

# CHIMNEY VS. FENESTRATED EVAR IN SHORT NECK AAA

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Senior consultant and

Leader of section „endovascular aortic therapy“

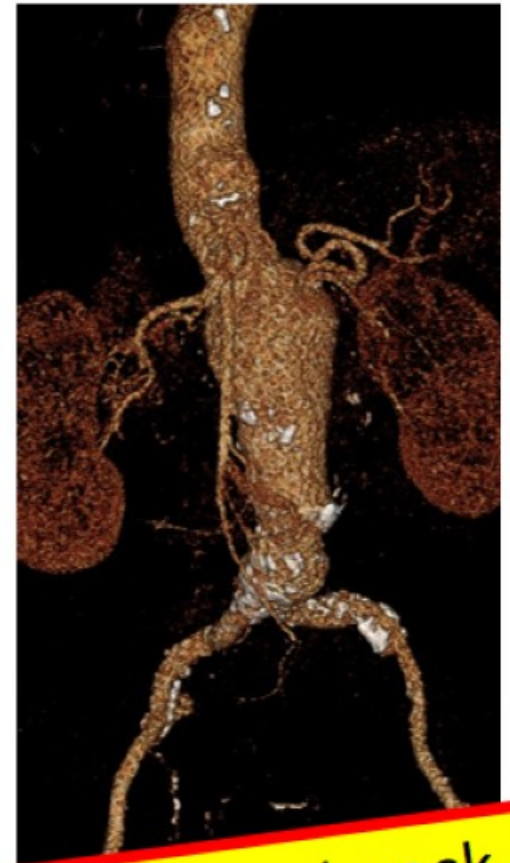
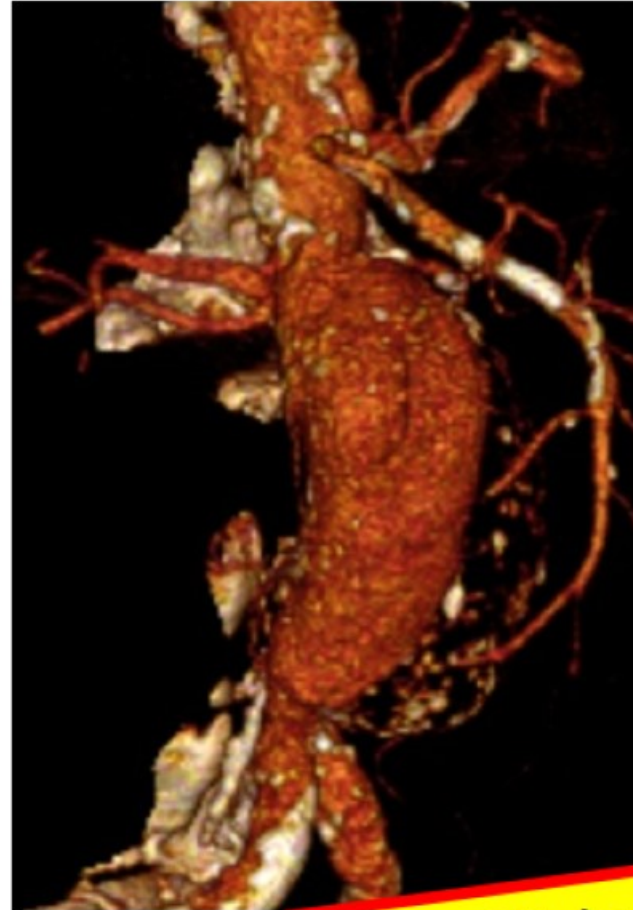
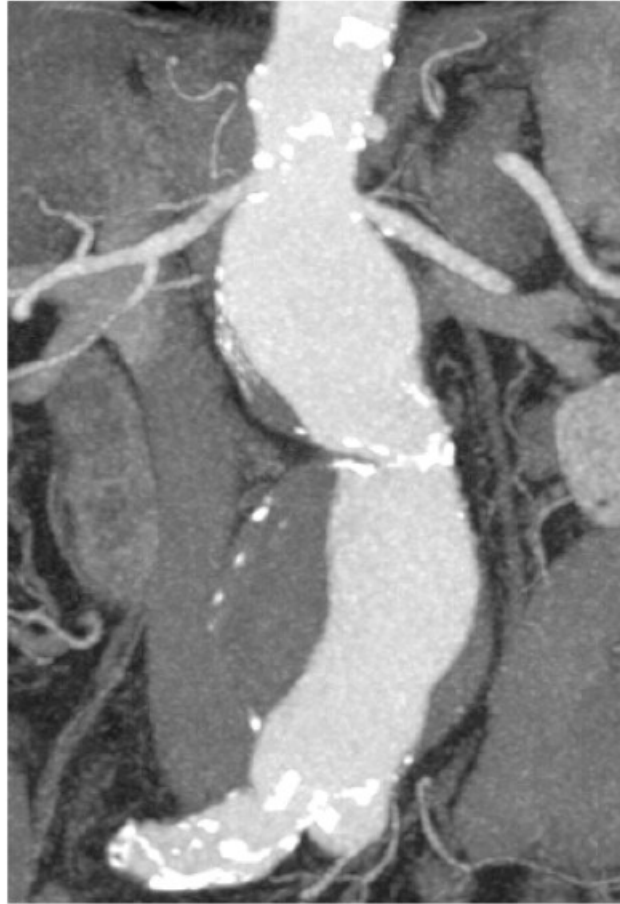
# Disclosure

Disclosures:

Proctor Cook<sup>TM</sup>

PD Dr. med. Martin Austermann  
Senior consultant and  
Leader of section „endovascular aortic therapy“

# The issue: Short infrarenal neck and juxtarenal neck



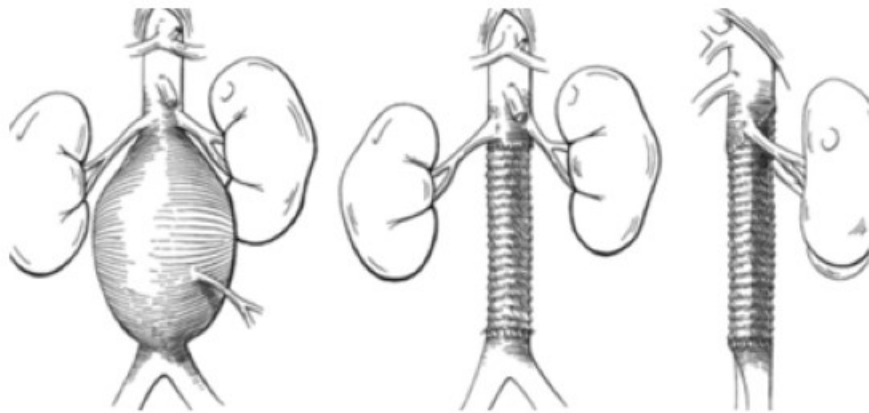
No sufficient infrarenal neck.



# CHEVAR vs. FEVAR in short neck AAA

## Open repair

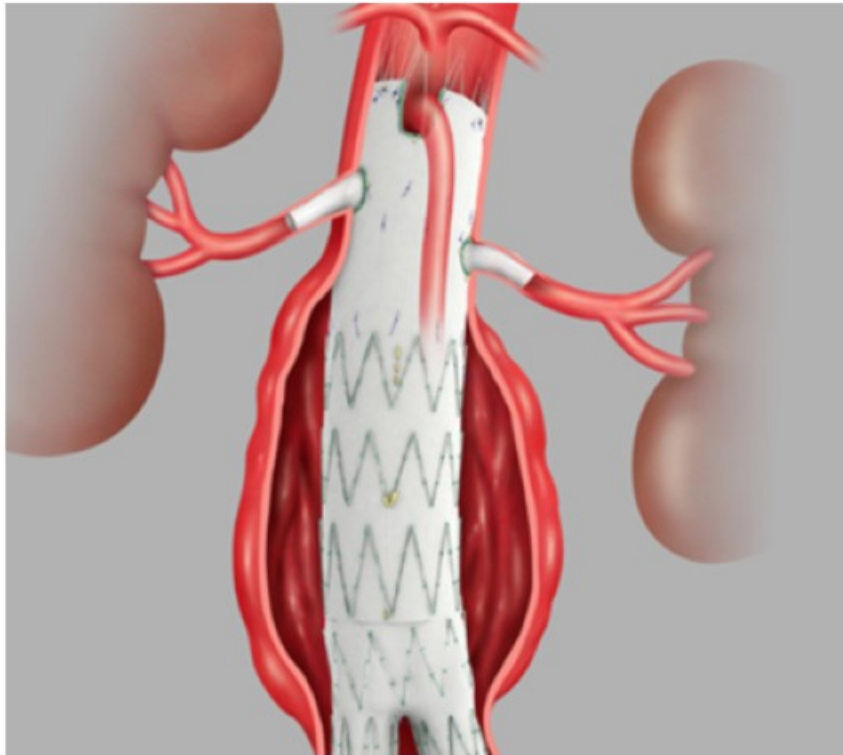
(Younger) patients at good risk  
No hostile abdomen.  
Connective tissue disease.  
EVAR/FEVAR/BEVAR/Chimney not possible .  
(Bad access, demanding target vessels,  
severe kinking of the visceral aorta).



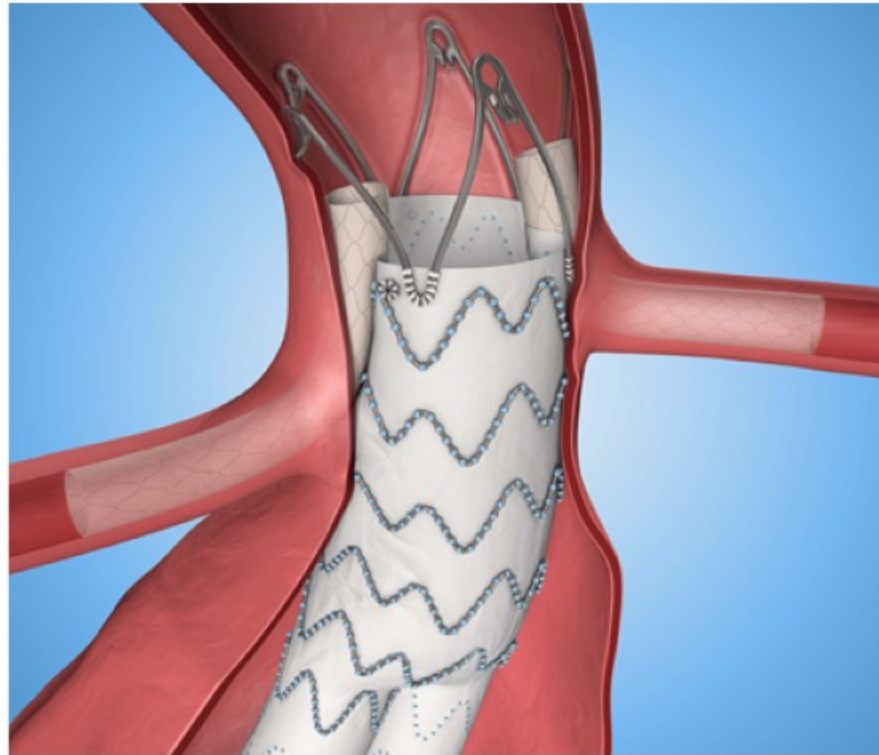
**Younger pt at good risk.**

# CHEVAR vs. FEVAR in short neck AAA

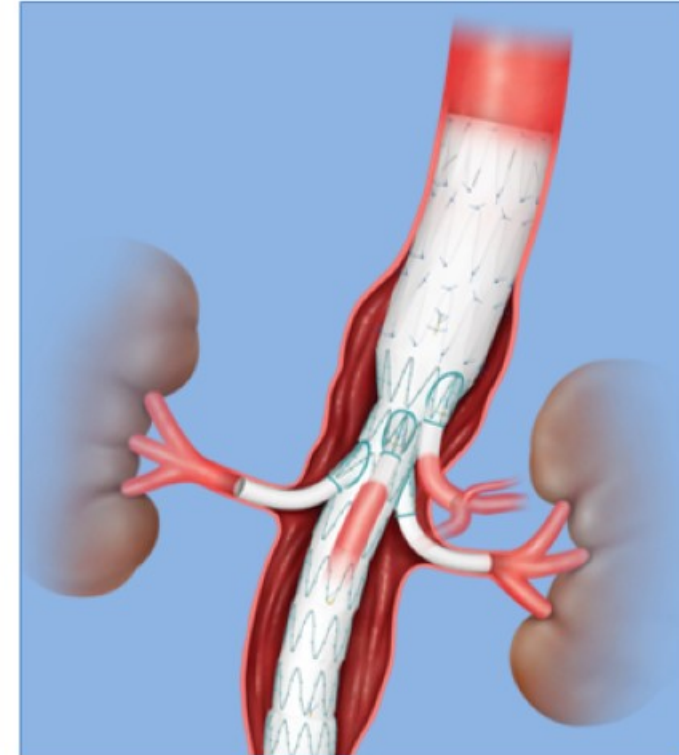
## FEVAR



## CHEVAR



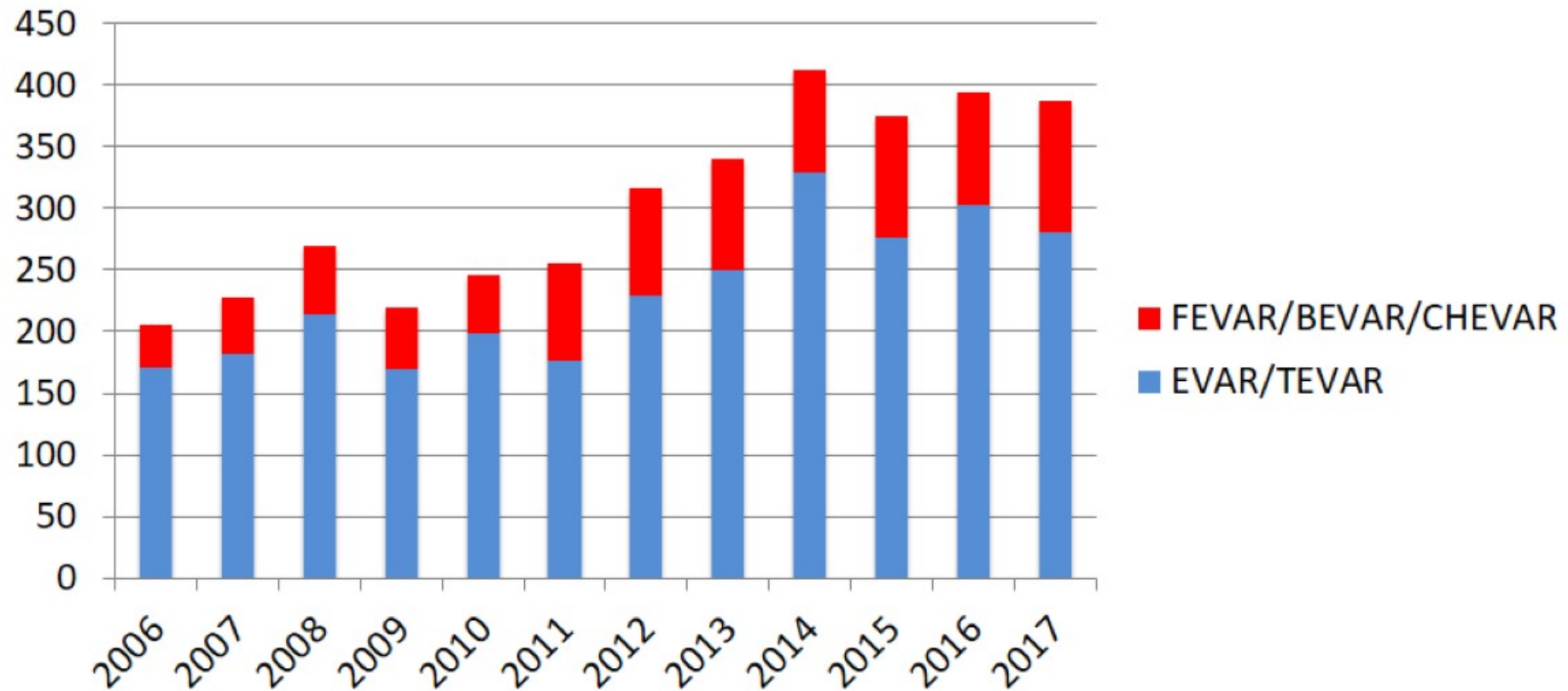
## (BEVAR)





# CHEVAR vs. FEVAR in short neck AAA

St. Franziskus Hospital Münster experience since 2006



# CHEVAR vs. FEVAR in short neck AAA

## Decision making/Patient selection:

If we can **avoid stents** in visc. or renal arteries, we should do so.



**Infrarenal open repair** in pt at good risk.

FEVAR/CHEVAR/BEVAR should be **complementary** techniques and **not competitive**.



**Select** the best technique for a particular patient and the special anatomie.

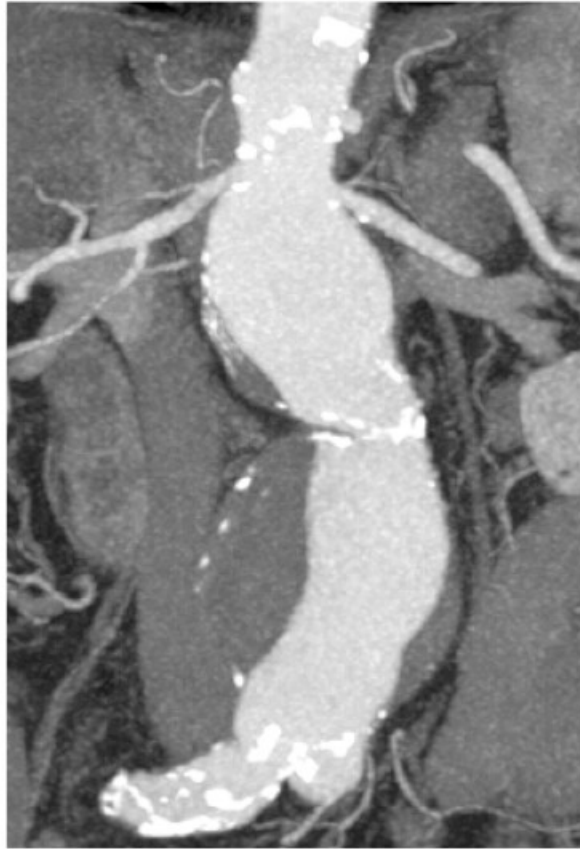
**Access vessels, target vessels, aortic morphology, urgency** and **patient conditions** are the most important factors for decision making.



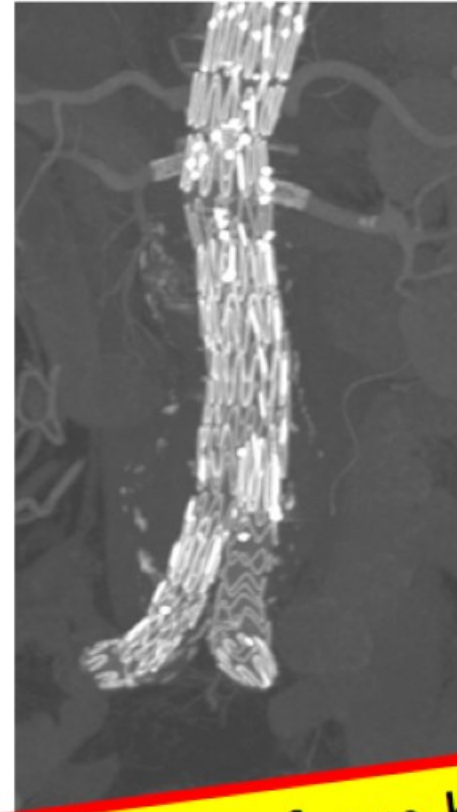
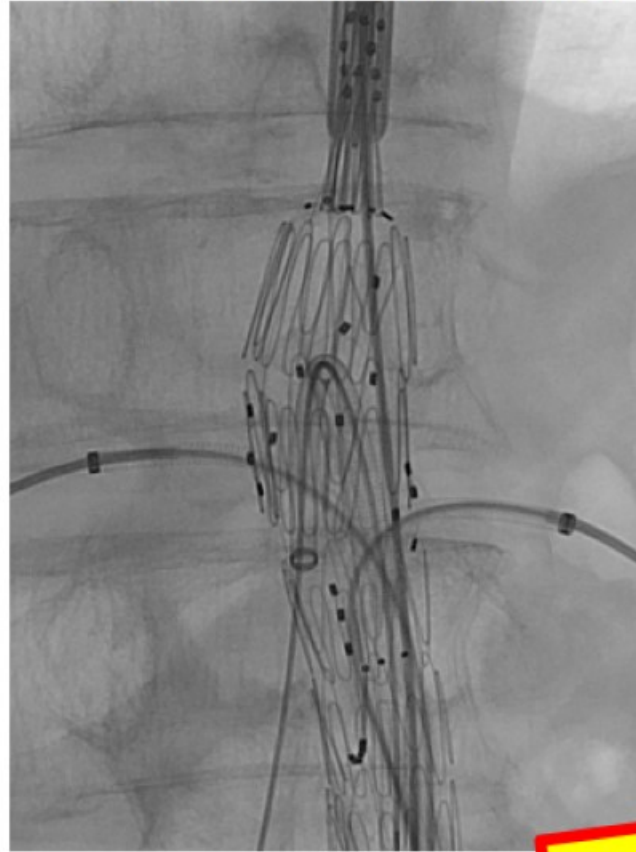
**Careful evaluation** of the anatomy and the patient conditions

# CHEVAR vs. FEVAR in short neck AAA

Male, 73 Y, CAD, AH



CMD-FEVAR:

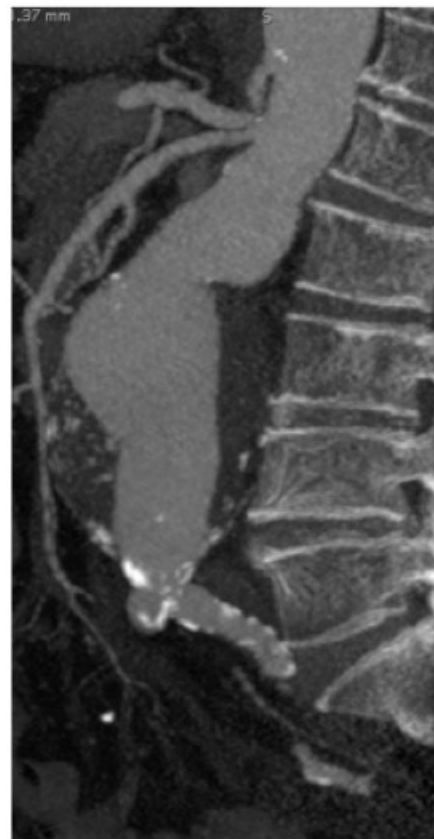


Good access from below, straight aorta.

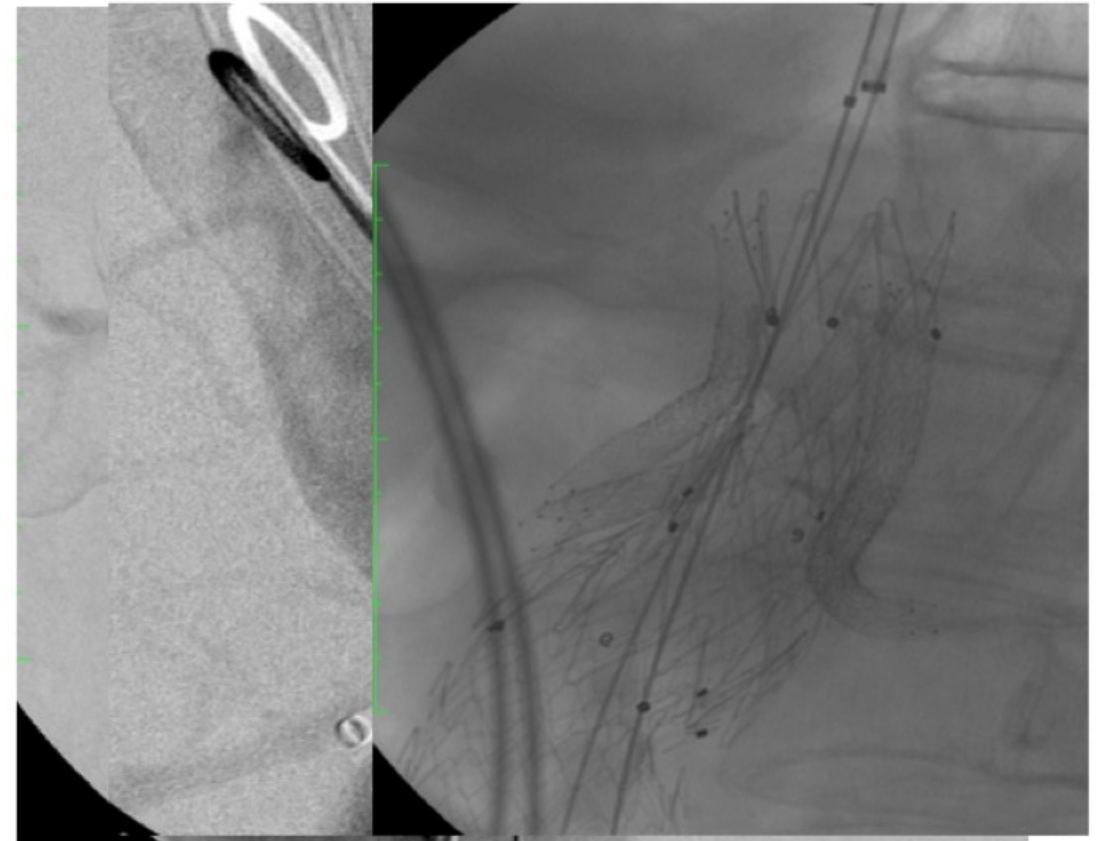


# CHEVAR vs. FEVAR in short neck AAA

Male, 82 Y, CAD, RI, symptomatic



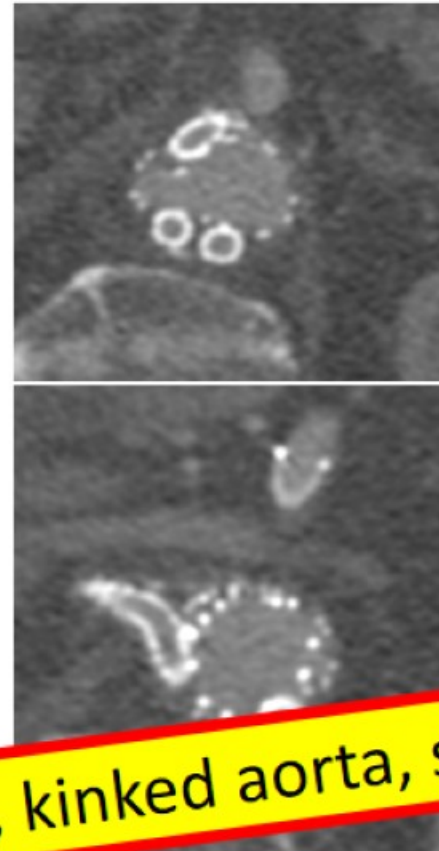
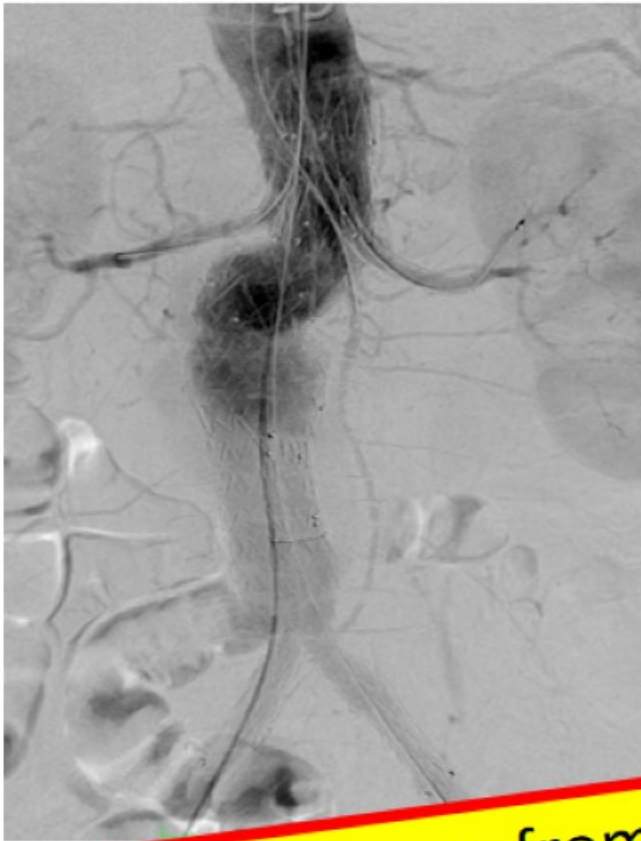
CHEVAR



# CHEVAR vs. FEVAR in short neck AAA

Male, 82 Y, CAD, RI, symptomatic

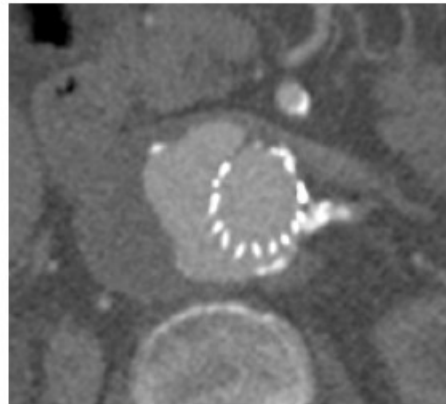
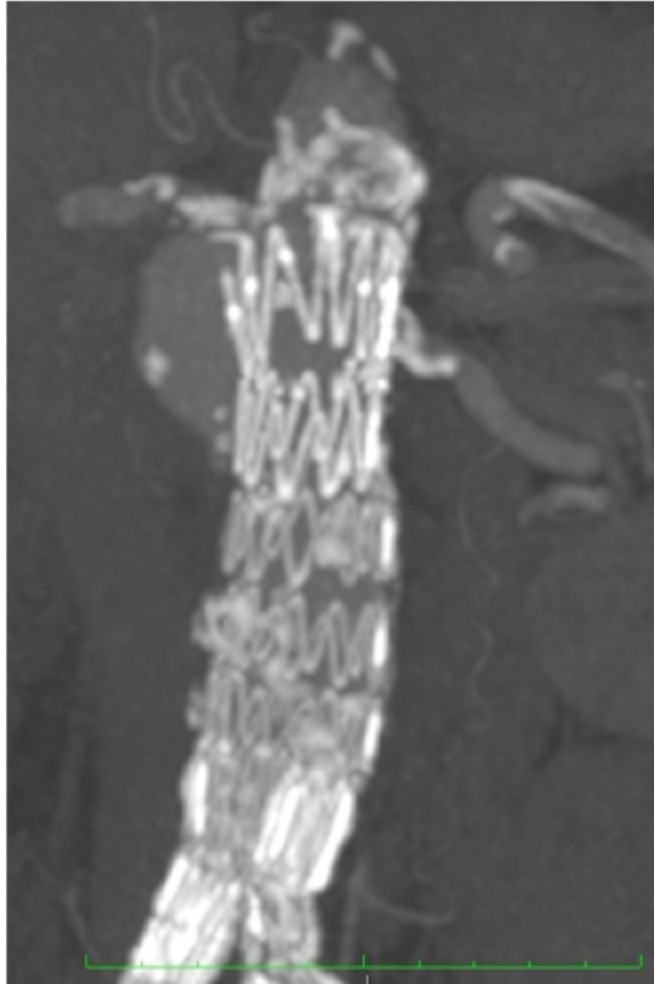
Chimney EVAR



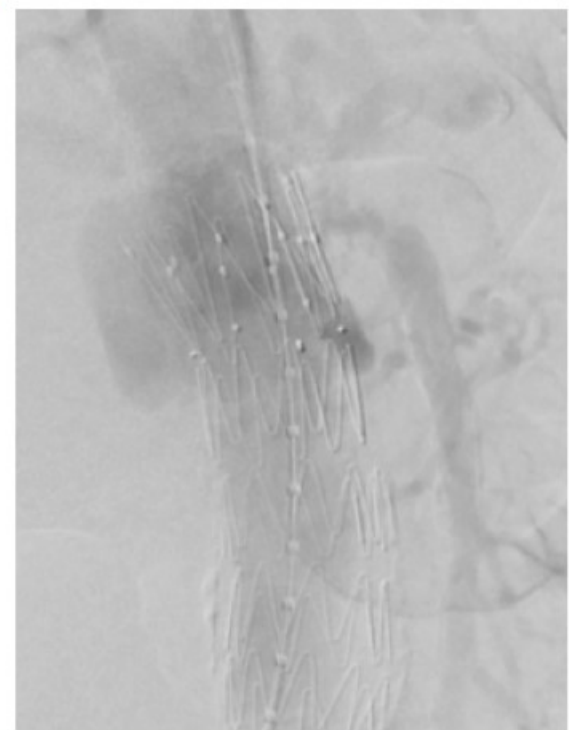
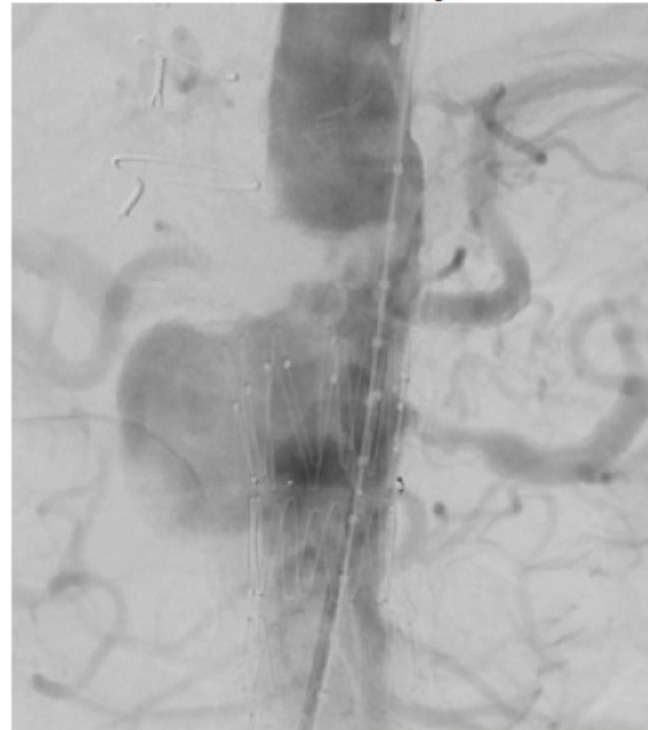
Poor access from below, kinked aorta, suitable access from above.



## CHEVAR vs. FEVAR in short neck AAA

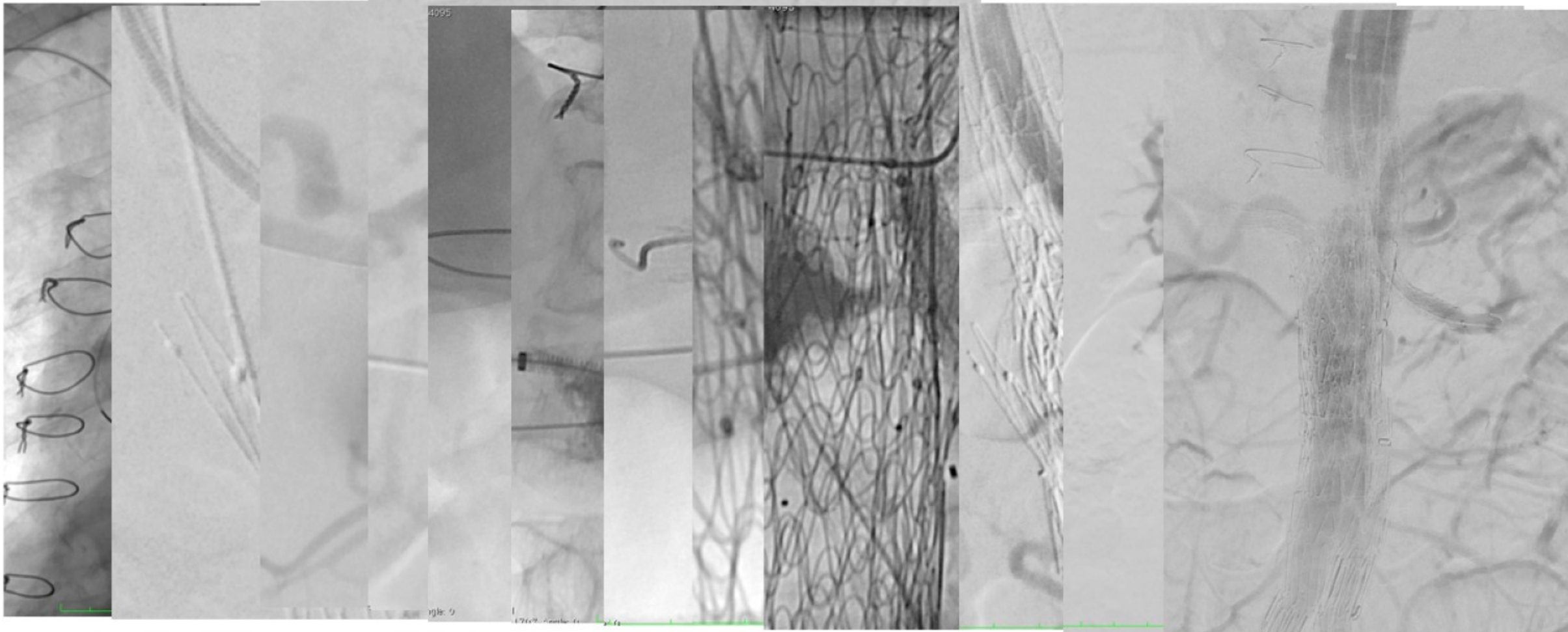


Saccular pararenal aneurysm  
Male 71 Y, CAD, COLD

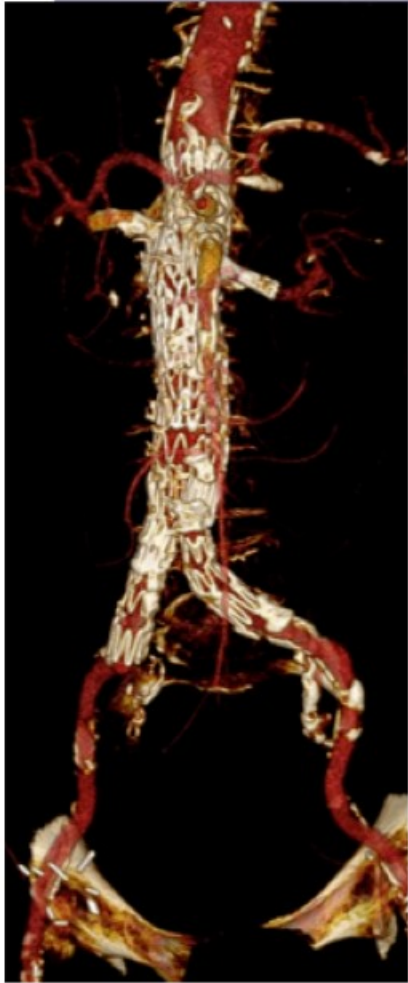




# CHEVAR vs. FEVAR in short neck AAA

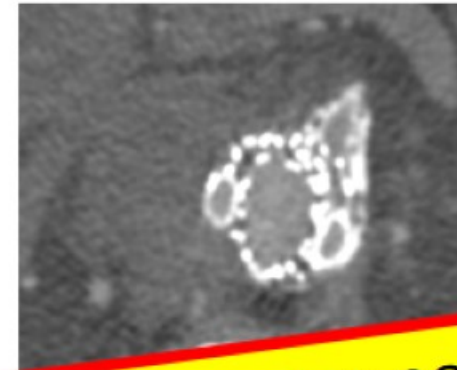
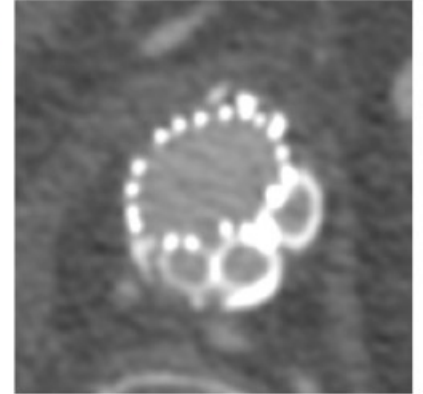


# CHEVAR vs. FEVAR in short neck AAA



Saccular pararenal aneurysm  
Male 71 Y, CAD, COLD

Chimney/Sandwich EVAR



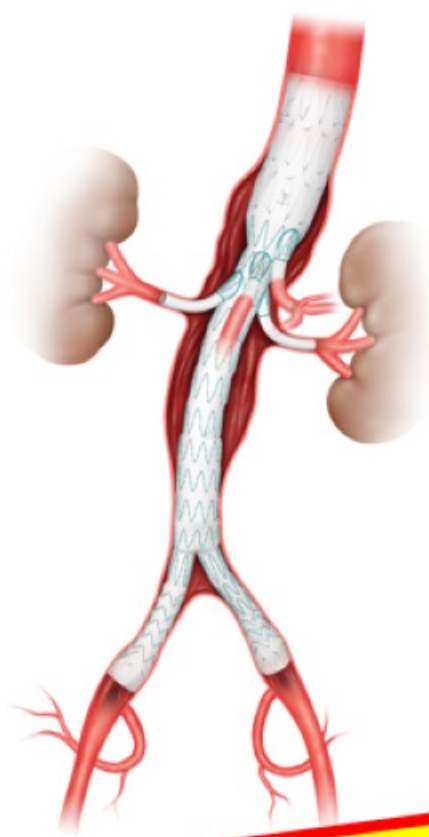
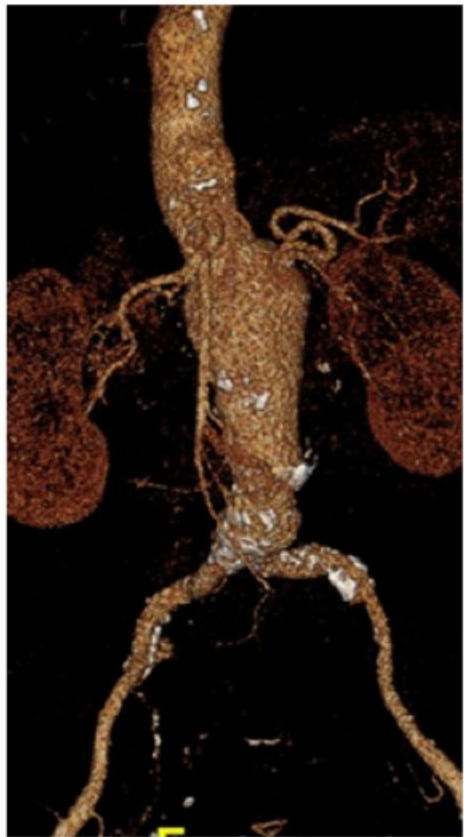
Difficult target vessels. Later point of no return.



# CHEVAR vs. FEVAR in short neck AAA

Male, 72 Y, CAD, COPD, symptomatic

## T-BRANCH EVAR



Good access from above and below, forgiving positioning.



# CHEVAR vs. FEVAR in short neck AAA

Treatment of complex aortic aneurysms with fenestrated endografts and chimney stent repair: Systematic review and meta-analysis

Yang Yaoguo<sup>1,2</sup>, Chen Zhong<sup>1,2</sup>, Kou Lei<sup>1,2</sup> and Xiao Yaowen<sup>1,2</sup>

42 relevant studies

Higher FU aneurysm rel. Mortality in CHEVAR  
Higher reinterventionrate in FEVAR

	FEVAR (n=1884) FU 18,07 month	CHEVAR (n=380) FU 16,12 month	p
30 d Mortality	2,4 %	3,2%	0,459
FU-aneury.-rel. Mortality	1,4 %	3,2 %	0,018
Target organ dysfunction	5 %	4 %	0,27
EL type 1	2,0 %	3,4 %	0,092
Reintervention	11,7 %	5,6 %	0,001

Vascular. 2017 Feb;25(1):92-100.

# CHEVAR vs. FEVAR in short neck AAA

Collected World Experience About the Performance of the Snorkel/Chimney Endovascular Technique in the Treatment of Complex Aortic Pathologies

*The PERICLES Registry*

Konstantinos P. Donas, MD,<sup>a</sup> Jason T. Lee, MD,<sup>†</sup> Mario Lachat, MD,<sup>‡</sup> Giovanni Torsello, MD, PhD,<sup>§</sup> and Frank J. Veith, MD,<sup>¶</sup> on behalf of the PERICLES investigators

*Annals of Surgery* • Volume 262, Number 3, September 2015

Identification of optimal device combinations for the chimney endovascular aneurysm repair technique within the PERICLES registry

Salvatore T. Scali, MD,<sup>a</sup> Adam W. Beck, MD,<sup>b</sup> Giovanni Torsello, MD,<sup>c</sup> Mario Lachat, MD,<sup>d</sup> Paul Kubilis, MS,<sup>a</sup> Frank J. Veith, MD,<sup>e</sup> Jason T. Lee, MD,<sup>f</sup> and Konstantinos P. Donas, MD,<sup>g</sup> on behalf of the PERICLES investigators,<sup>\*</sup> Gainesville, Fla; Birmingham, Ala; Münster, Germany; Zurich, Switzerland; New York, NY; and Palo Alto, Calif

J Vasc Surg 2018;68:24-35

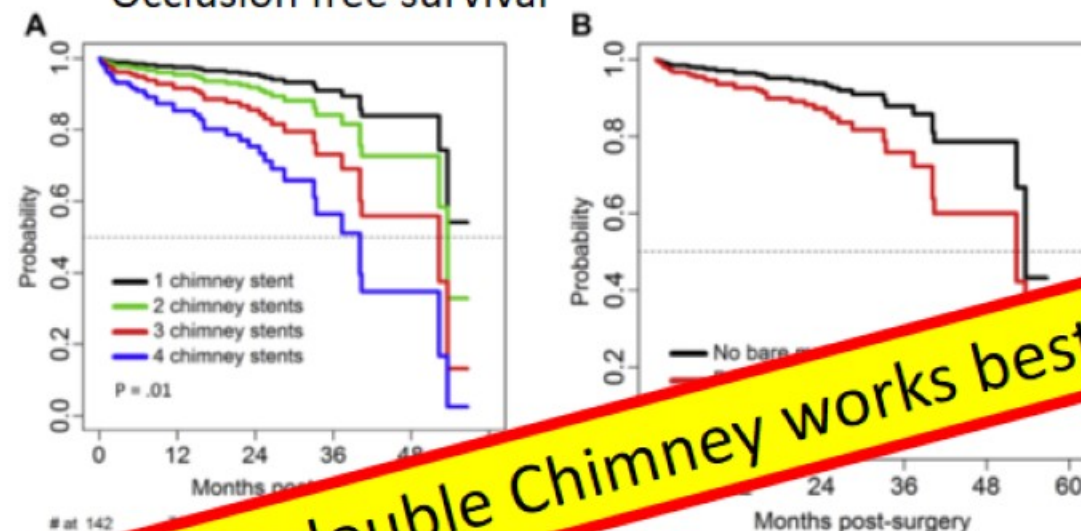
Nitinol based Endografts and BECS seams to work best.  
More Chimneys leads to a higher risk for occlusion.  
Relining is associated with higher occlusion rate.

517 pt in 13 centers, mean FU 17,1 month

Mean number of Chimney-Stents per patient:

1,73

Occlusion free survival



Single or double Chimney works best.



# CHEVAR vs. FEVAR in short neck AAA

## Long-term follow-up of fenestrated endovascular repair for juxtarenal aortic aneurysm

I. N. Roy<sup>1,3</sup>, A. M. Millen<sup>1</sup>, S. M. Jones<sup>1</sup>, S. R. Vallabhaneni<sup>1,3</sup>, J. R. H. Scurr<sup>1</sup>, R. G. McWilliams<sup>2</sup>, J. A. Brennan<sup>1</sup> and R. K. Fisher<sup>1</sup>

Br J Surg. 2017 Jul;104(8):1020-1027.

N=173

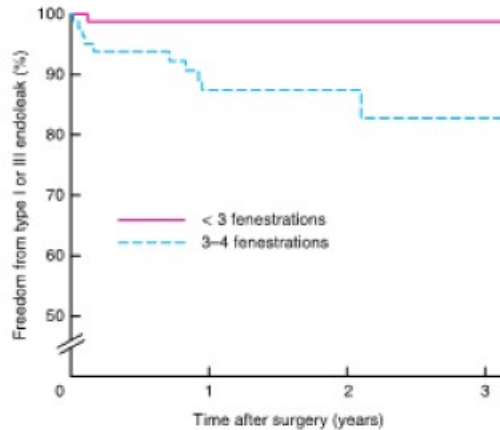


Fig. 3 Freedom from type I or III endoleak following fenestrated endovascular aneurysm repair in a single UK centre in relation to number of fenestrations in stent-graft.  $P < 0.001$  (log rank test)

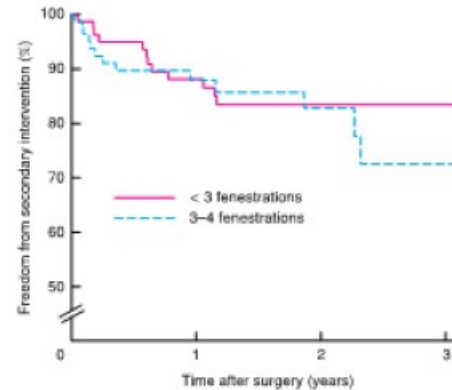
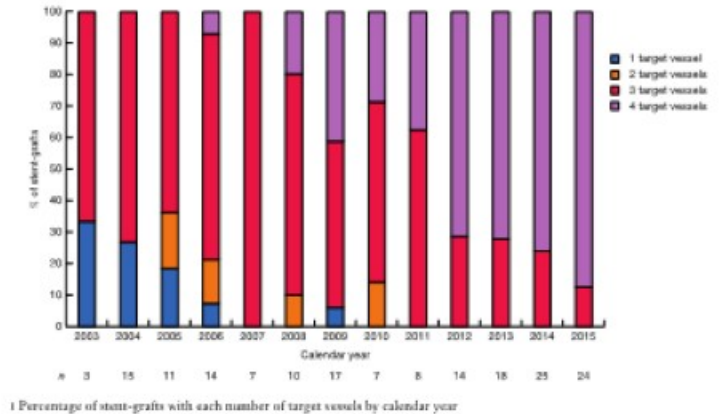


Fig. 4 Freedom from secondary intervention following fenestrated endovascular aneurysm repair in a single UK centre in relation to number of fenestrations in stent-graft.  $P = 0.508$  (log rank test)

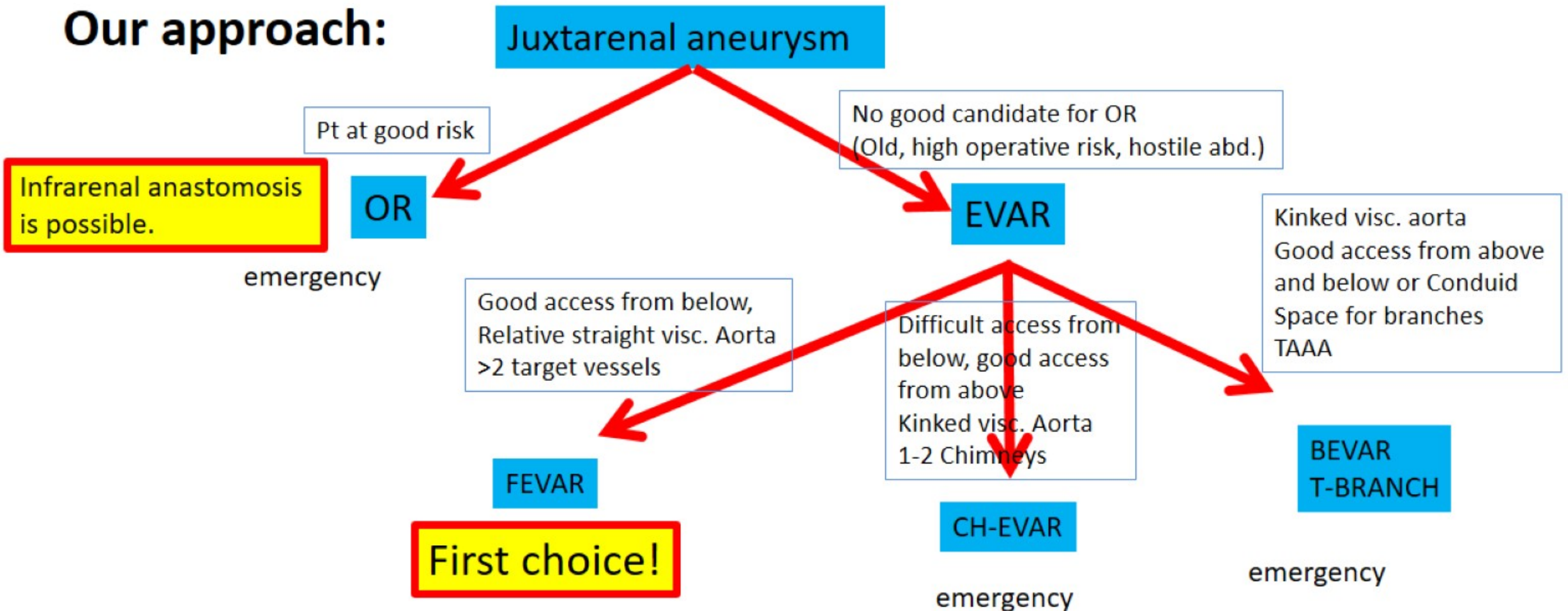


More fenestrations are associated with more EL's type 1 and 3 and more reinterventions.



# CHEVAR vs. FEVAR in short neck AAA

## Our approach:



# Thank you for your attention!

e-mail: [martin.austermann@sfh-muenster.de](mailto:martin.austermann@sfh-muenster.de)



St. Franziskus Hospital Münster

