### Innovation to Improve Outcomes in The Aortic Arch

# Matt Thompson





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### Endovascular Solutions to Aortic Arch Disease





St George's VASCULAR INSTITUTE

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### Management of LSA



Left subclavian artery revascularization: Society for

Evidence poor

#### Recommend revascularisation in elective cases

Stronger recommendation in specific situations

Individualised decision in emergency cases

mamascript for which they may have a competition of inter J Vasc Surg 2010;52:655:705 0741-5214/\$36.00 Copyright © 2010 by the Society for Vascular Surgery. doi:10.1016/j.jvs.2010.07.008 imal landing zone 0, 9; zone 1, 17; zone 2, 52) with a hybrid approach further enlightens us on the importance of the LSA. The incidence of stroke was 0% in 35 patients who underwent LSA artery revascularization compared with 655



### Medtronic Endovascular Thoracic Registry (MOTHER)

	Patients 1010	Years	Indication	
Valor	359	2003-11	TAA Test: TAA with low /mod risk (comparitor with OSR). Registry: as for test but not for comparison. High-risk :not suitable for OSR Talent	
Valor II	160	2006-14	TAA: candidate for OSR low/ mod risk. Valiant	
Instead	68	2002-7	Chronic type B dissection Talent	
Captivia	100	2010-13	All indications Valiant Captivia	
Virtue	100	2006-12	Acute and chronic type B dissection . Valiant	
SGVI	217	1999-2010	All indications Talent / Valiant	



# Early Outcomes- LSA MOTHER Registry

	LSA Uncovered	LSA Covered Not revasc	LSA Covered Revasc	р
Number	537	322	143	
Death (%)	31 (5.8)	22 (6.8)	10 (7)	0.769
Stroke (%)	12 (2.2)	29 (9)	7 (4.9)	0.000
SCI (%)	27 (5)	13 (4)	2 (1.4)	0.155



## Multiple Logistic Regression (30-day) - Stroke

Covariate (stroke)	P-value	OR	Upper Cl	Lower Cl
Female gender	0.024	2.4	1.1	5.3
Renal insufficiency	0.036	2.1	1.1	4
Previous CVA	0.013	2.9	1.3	6.5
Coverage of the LSA without revascularisation	0.002	3.3	1.6	7.2
Number of devices	0.000	1.2*	1.3	2.0



#### Mid Term Stroke TAA vs. TAD - MOTHER Registry



*TAD: p* = 0.28





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### Medtronic Thoracic Branch Program

#### **Design Goals :**

- Seal in 10mm landing zone
- Conformability to inner curve

#### **Considerations**

#### Main graft to branch

- interface durability
- seal
- migration resistance
- branch distal seal
- Cannulation time

















# LSA Branch Thoracic Stent Graft





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# Clinically required to facilitate therapy

 Movement of the arch poses issues of design, durability, and modelling

 Rigorous and robust pre-clinical study is essential for optimal device design



