

**8. 2009 D. Emerick Szilagy Award for Clinical Research
EVAR for Large Aortic Necks: A Prospective 5 Year
Comparison**

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OBJECTIVE: While EVAR has been shown to be an effective way to treat AAAs, certain anatomic characteristics, like a large diameter aortic neck, limit its applicability. Currently, three commercially available devices can be used to treat patients with aortic neck diameter >28mm. However, prospective long-term results for this cohort of patients are lacking. The purpose of this study is to evaluate the outcomes of the recently approved Talent endograft for AAAs with an aortic neck >28mm.

METHOD: 156 patients were enrolled in the endovascular arm of the prospective Talent eLPS trial from February 2002 to April 2003. Subgroup analyses were performed for AAA with a <28mm aortic neck diameter (Group 1) and those with larger necks (>28mm; Group 2). Safety and effectiveness endpoints were evaluated at 30 days, 1 year and five years post procedure.

RESULTS: Patients treated with aortic neck diameter <28mm (n=103) and those >28mm (n=53) had similar gender and risk factor profile, but were significantly older (72.9 vs 76.4 years; p=0.01). There was a significantly lower freedom from MAEs for Group 1 at 30 days (95.1 vs 79.2%; p=0.01) and at 365 days (85.1% vs 72.0%; p=0.03).

Freedom from all-cause mortality at 30 days (100 vs 94.4%) and aneurysm-related death at 365 days (100 vs 93.6%) approached but did not reach statistical significance. At 5 years, there is no significant difference in endoleaks, aneurysm change or freedom from aneurysm-related mortality but there was a significantly lower rate of migration for group 1 (0 vs 9.4%; p=0.01)

CONCLUSIONS: AAAs with large aortic necks can be treated with endovascular devices with encouraging results at 5 years. However, these patients have a higher rate of MAEs within the first year and higher migration rates at 5 years. This may be attributable to their complex aortic anatomy. Careful patient selection, accurate device deployment, and continued follow-up are necessary to optimize long-term results in this patient population.

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Treatment Outcome		
Proximal Neck Diameter	<28 mm	> 28 mm
•Safety Endpoints % (m/n)		
Freedom from MAE-30 days	95.1% (98/103)	79.2% (42/53)
Freedom from MAE-365 days	85.1% (80/94)	72.0% (36/50)
Freedom from All-Cause Mortality-30 Days	100.0% (103/103)	94.4% (50/53)
Freedom from Aneurysm-Related Mortality-365 Days	100.0% (92/92)	93.6% (44/47)
•Effectiveness Endpoint at 12 months % (m/n)		
Successful Aneurysm Treatment	93.9% (77/82)	84.8% (28/33)
Freedom from Secondary Procedures	98.9% (91/92)	95.3% (41/43)
Type I/III Endoleak	3.7% (3/81)	0.0% (0/33)

NOTES