



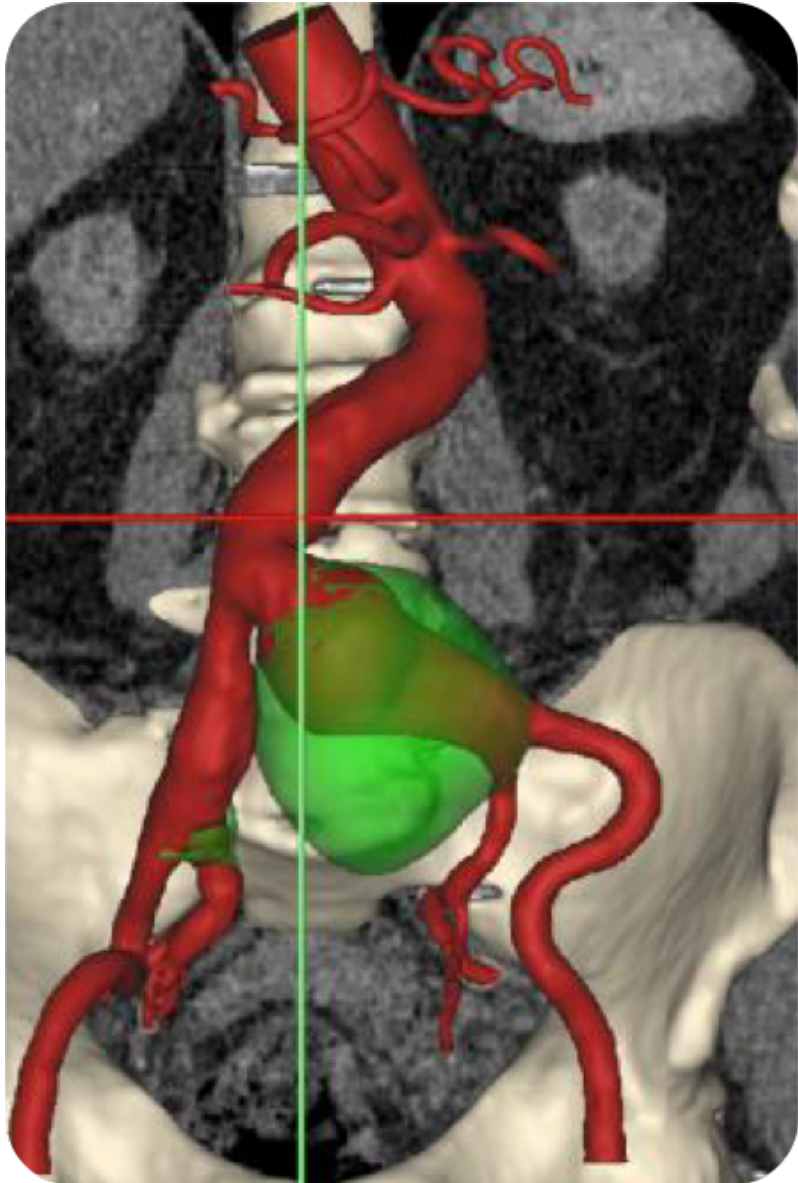
VASCUPEDIA

Iliac Branch Devices: What Does The Data Teach Us?

Theodosios Bisdas, MD

Ass. Professor for Vascular Surgery

St. Franziskus Hospital Muenster, Germany



To exclude or not to exclude
the hypogastric artery?



Which are the clinical symptoms of HA embolisation during EVAR?



The effect of HA exclusion

Eur J Vasc Endovasc Surg (2017) 53, 534–548

REVIEW

Systematic Review and Meta-analysis of the Effect of Internal Iliac Artery Exclusion for Patients Undergoing EVAR

D.C. Bosanquet ^{a,*}, C. Wilcox ^a, L. Whitehurst ^a, A. Cox ^a, I.M. Williams ^a, C.P. Twine ^{a,b}, on behalf of the British Society of Endovascular therapy (BSET)

^aSouth East Wales Regional Vascular Network, Royal Gwent Hospital, Newport, UK
^bDivision of Population Medicine, Cardiff University, Cardiff, UK

61 studies

Type of exclusion

- Coverage
- Coils
- Plug

Location of exclusion

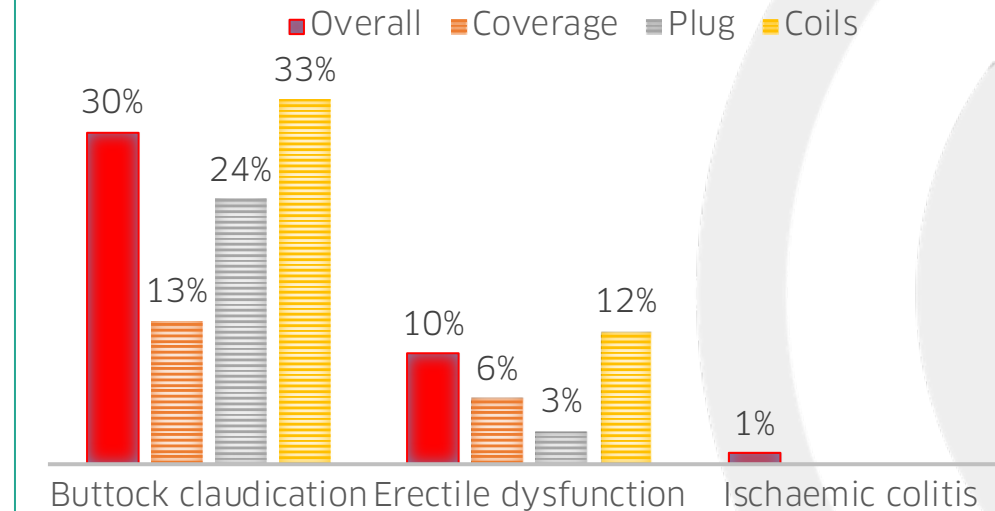
- Proximal HA
- Distal HA

Side of exclusion

- Unilateral
- Bilateral

GRADE analysis:
very low

TYPE OF EXCLUSION



DIRECT
COVERAGE

PLUG

The effect of HA exclusion

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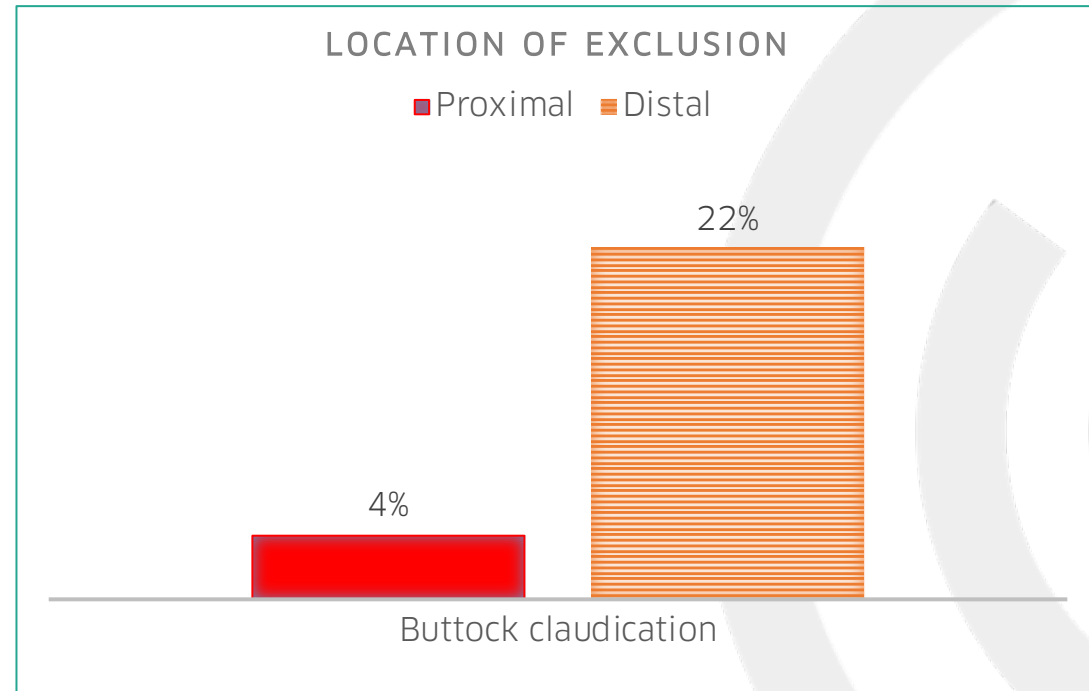
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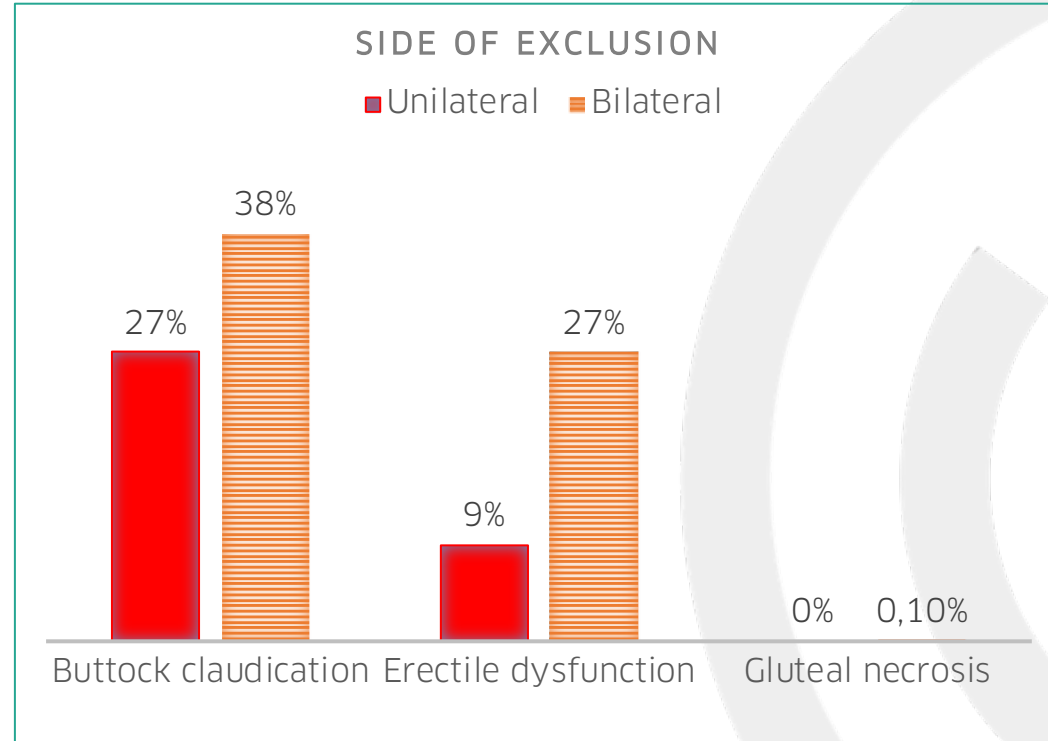
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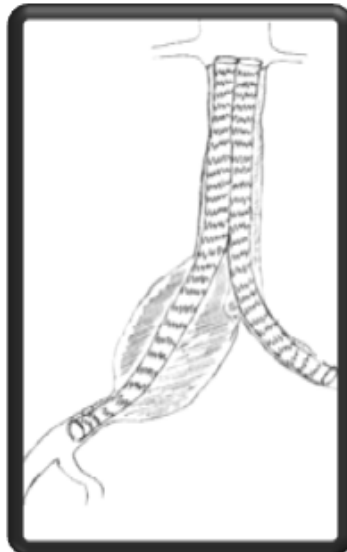
It is recommended that the blood flow should be preserved to at least one hypogastric artery in the course of EVAR

Revascularisation of the HA

Treatment options



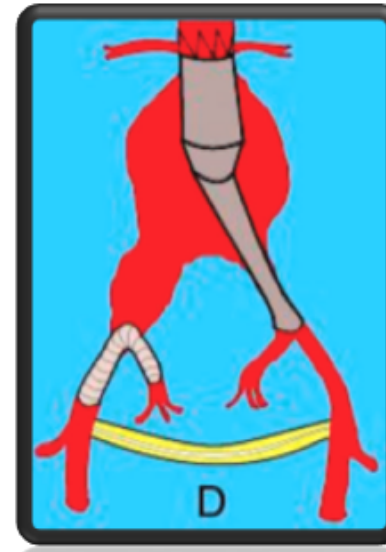
Sandwich technique



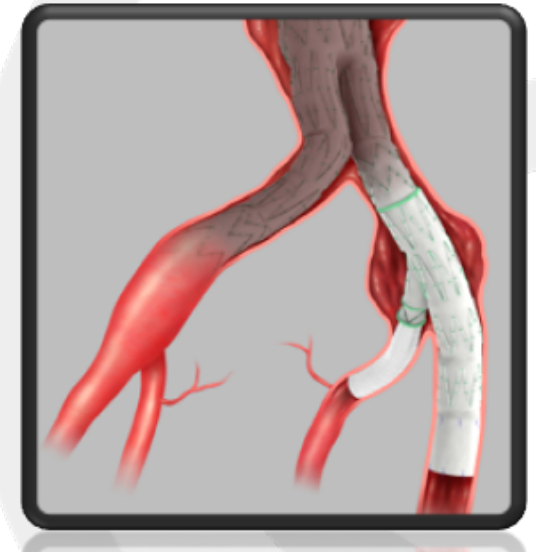
Nellix



Hybrid procedure



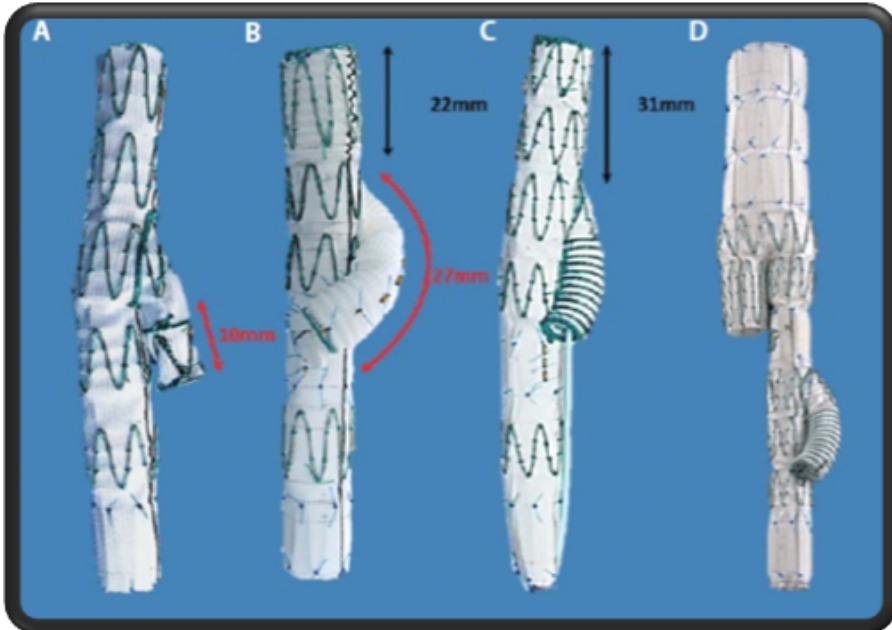
AUI + x-over



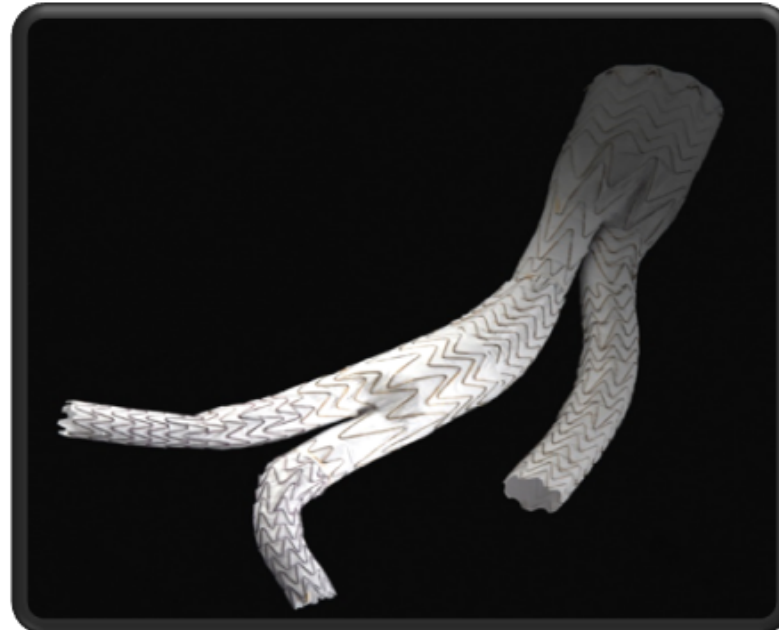
Iliac side branch devices

← OFF-LABEL COMBINATIONS →

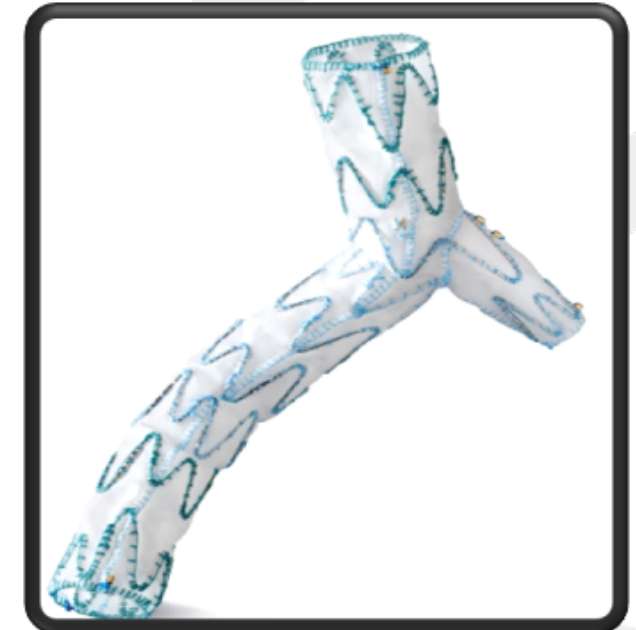
Endografts with iliac side branch



Zenith Branch Endovascular Graft-Iliac Bifurcation
COOK Medical
20F



Excluder Iliac branch endoprosthesis
GORE
16F



E-iliac endoprosthesis
JOTEC
18F

Zenith ISB-endograft Evidence

From the Society for Vascular Surgery

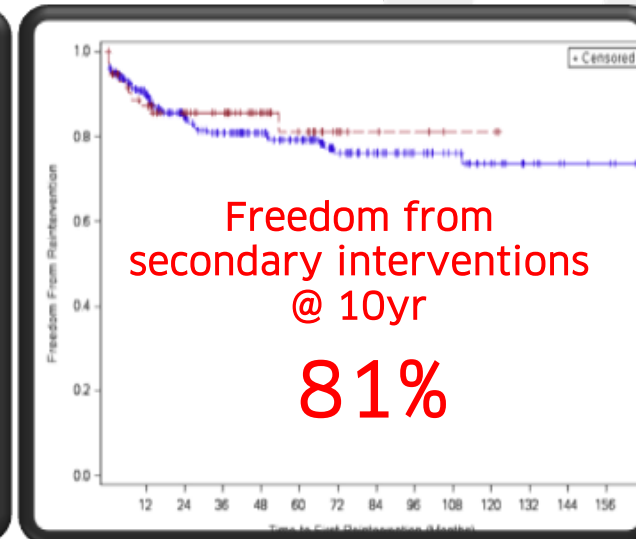
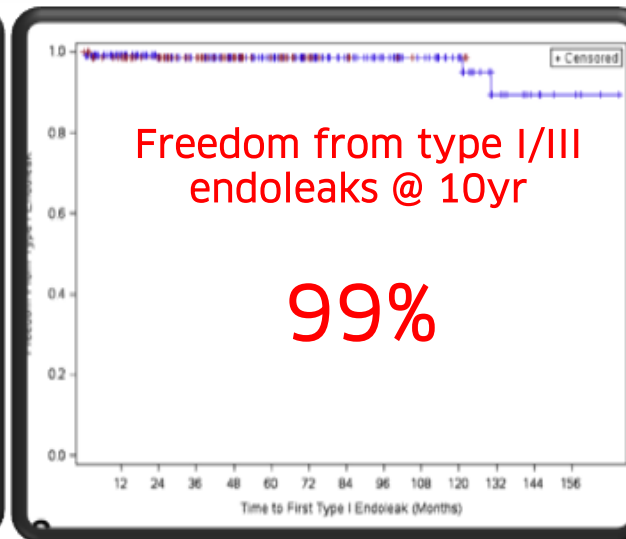
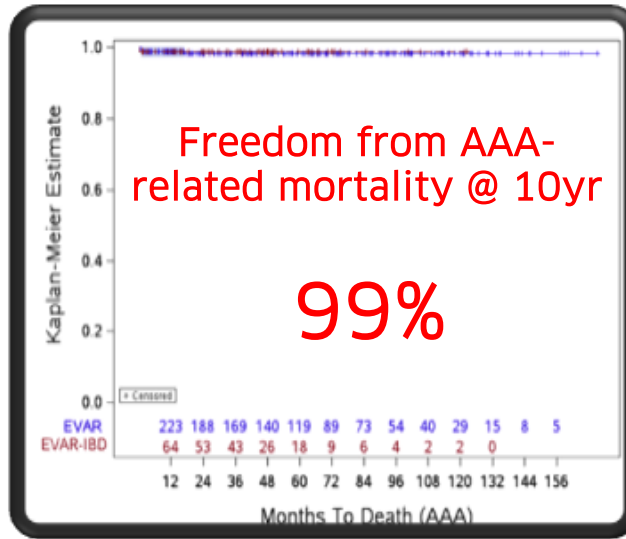
Durability of iliac artery preservation associated with endovascular repair of infrarenal aortoiliac aneurysms

Behzad S. Farivar, MD, Mohammad N. Abbasi, MD, Agenor P. Dias, MD, Yuki Kuramochi, BSN, Corey S. Brier, MA, F. Ezequiel Parodi, MD, and Matthew J. Eagleton, MD, Cleveland, Ohio

N=72 pts

Mean FU: 41±28 months

Technical success: 97%
Overall morbidity (30 days): 8%



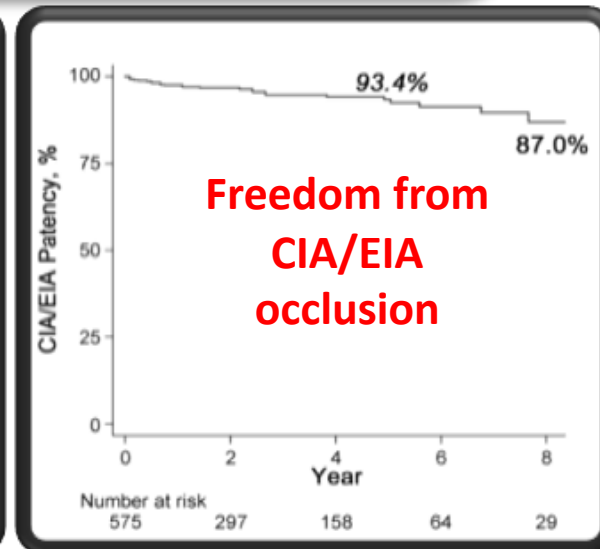
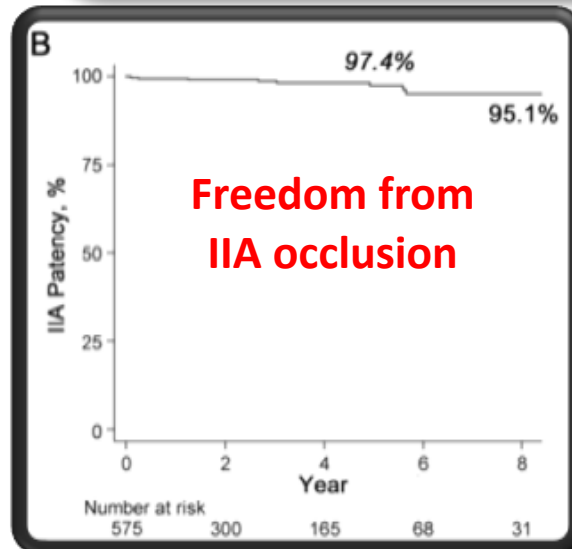
primary patency @ 10 yr:
77%

Zenith ISB-endograft Evidence



650 IBDs
6 European countries
Mean radiological follow-up: 30 months

Technical success: 98%
Overall occlusion rate: 2%



Main risk factors

- Poor landing zone in case of isolated IBDs
- Elongated external iliac arteries

Excluder ISB-endograft Evidence

From the Society for Vascular Surgery

Prospective, multicenter study of endovascular repair of aortoiliac and iliac aneurysms using the Gore Iliac Branch Endoprosthesis

Darren B. Schneider, MD,^a Jon S. Matsumura, MD,^b Jason T. Lee, MD,^c Brian G. Peterson, MD,^d Rabi A. Chaer, MD,^e and Gustavo S. Oderich, MD,^f *New York, NY; Madison, Wisc; Stanford, Calif; St. Louis, Mo; Pittsburgh, Pa; and Rochester, Minn*

Technical success: 95%

Primary patency @ 6 months: 95% (n=3)

Buttock claudication: 0%

Type I/III endoleaks: 0%

- Prospective multicentre study
- 63 patients
- 28 centres - USA
- Bilateral CIA aneurysms: occlusion of the contralateral side

5-year
follow-up ?

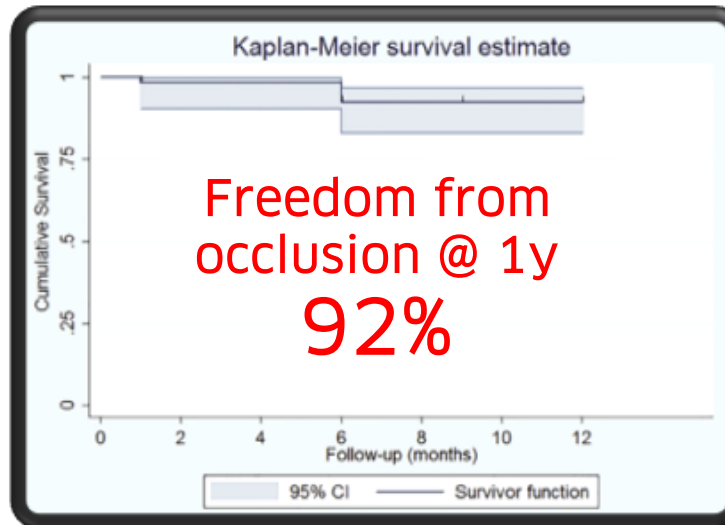
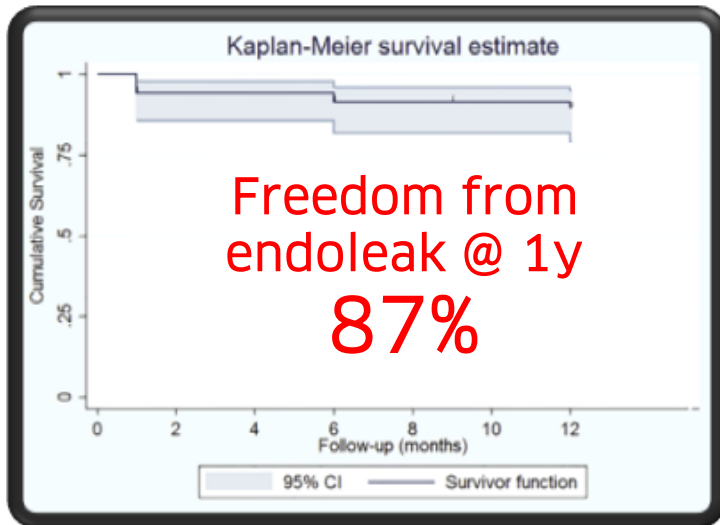
E-iliac ISB-endograft Evidence

A multicenter 12-month experience with a new iliac side-branched device for revascularization of hypogastric arteries



Spyridon N. Mylonas, MD,^a Gerhard Rümenapf, MD, PhD,^b Hubert Schelzig, MD, PhD,^c Jörg Heckenkamp, MD, PhD,^d Marwan Youssef, MD,^e Jost Philipp Schäfer, MD, PhD,^f Wael Ahmad, MD,^g and Jan Sigge Brunkwall, MD, PhD,^h on behalf of the E-iliac Collaborative Group.* Cologne, Speyer, Düsseldorf, Osnabrück, Mainz, and Kiel, Germany

- Retrospective multicentre study
- 70 patients
- 6 centres – Germany
- Median follow-up: 12 months (6-16 m)



Technical success: 100%
No adverse events @ 30 days

Applicability

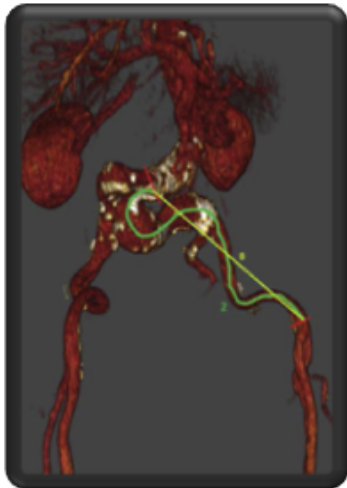
ZBIS vs Excluder

Clinical Research

Conformability of GORE Excluder Iliac Branch Endoprosthesis and COOK Zenith Bifurcated Iliac Side Branched Iliac Stent Grafts

Nellie Della Schiava, Matthieu Arsicot, Tarek Boudjelit, Patrick Feugier, Patrick Lermusiaux, and Antoine Millon, Lyon, France

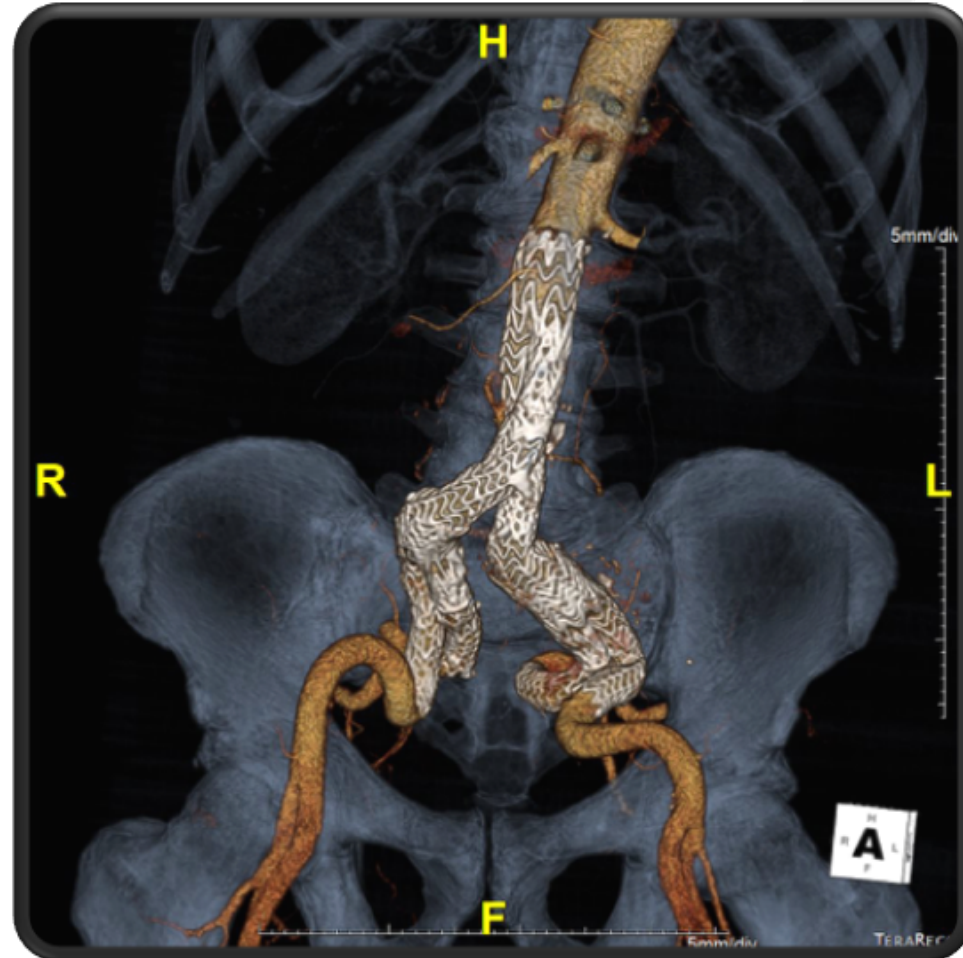
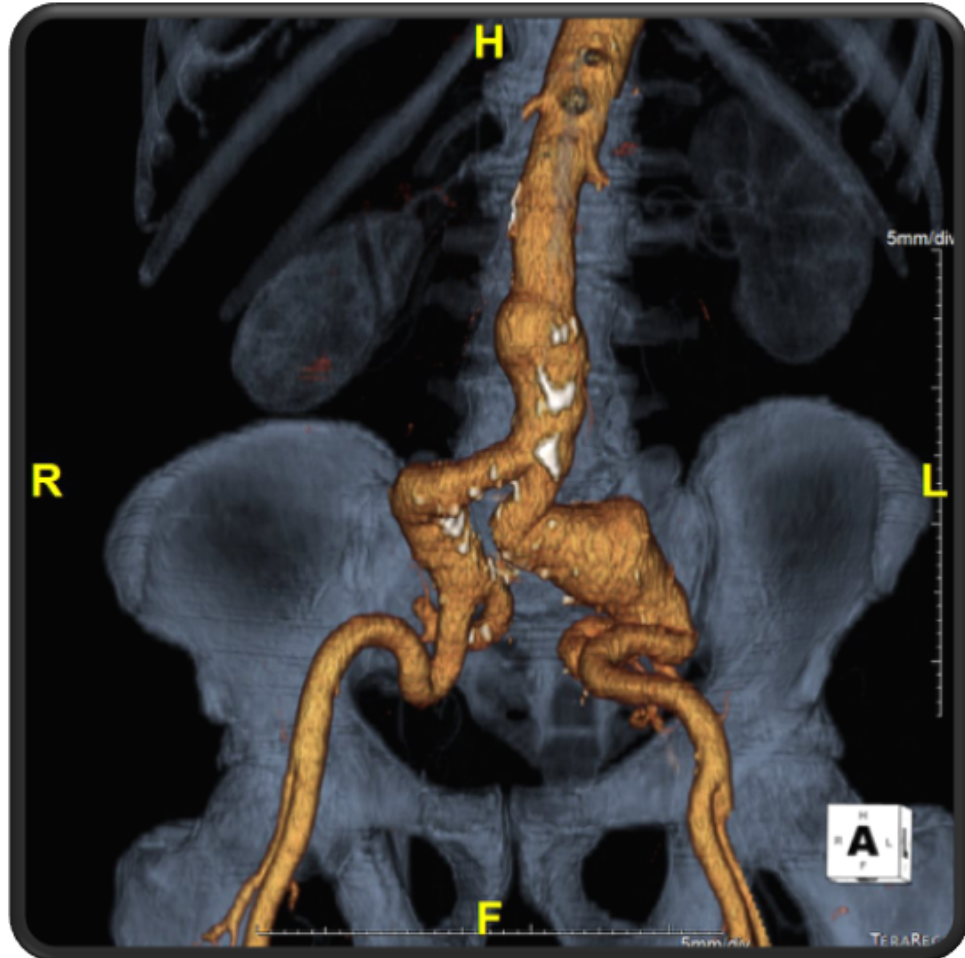
Excluder IBD was more conformable than COOK ZBIS in patients with severe iliac tortuosity (Index ≥ 1.14)



	IBE Excluder	ZBIS Zenith	P value
Postoperative modifications			
CIA	0.08 (0.00; 0.47)	-0.01 (-0.46; 0.17)	0.08
PIA	0.08 (-0.07; 0.33)	0.14 (-0.04; 0.36)	0.07
Postoperative modifications (mm) of the total iliac length	9.77 ± 11.06	20.56 ± 12.96	0.02
Postoperative modifications (mm) of the IIA length	2.54 (-25; 41)	3.56 (-7; 20)	0.42

Schiava et al, Ann Vasc Surg 2016

Tortuosity of the iliac arteries





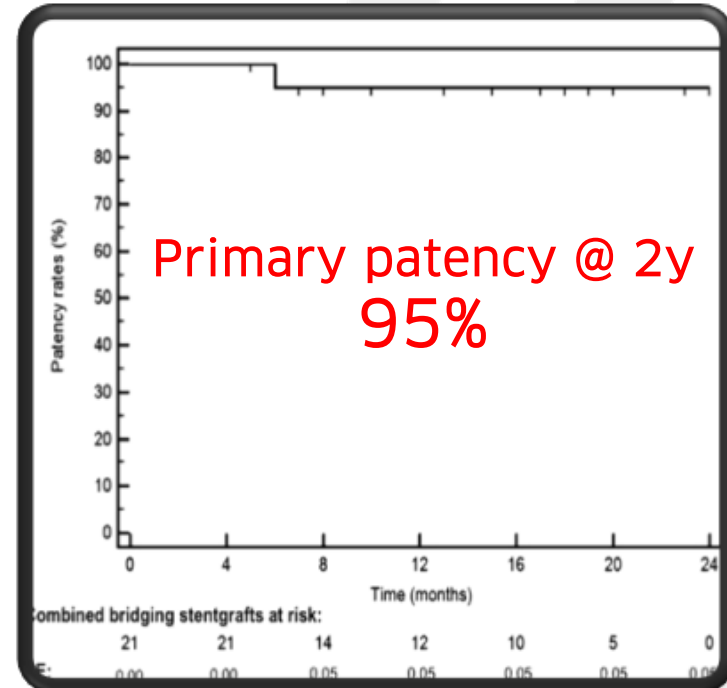
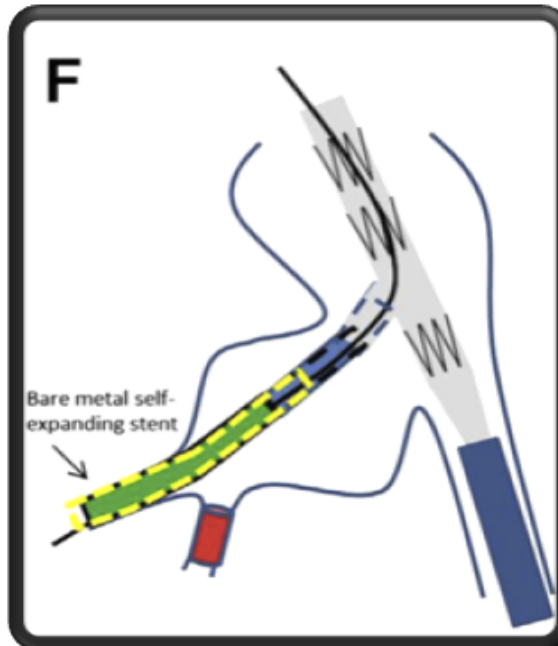
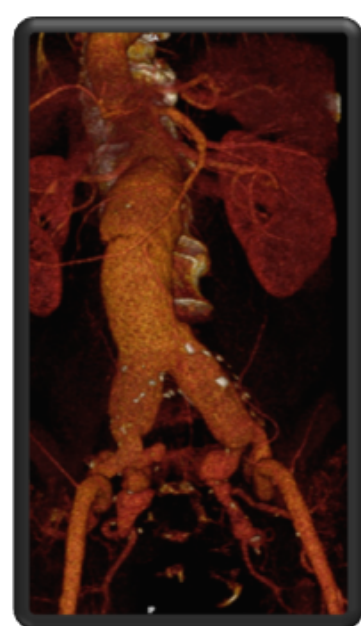
Specific scenarios

Aneurysm of the hypogastric artery

Outcomes of a novel technique of endovascular repair of aneurysmal internal iliac arteries using iliac branch devices

Martin Austermann, MD,^a Theodosios Bisdas, MD,^a Giovanni Torsello, MD,^a Michel J. Bosiers, MD,^a Konstantinos Lazaridis, PhD,^b and Konstantinos P. Donas, MD, PhD,^a *Münster, Germany; and Athens, Greece*

N = 21 branches
Advanta V12 + Viabahn + bare-metal stent



Type Ib EL or aneurysm post EVAR

J ENDOVASC THER
2014;21:579-586

579

◆ CLINICAL INVESTIGATION ◆

Use of Iliac Branch Devices for Endovascular Repair of Aneurysmal Distal Seal Zones After EVAR

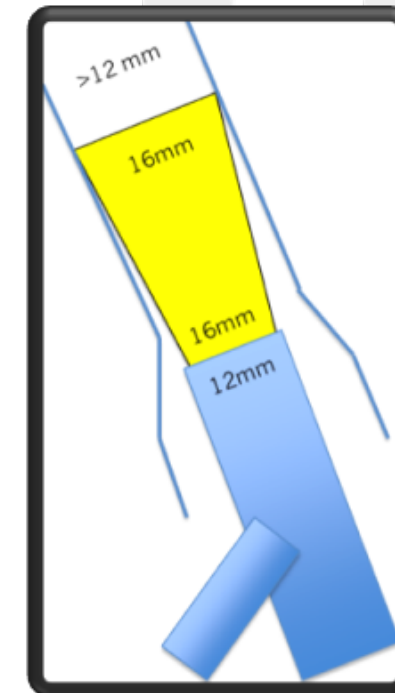
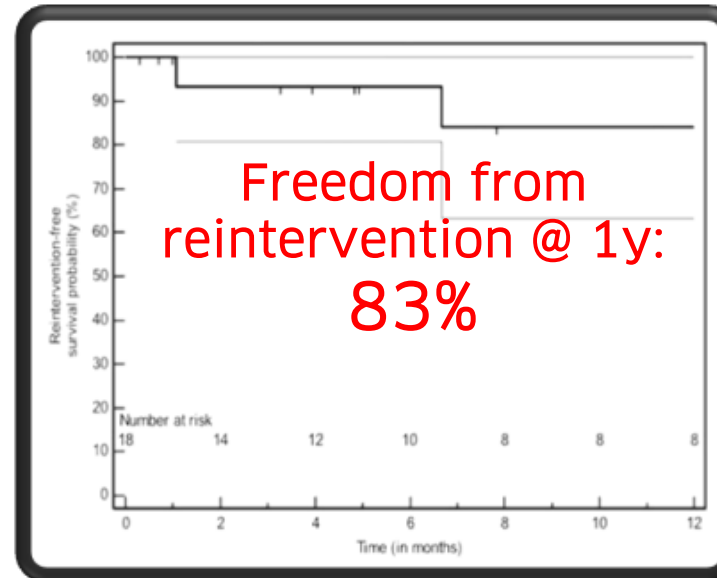
Theodosios Bisdas, MD*; Kristin Weiss, MD*; Konstantinos P. Donas, MD, PhD;
Arne Schwindt, MD; Giovanni Torsello, MD, PhD; and Martin Austermann, MD

Department of Vascular Surgery, St. Franziskus Hospital and
University Clinic of Münster, Germany.

N=18 consecutive patients
Type Ib EL after EVAR

Technical success: 100%

Primary patency HA @ 1year: 100%



Take home messages

1. Preserve at least one HA
2. Use either direct coverage or amplatzer plug as proximally as possible to exclude the HA
3. All ISB devices showed excellent rate of technical success
 - a. ZBIS: long-term efficacy, no prospective studies
 - b. Excluder ISB: conformable in tortuous iliac vessels, only mid-term proven efficacy
 - c. E-iliac: promising 12-month results
4. Aneurysm of the HA is not an exclusion criterion for ISB-devices
5. ZBIS is the device of choice for the treatment of type 1b EL post-EVAR