Low Profile Devices For TEVAR And B/EVAR Disadvantages And Advantages Based On A 10-Year Experience With Matched Patients

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Disclosures

I have the following potential conflicts of interest to report:

Research grants/consultancy by:

Gore

Medtronic

Cook

Boston

Bard

Cordis

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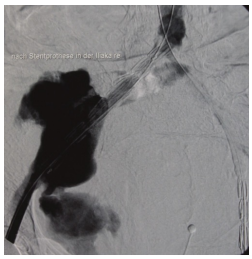
Why Low-Profile Stent-Grafts in TEVAR?



- Access Complication Rates 9-12%
- More Female, Asian and young Pts
- Iliac occlusive disease in 15%

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Zenith Alpha Thoracic Stent-Graft
Comparison with the TX-2

Technical success:
93.9% Zenith Alpha vs. 91.2% Zenith TX-2

No case surgical death
No conversion to open repair

Torsello GF et al. Initial Clinical Experience with the Cook Zenith Alpha Stent Graft JEVT 2015

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Early experience with the Zenith Alpha

- Mean minimal iliac diameter: 5.8 mm
- 18% of the patients had a previous unsuccessful treatment attempt with a standard-profile device

Torsello GF et al. Initial Clinical Experience with the Cook Zenith Alpha Stent Graft JEVT 2015

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Will reduced profile affect durability?

Will altered stent material lead to increased fracture rates?

Will the rate of type III/IV endoleak increase during FU?

Will the need for secondary procedures increase during FU?

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Long-term results

42 pts

Minimum follow-up: 60 m.

25% urgent/emergent

Complication	Frequency (%)
Conversion	0
Type Ia EL	2
Type Ib EL	0
Type III EL	1
Infection	0
Thrombosis	0
Rupture	0
Expansion	1
Reintervention	1
Migration	2
Fracture	0

Beropoulis E. et al J Endovasc Ther. 2021 Feb;28(1):56-62. doi: 10.1177/1526602820952416

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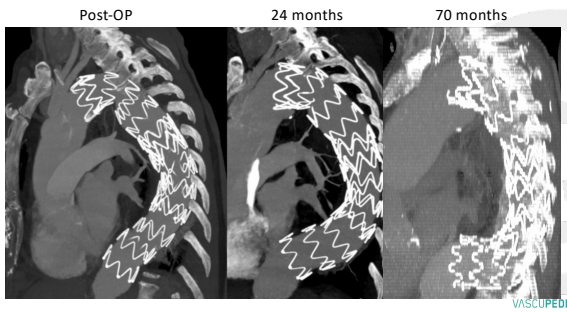

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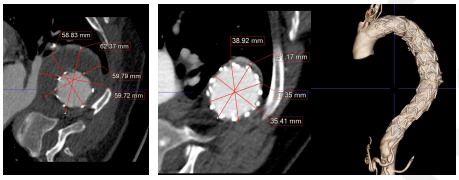
Aneurysm Shrinkage with Zenith Alpha



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Outcomes of low- and standard-profile F/BEVAR for TAAA (January 2016-January 2020; n: 225)

	LPSG (72)	SPSG (153)	p
Follow-up (months)	**10.84**	**10.71**	ns
Technical Success	**69 (95.8%)**	**146 (95.4%)**	ns
Early postoperative events			
30-day mortality	**2 (2.7%)**	**10 (6.5%)**	ns
Postop dialysis	**0**	**4 (2.6%)**	ns
Neurological complications	**7 (9.7%)**	**12 (7.8%)**	ns

Puta B, et al. Ann Vasc Surg. 2021 Feb 5:S0890-5096(21)00149-7. doi: 10.1016/j.avsg.2021.01.095

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Low- and standard-profile f/branched stent grafts for TAAAs Mid-term outcomes of matched patients

	SP	LP	p-value
Aortic-related reintervention	8.3%	4.2%	NS
Type 1a Endoleak	0	4.2%	NS
Type 1b Endoleak	4.2%	0	NS
Type 1c Endoleak	20.8%	12.5%	NS
Migration (mm)	3.40	4.5	NS
Scoliosis (°)	4.20	8.25	NS

Puta B, et al. Ann Vasc Surg. 2021 Feb 5:S0890-5096(21)00149-7. doi: 10.1016/j.avsg.2021.01.095

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Low-profile versus standard-profile multibranched thoracoabdominal aortic stent grafts.

- Compared low-profile (18F; nitinol stents and thin-walled polyester fabric) and standard-profile stent grafts (22F-24F).
- Aneurysm-related death, rupture, migration, type I or III EL, aneurysm enlargement, branch vessel occlusion, and reintervention rates were similar between the two groups.
- However, LPSG lowered the number of patients who required conduit use, especially in women, thereby reducing an otherwise striking gender difference.

Ramanan B, et al. J Vasc Surg. 2016 Jul;64(1):39-45. doi: 10.1016/j.jvs.2016.01.038.

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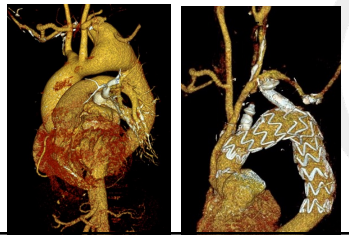
Debranching and TEVAR (RelayPro)
OD:19Fr (22-30mm) - 22Fr (42-46mm)



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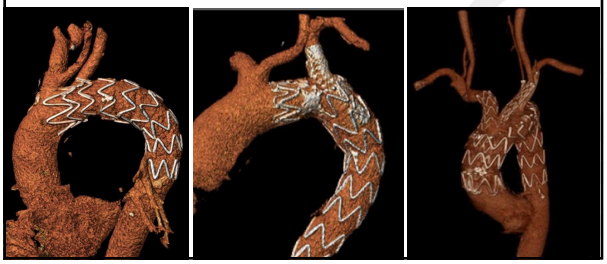
Scallop, Single and Doublebranch (RelayPro Branch)



Debranching, Scallop, and or Fenestration (Relay)

Courtesy Elger MD Univ. of Göttingen, Germany

Conclusions

Low-Profile Devices for TEVAR and F/BEVAR are associated with fewer access vessel complications

More patients can be treated with LP devices

Reduced profile did not lead to reduced durability

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Thank you !

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