographic scan measurements, which entails manufacturing delay and high cost. The aim of our study was to evaluate the possibility to reproduce the interrenal aorta anatomy to design a standard fenestrated module that would fit the maximum number of patients with JRA.

METHODS: On a three-dimensional working station, we analyzed 289 preoperative computed tomographic scan results of patients with JRA, and who were treated with fenestrated stent-grafts comprising two fenestrations for the renal arteries and a scallop for the superior mesenteric artery (SMA). On curvilinear reconstructions, we successively measured the interrenal aorta diameter, its orientation, as well as the height of each renal ostium, taking the ostium center of the SMA as a reference mark. Later, a statistical analysis of these measures distribution was performed so as to design a fenestrated module that would fit the maximum number of patients.

RESULTS: The center of the left renal artery presented with a median orientation of 82.5° (range, 37.5-150) and a median distance of 9 mm (range, 0-30), in relation to the SMA ostium. The ostium center of the right renal artery presented with a median orientation of 285° (range, 240-337.5) and a median distance of 8 mm (range, 3-30), in relation to the SMA ostium. By positioning the current renal fenestrations (8-mm wide), on the basis of the calculated median positions, in our series, only 20% of the patients could be treated with a standard fenestrated module. Should the diameter of these fenestrations be increased by 10 mm, it would then be possible to treat 50% of our patients.

CONCLUSION: The anatomy of the interrenal aorta and its branches is quite reproducible to design standard fenestrated stent-grafts that could treat half of the patients with JRA.

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- Sizing fenestrated aortic stent-grafts. [Eur J Vasc Endovasc Surg. 2011]
- Hybrid-fenestrated aortic aneurysm repair: a novel technique for treatir [Ann Vasc Surg. 2010]
- Early outcome following endovascular repair of pararenal aortic aneurys [J Endovasc Ther. 2011]
- Review Fenestrated endografts for complex abdominal a [Perspect Vasc Surg Endovasc Th...]
- Review Urgent endovascular treatment of symptomatic [Perspect Vasc Surg Endovasc Th...]
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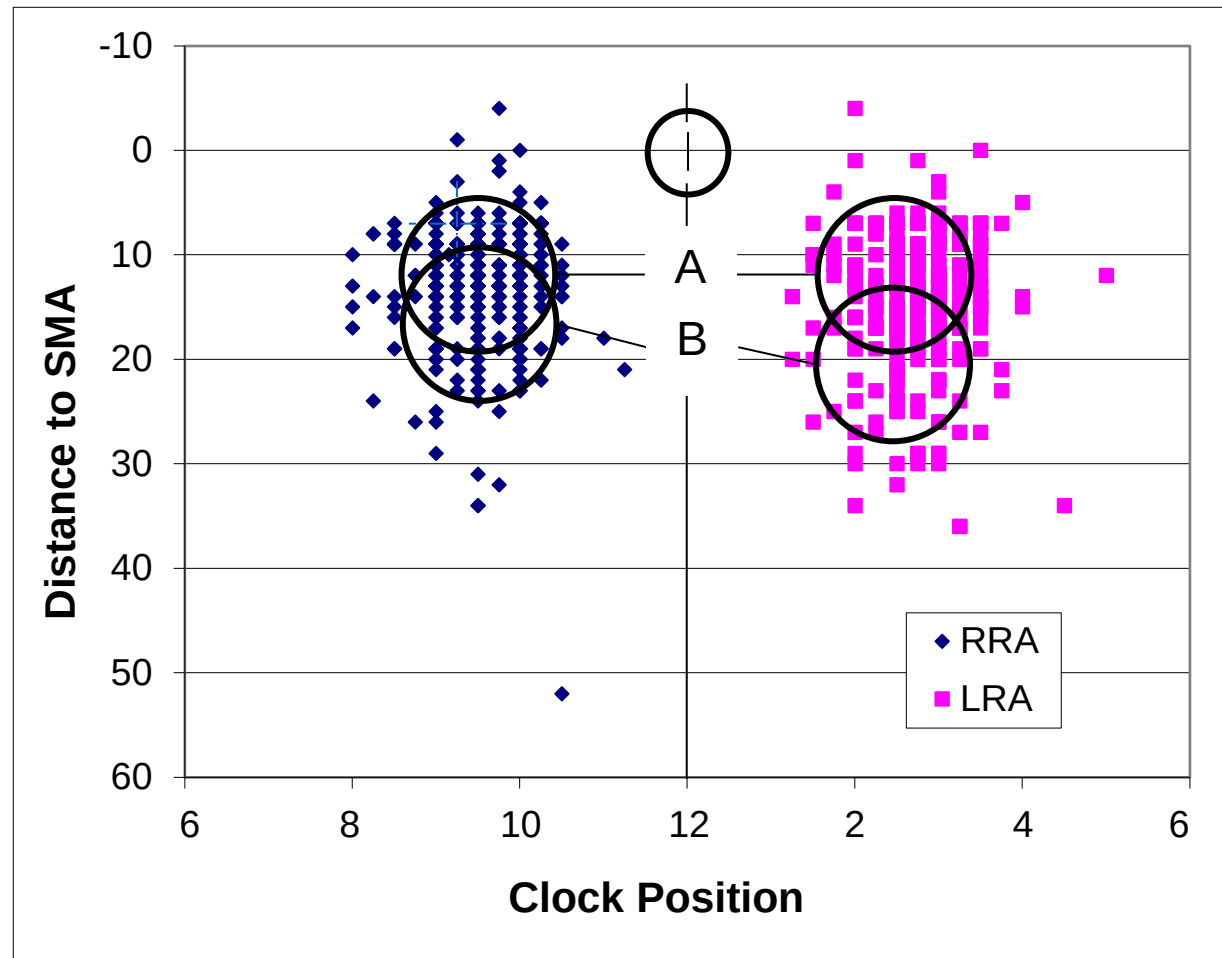
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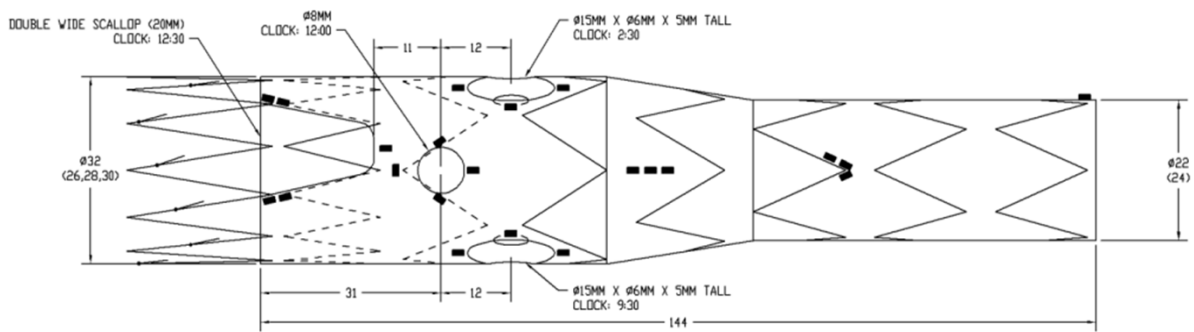
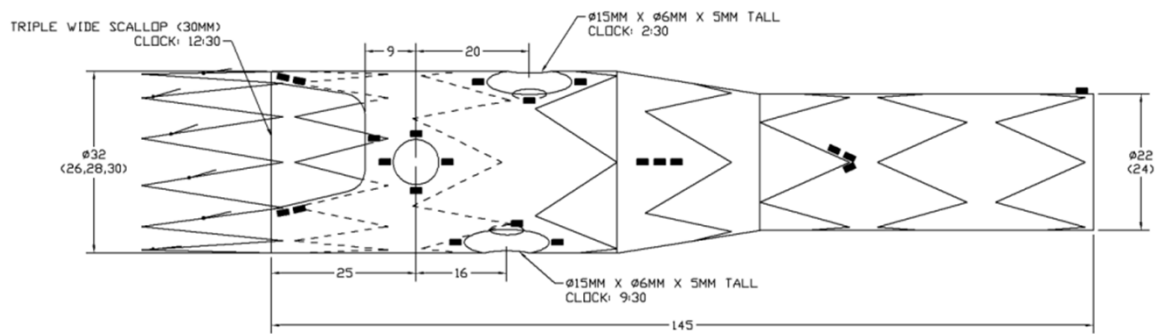
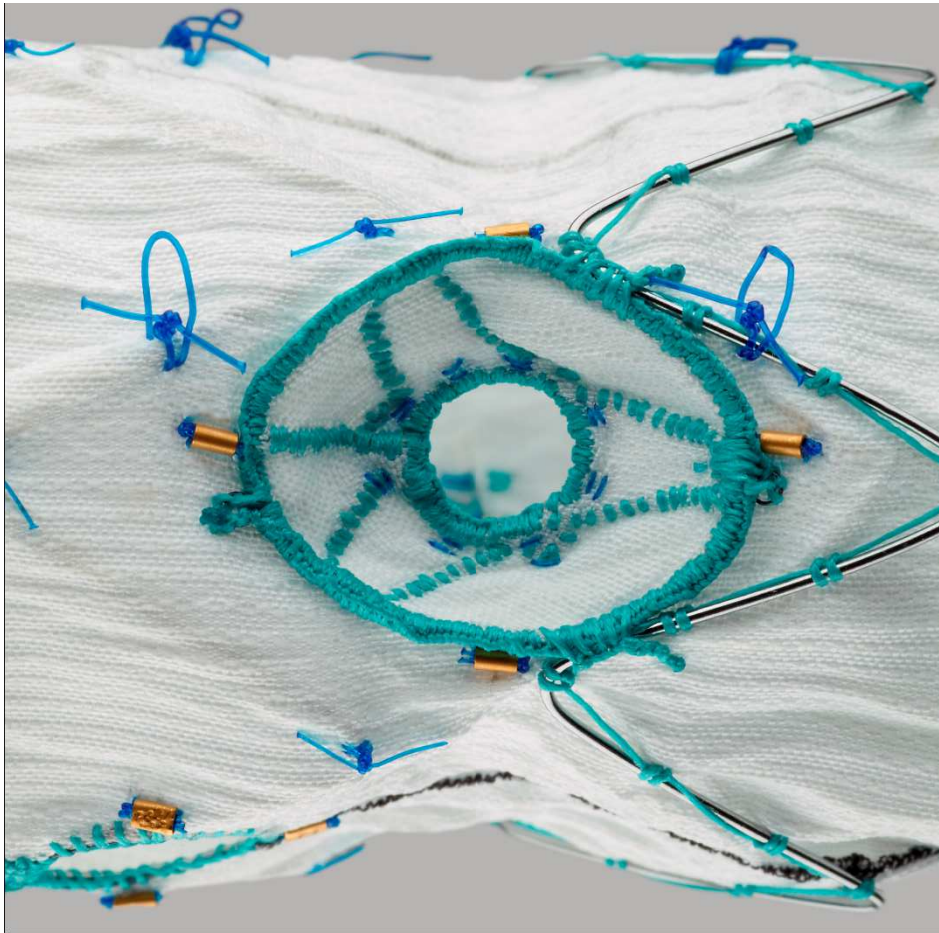
Turn Off Clear

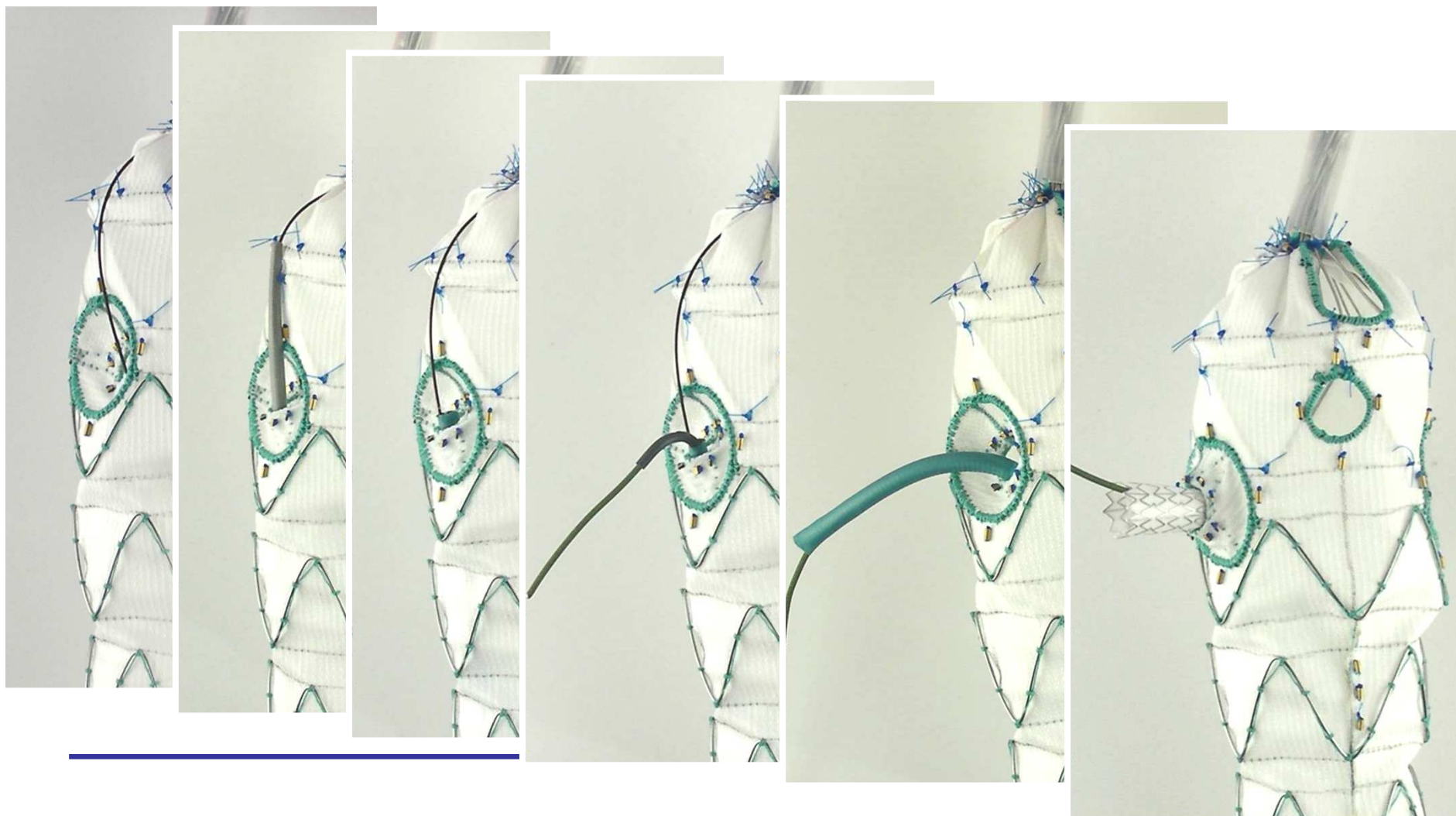


Standard Fenestrated

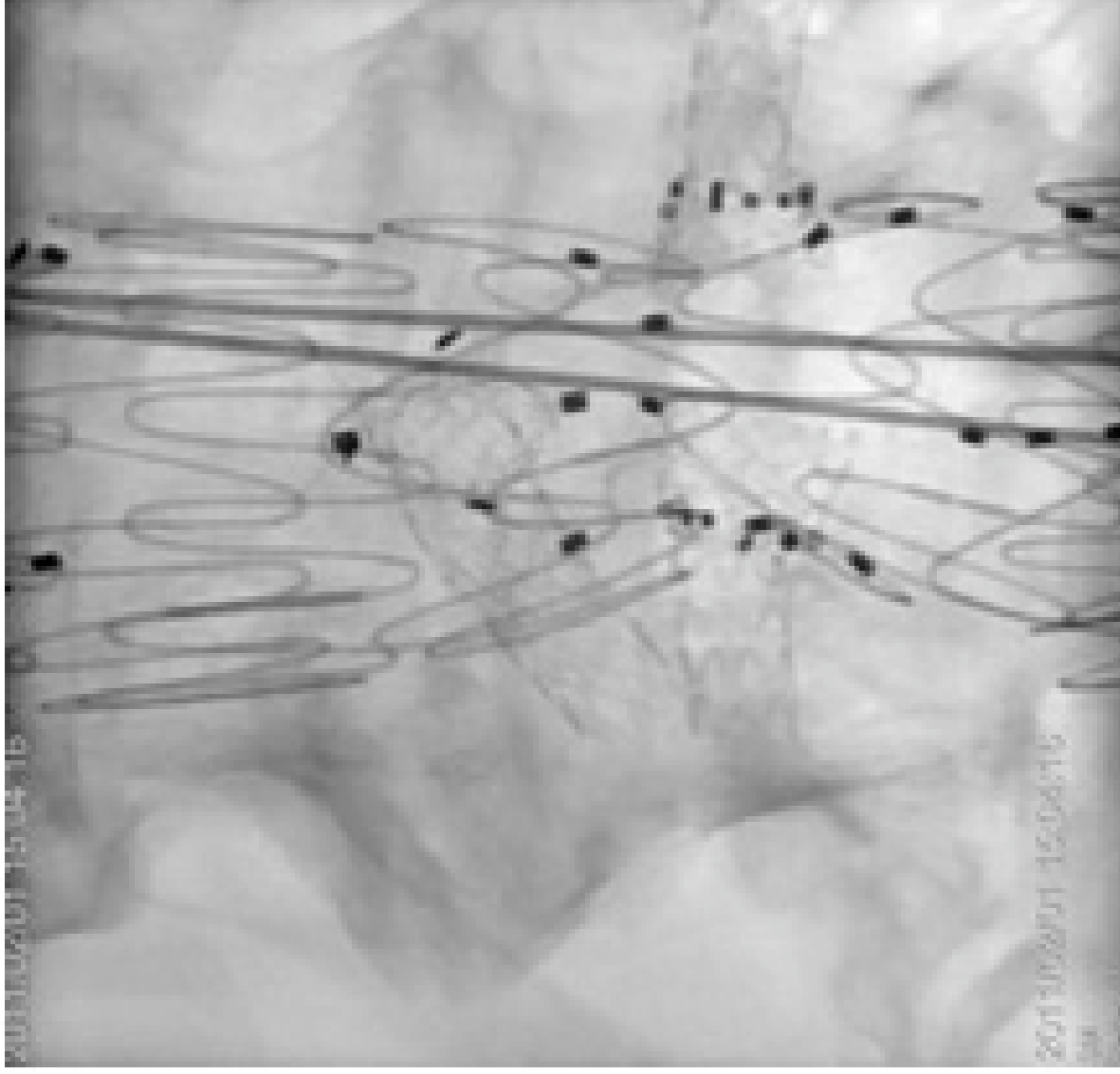
- Retrospective analysis of 353 patients
- Methods/Assumptions
 - Align SMA fenestration
 - Device fits if renals are within outer ring (15 mm diameter)
- Results
 - Option A: 64%
 - Option B: 35%
 - **Combined: 76%**

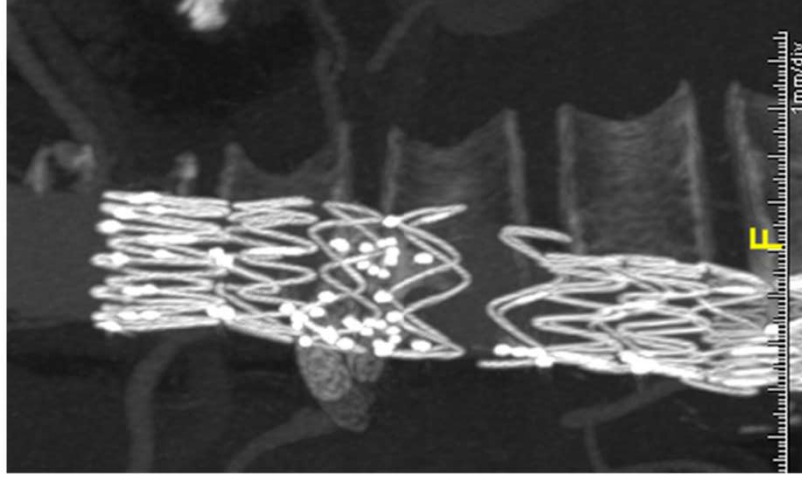




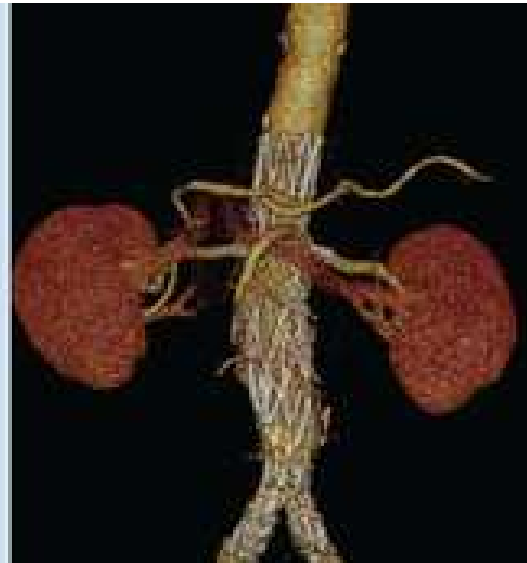








New Fenestrated Endografts



ENDOLOGIX
Innovation Taking Shape

Movable fenestrations for *in vivo* adjustment

New Fenestrated Endografts...

Initial experience with a new fenestrated stent graft

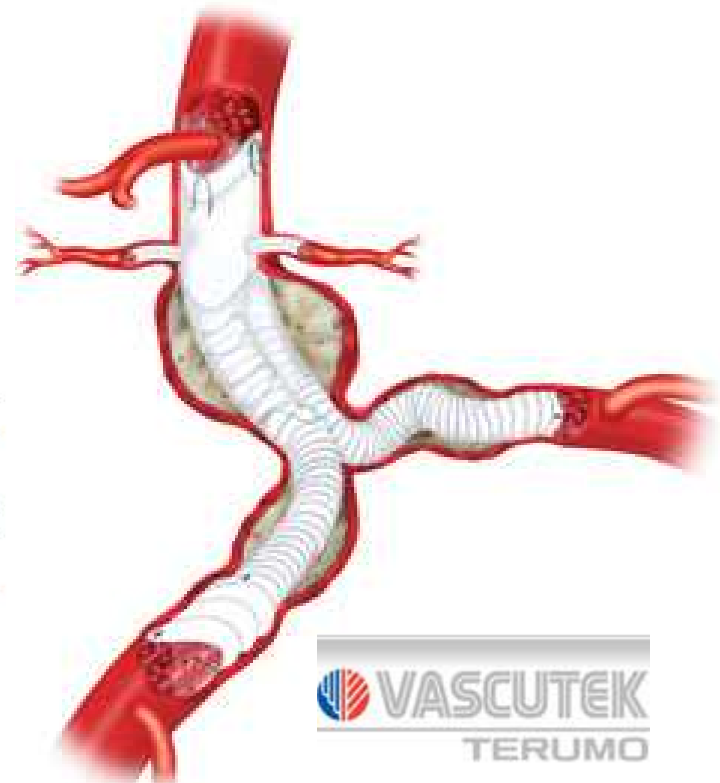
Peter Mark Bungay, MA, MRCP, FRCR,^a Nick Burfitt, MRCS, FRCR,^b Kaji Sritharan, MD (Res), FRCS,^c Lorna Muir, RN, BA,^d Sumaira L. Khan, FRCS,^e Mario Cosimo De Nunzio, MRCP, FRCR,^a Krishna Lingam, FRCS,^e and Alun Huw Davies, MA, DM, FRCS,^f *Derby, London, and Inchinnan, United Kingdom*

Objectives: The Anaconda fenestrated stent graft (Vascutek, Inchinnan, United Kingdom) is a new device that can easily be repositioned during deployment. This study evaluated its feasibility for treating abdominal aortic aneurysms with inadequate infrarenal sealing zones.

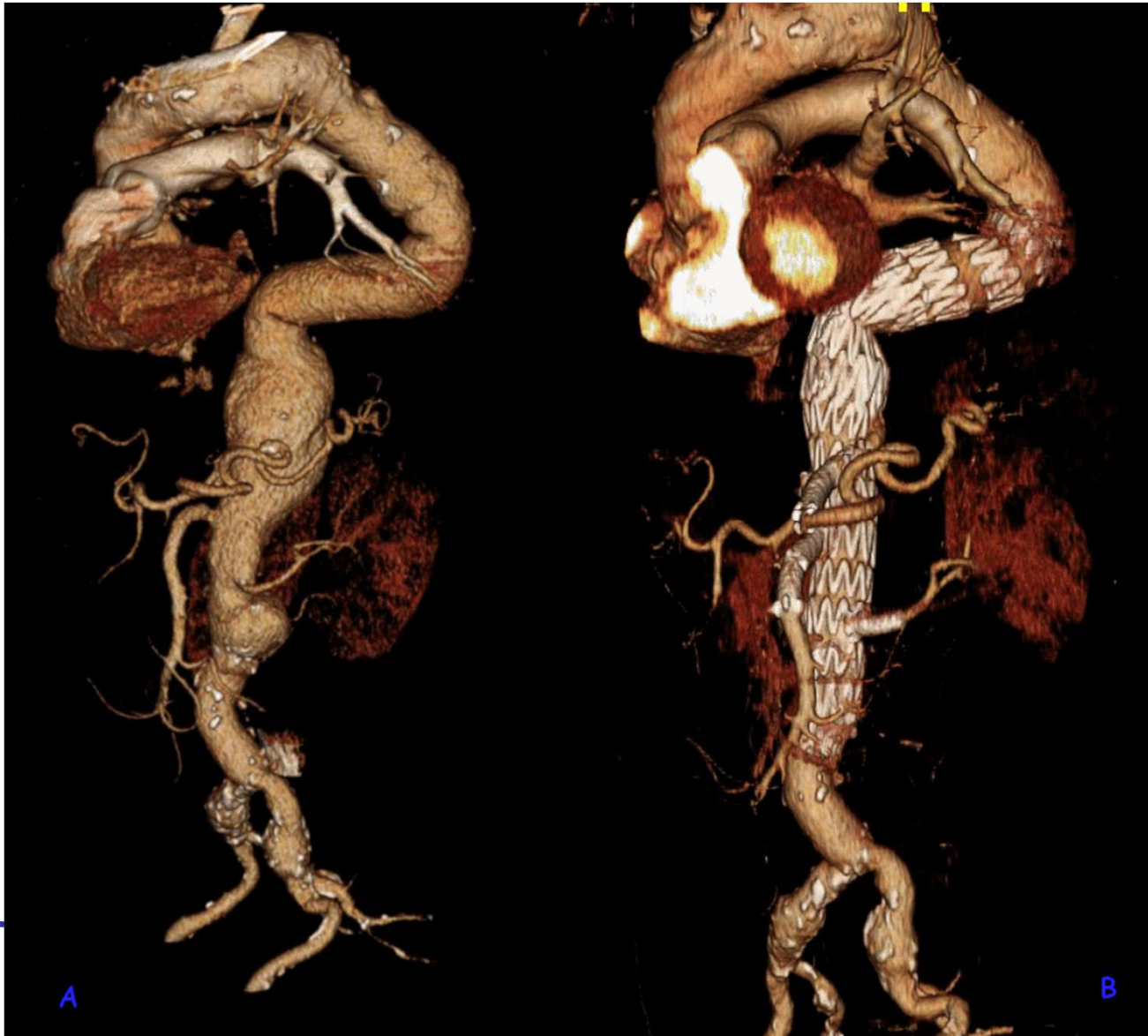
Methods: Patients undergoing stent graft placement at two institutions in the United Kingdom were recruited.

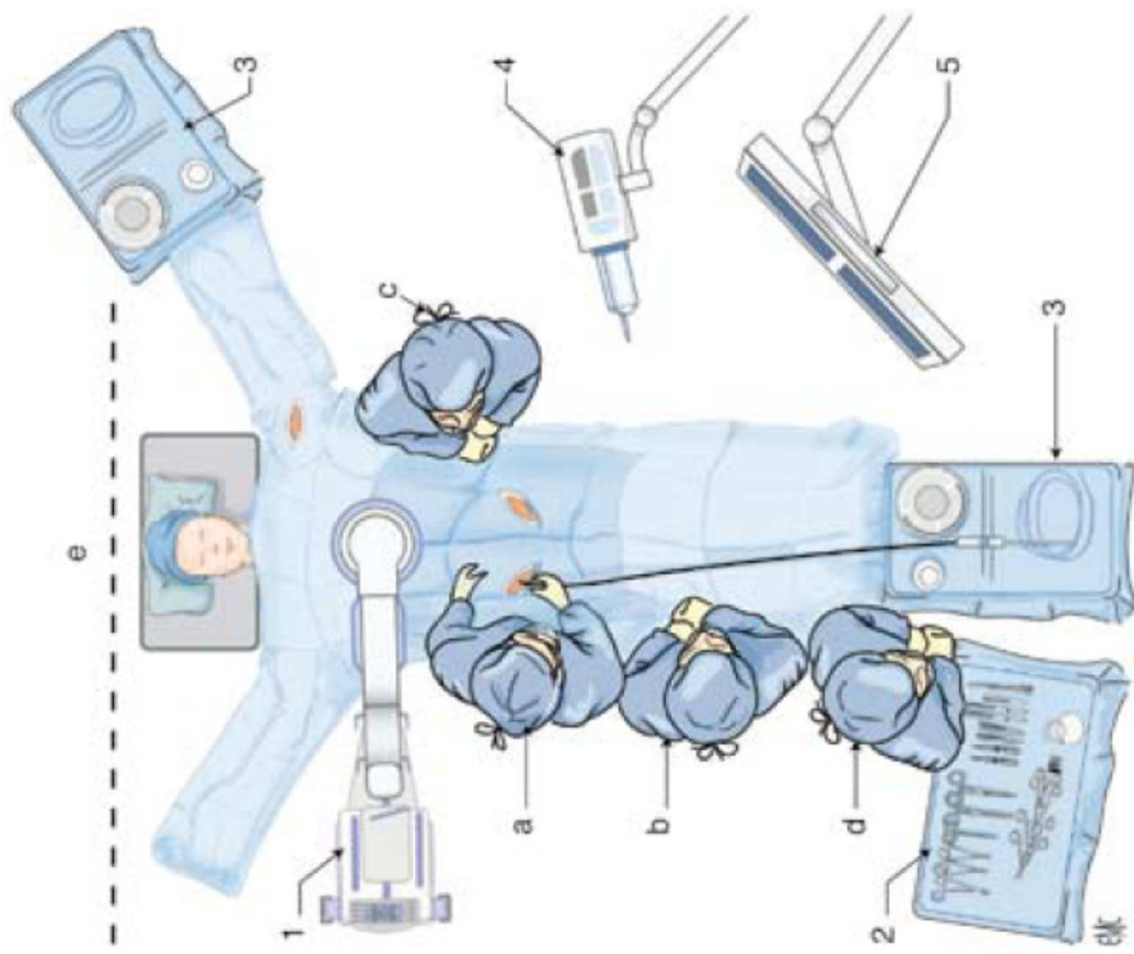
Results: A total of 12 visceral vessels were accommodated with 8 fenestrations for renal arteries and 4 superior mesenteric artery valleys/scallops in 4 patients. One type Ib endoleak was identified at the 1-month follow-up and successfully treated.

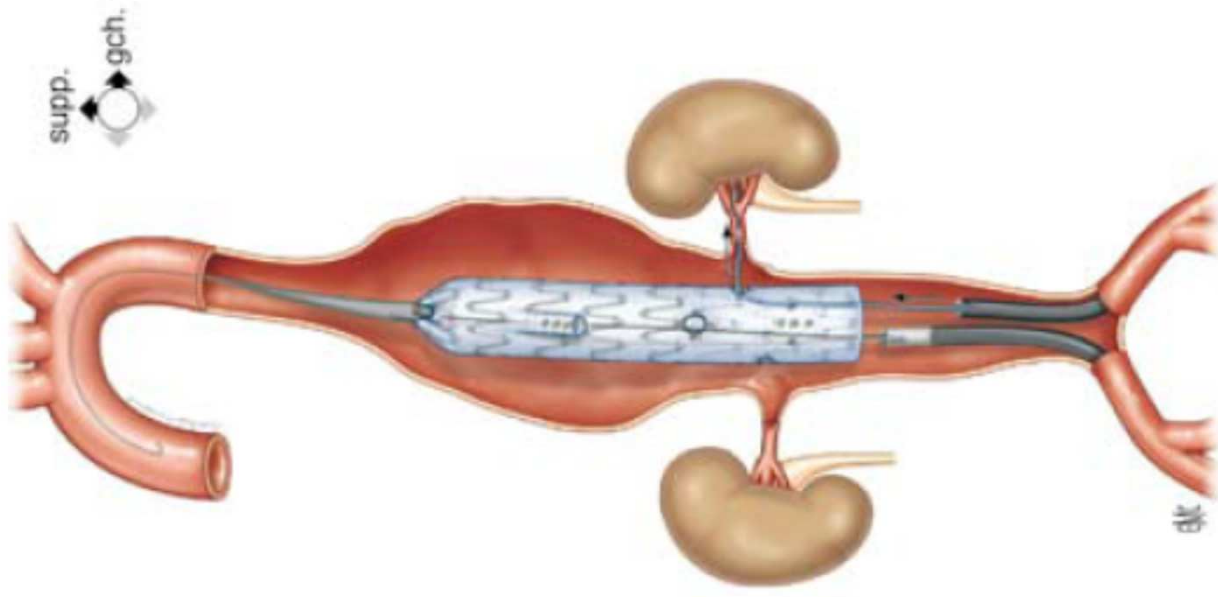
Conclusions: The Anaconda fenestrated stent graft device can be used for the repair of abdominal aortic aneurysms with hostile anatomy and has acceptable immediate and short-term results. (J Vasc Surg 2011;■■:■■■.)

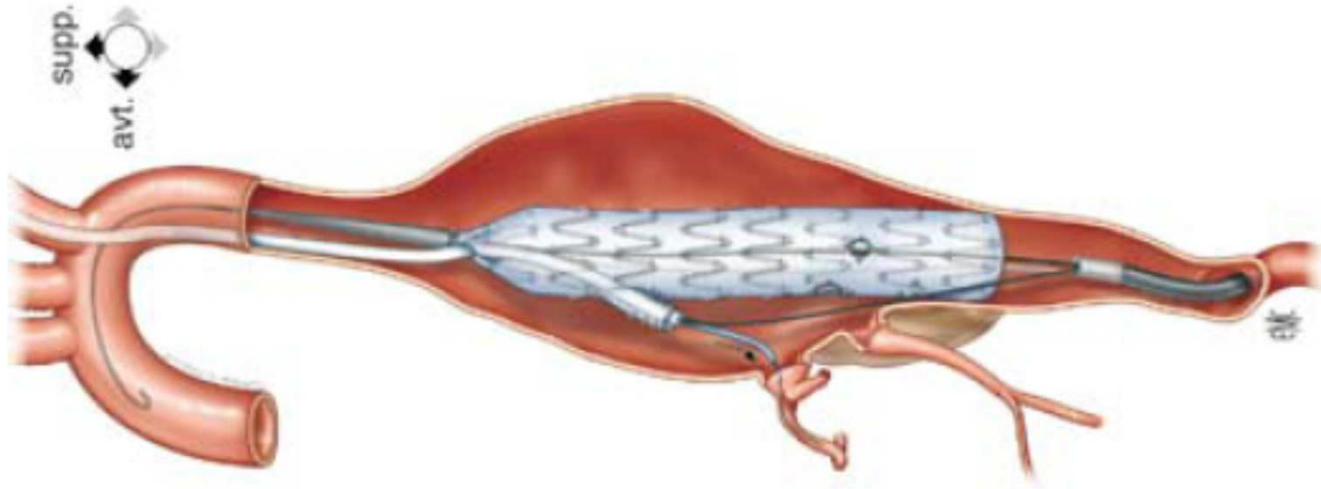


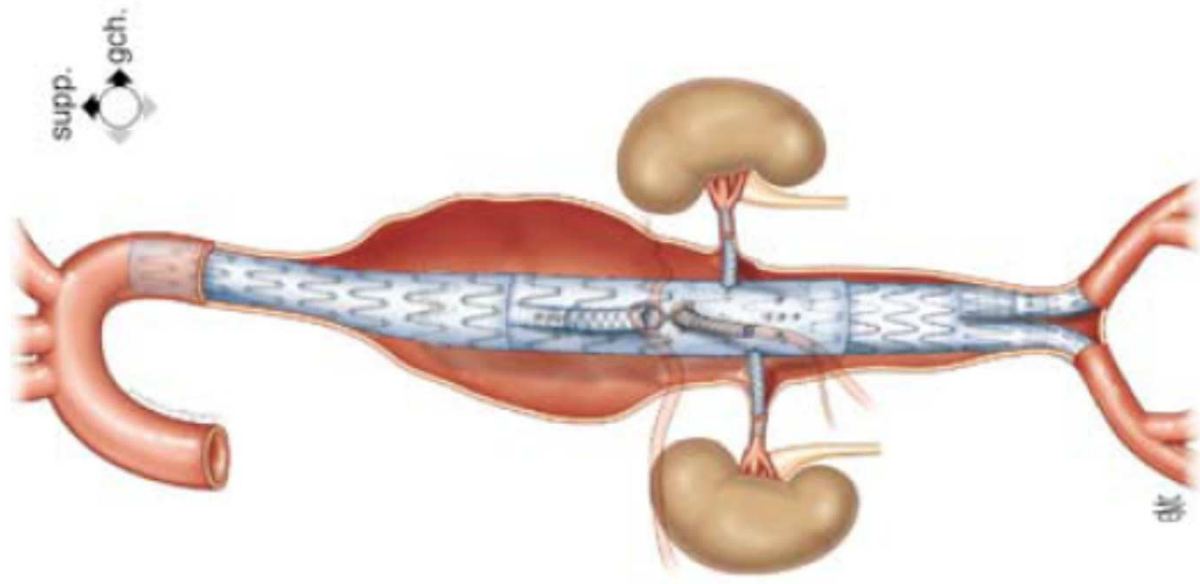
eTAAA Repair

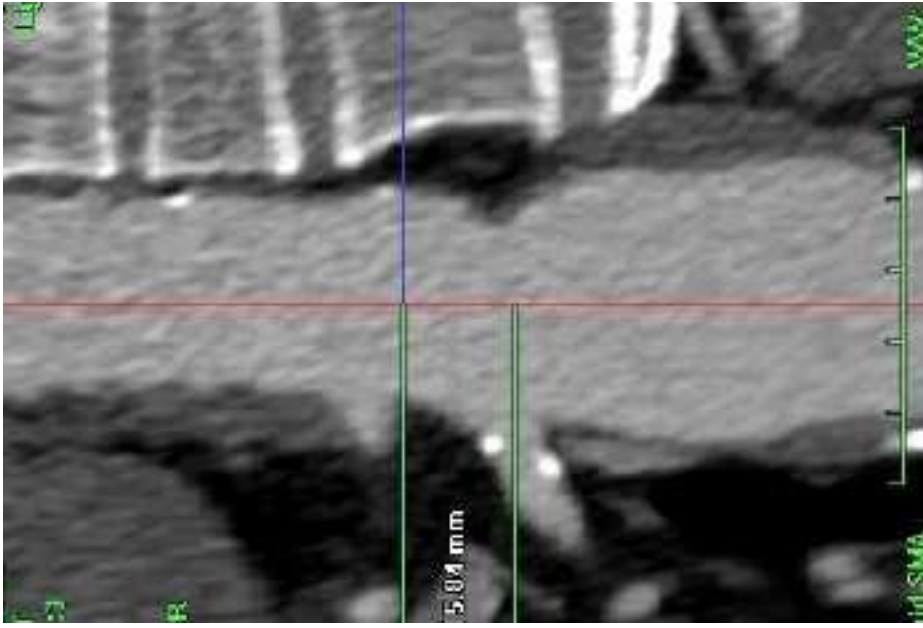
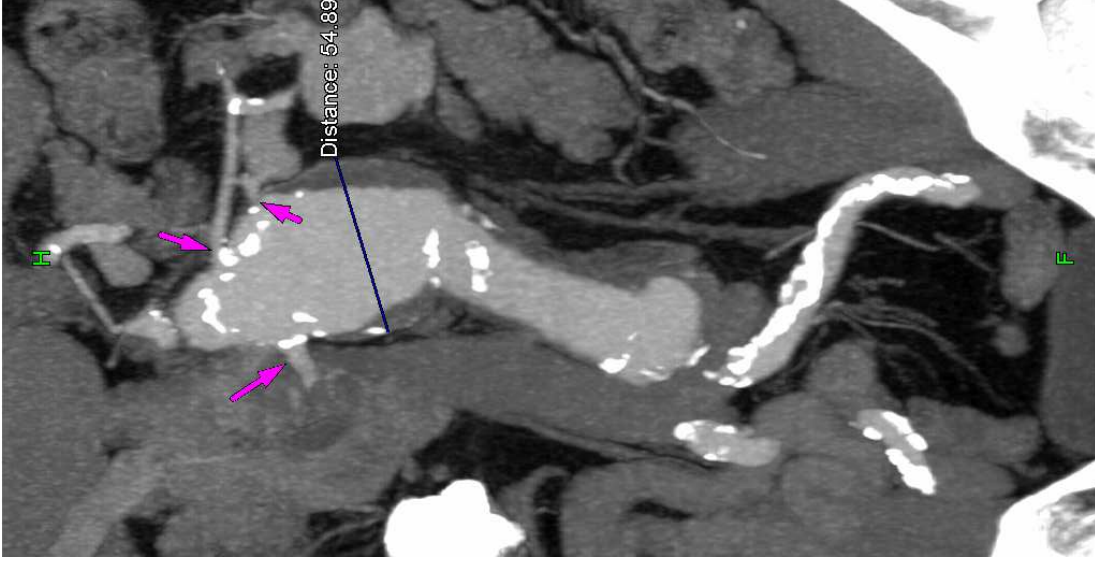


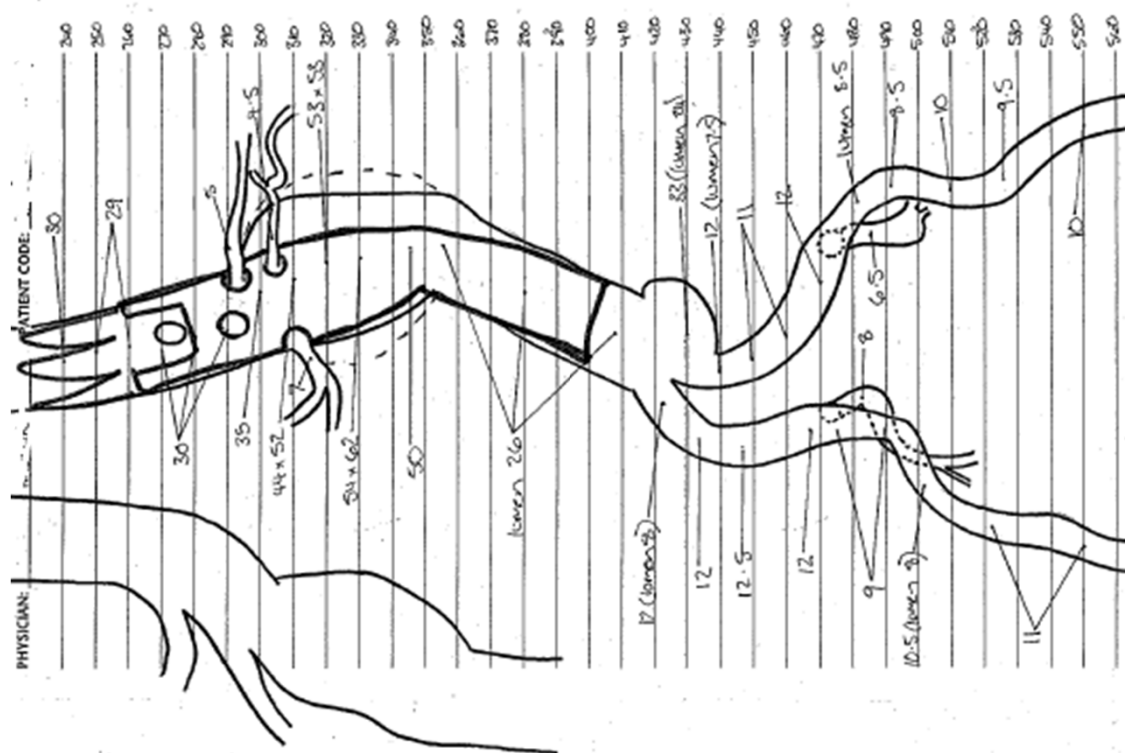
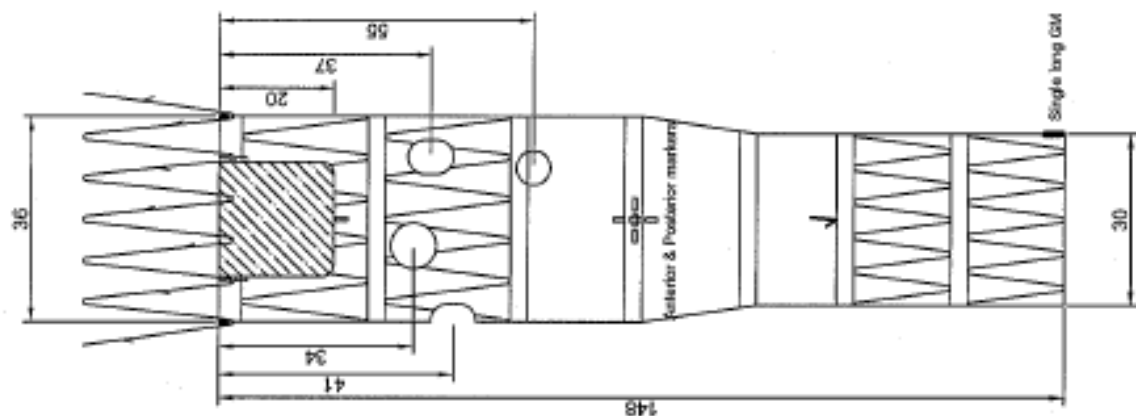


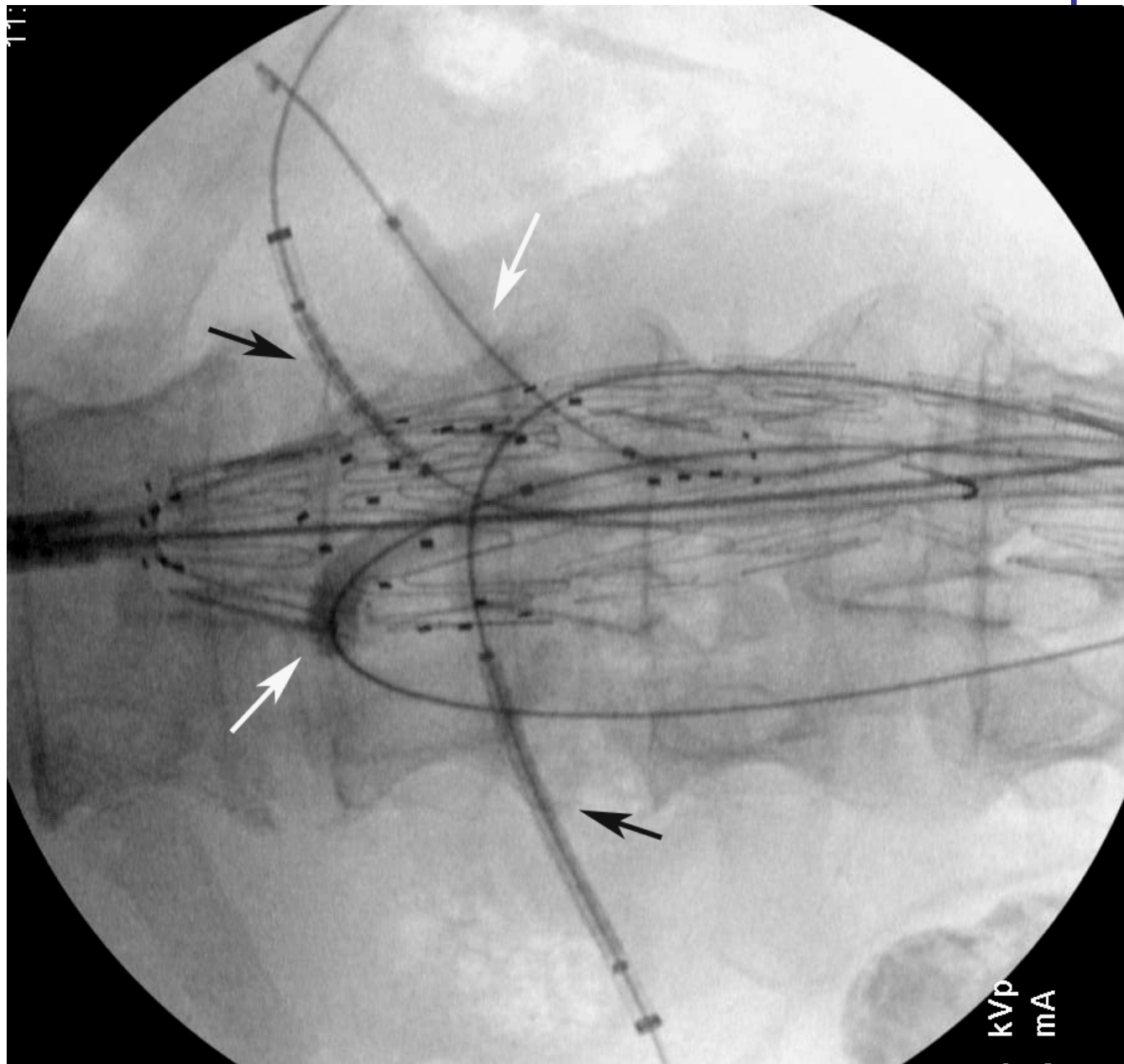


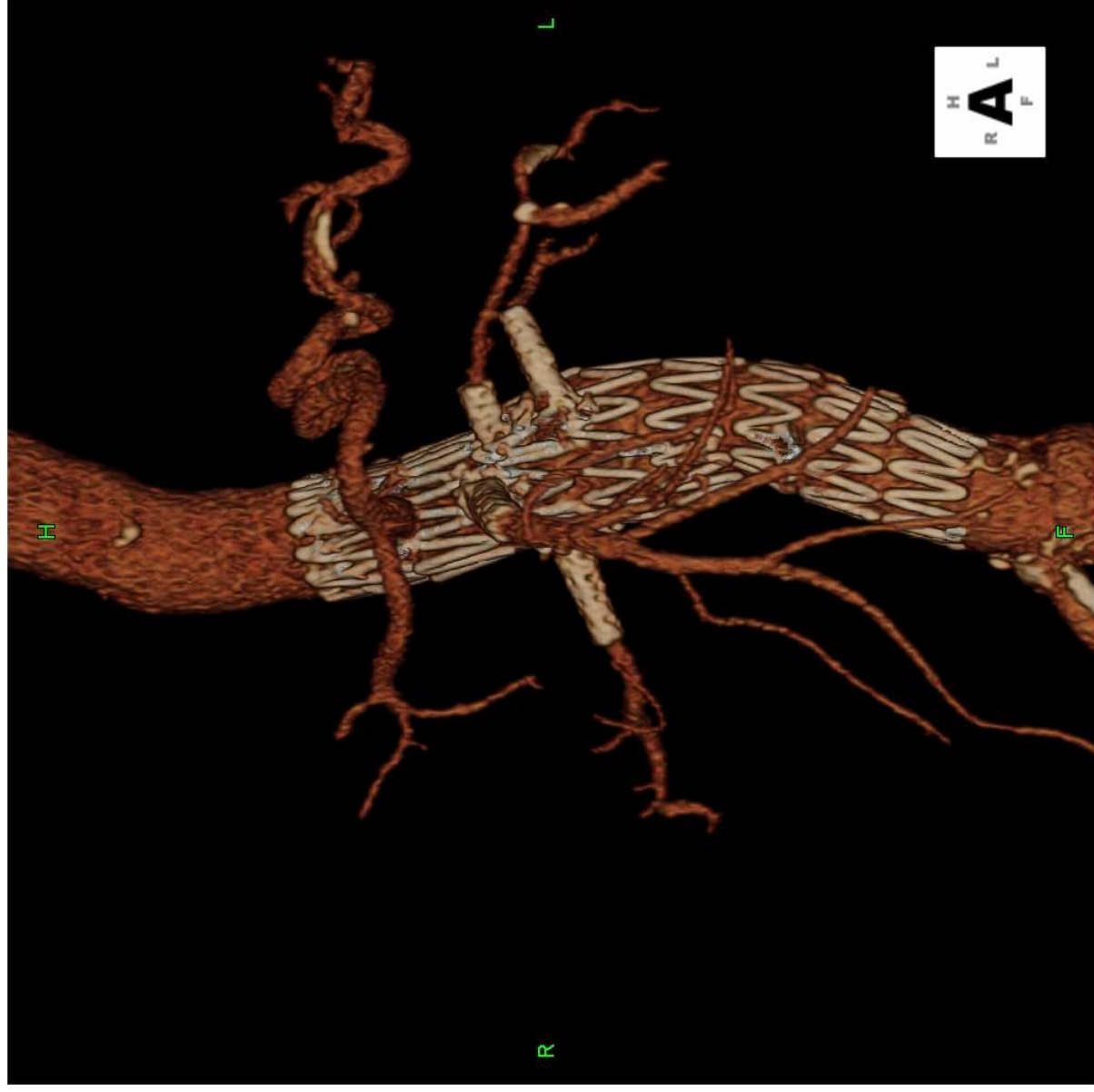




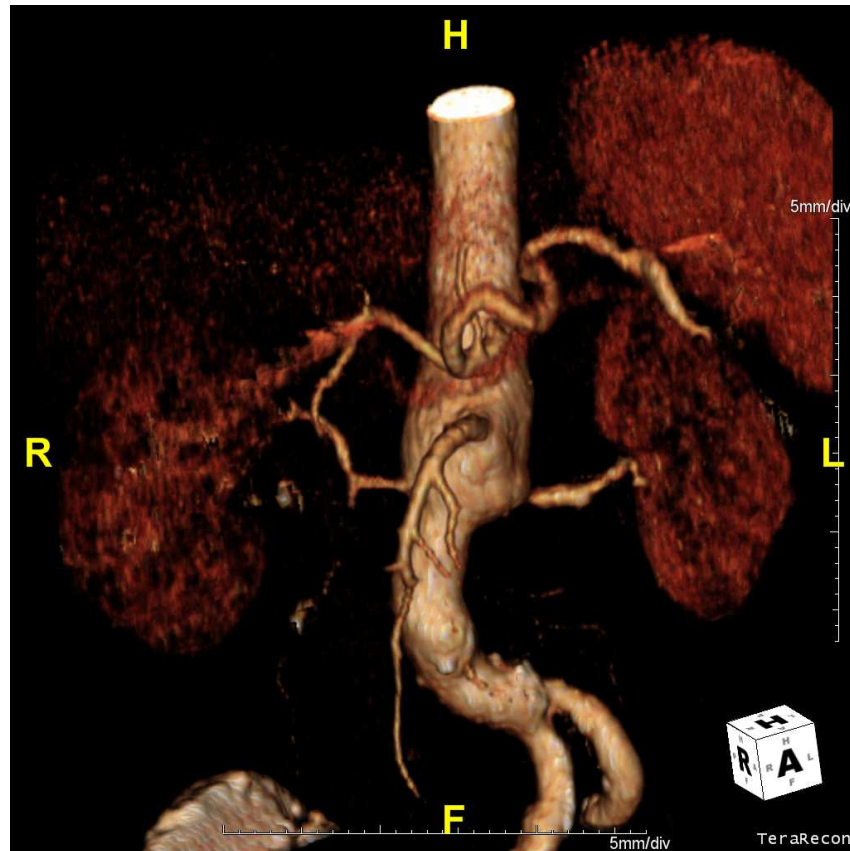


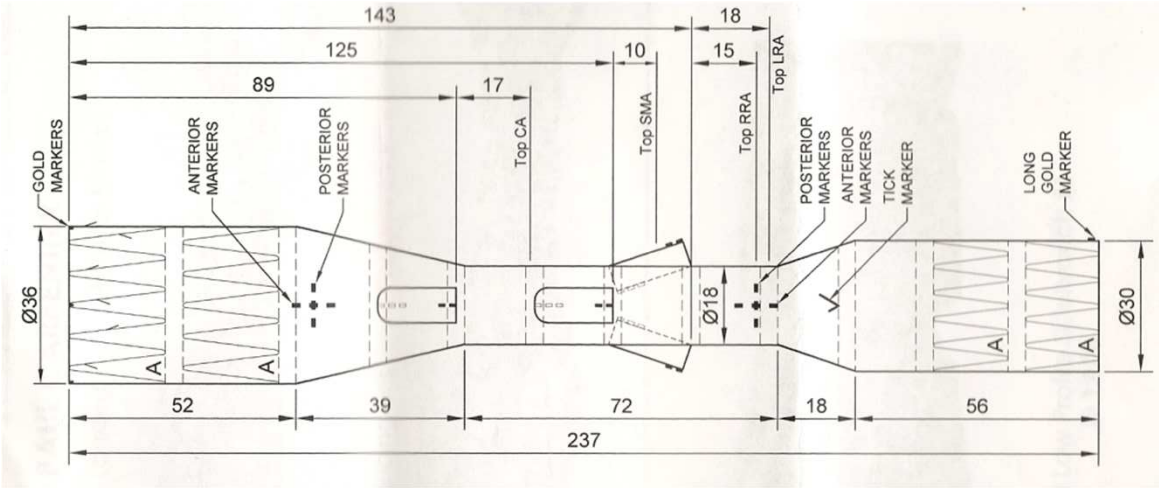
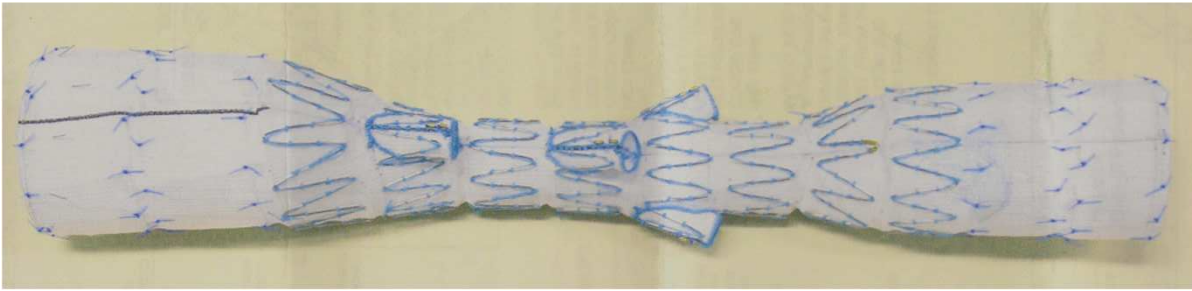


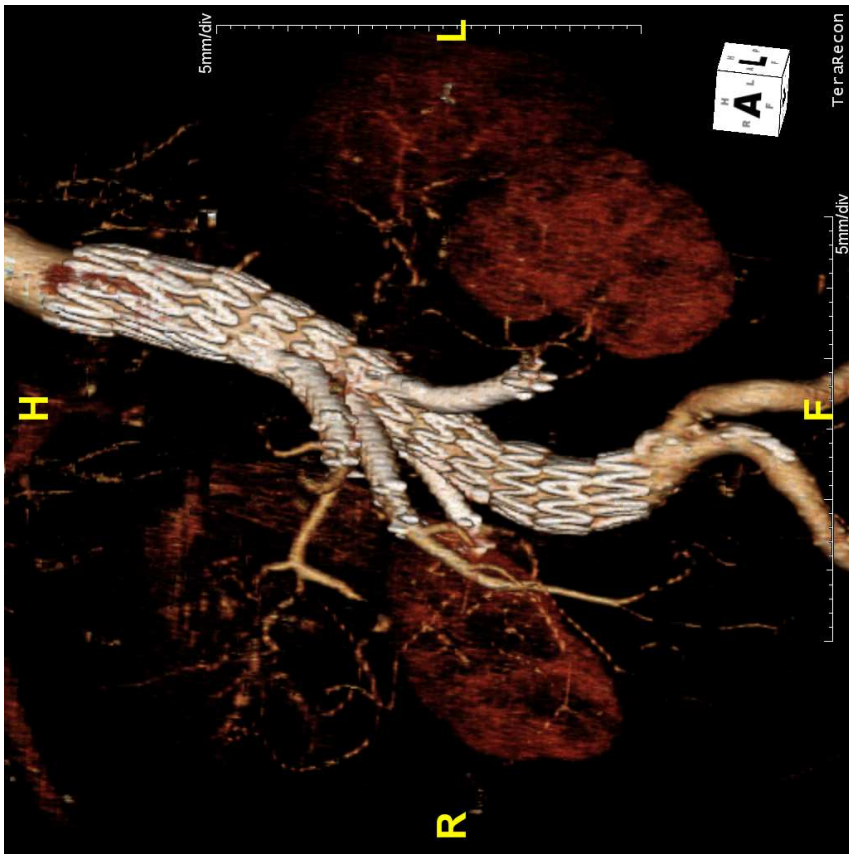


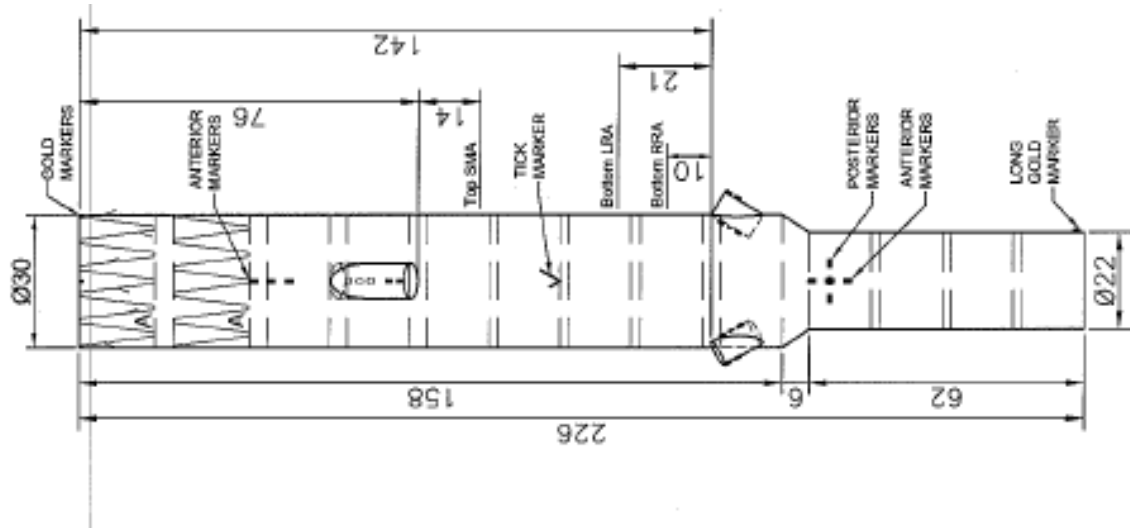
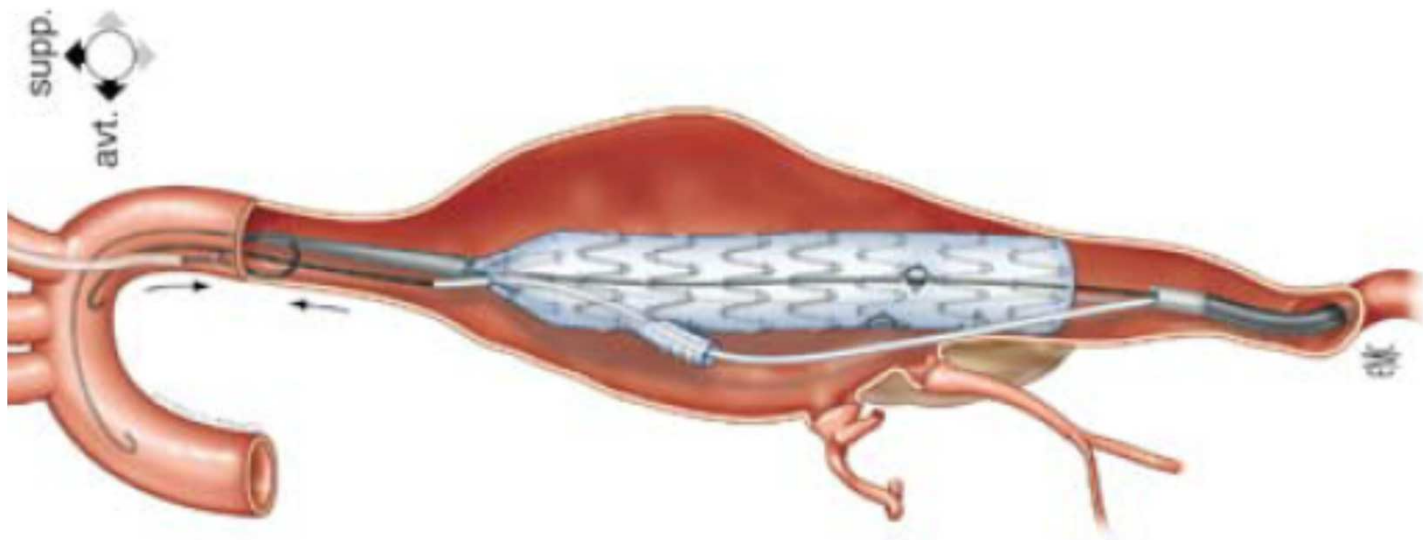


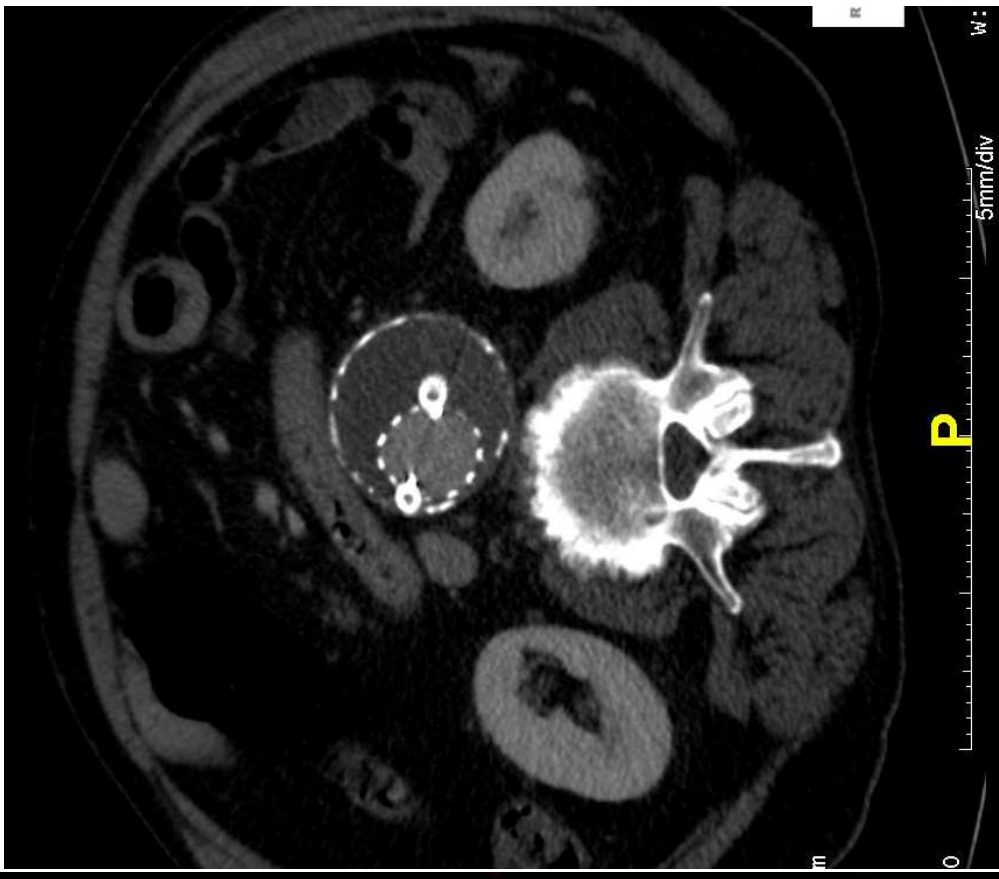
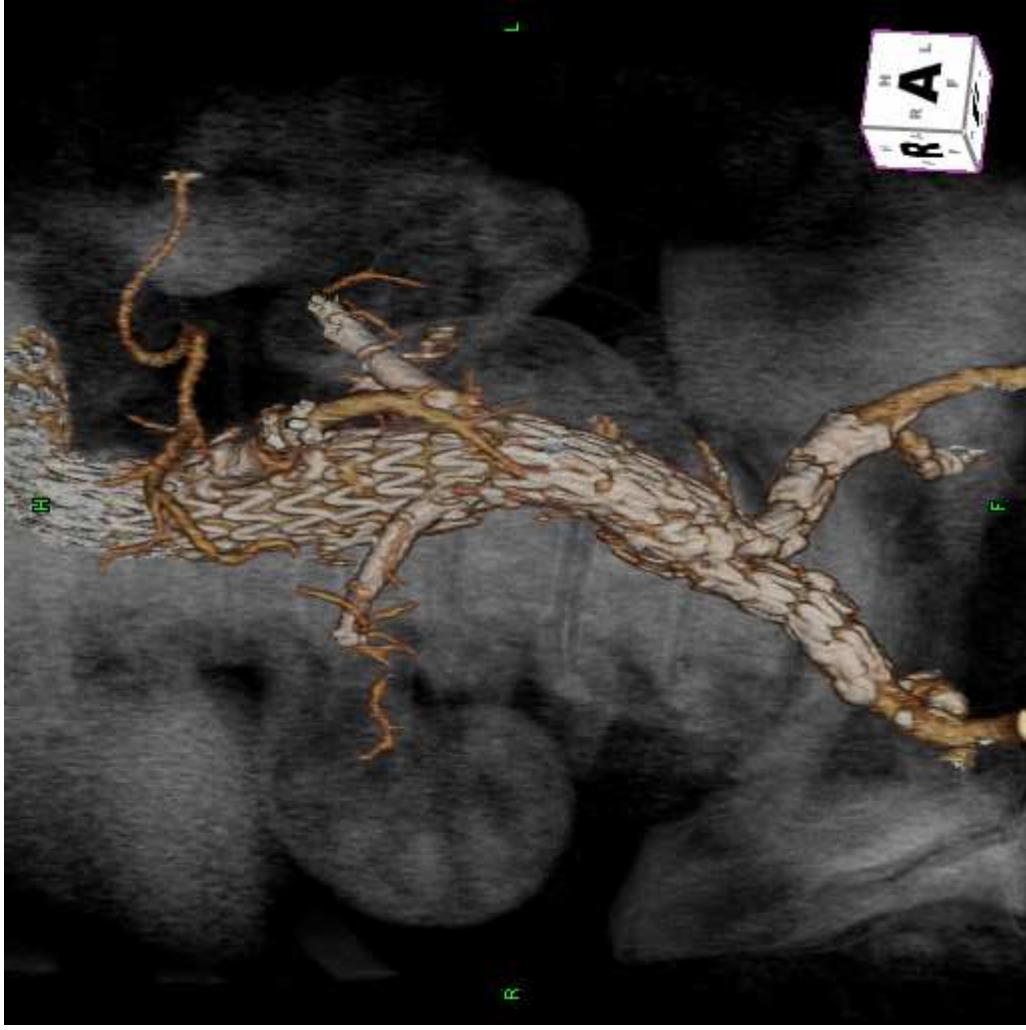
4 Branches?



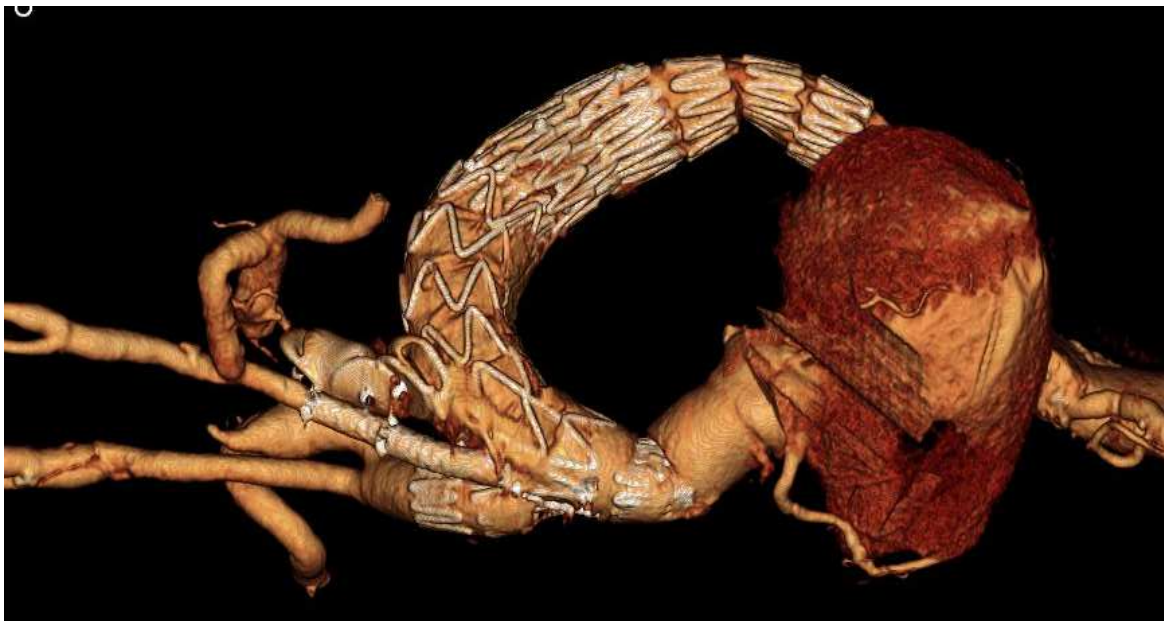












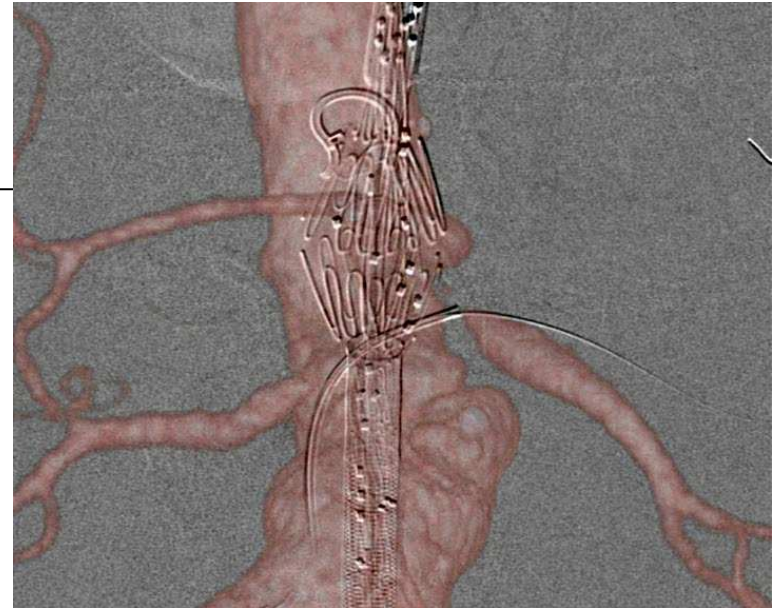




Fused 3D imaging

Benefits

- Roadmap to localize renals ostia and optimize positioning of the endograft
- Using pre-op CT can potentially reduce the need for fluoro, DSA and contrast



CONCLUSIONS

- Learning curve over
- CMD and OTS devices
- Standard of Care in most centers in Europe
- High volume centers performing both techniques

Who should perform endovascular therapies??

Vascular
Surgery



Interventional
Radiology

Cardiology

Merci !

