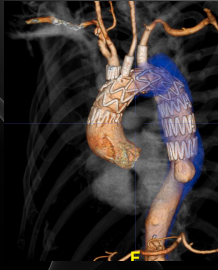


Endovascular Arch Repair With Cook 2 or 3 Branched Devices For Lesions Involving The Whole Aortic: When Are They Indicated, When Contradicted and Tips For Making Them Work

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Disclosures

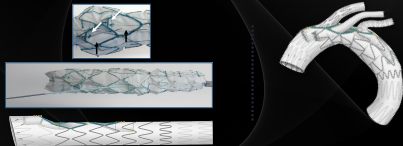
I have the following relationship(s) with commercial interests.

	Cook Medical	WL Gore	Getinge	VITAA	Centerline Biomedical
Relationship	Research Support, Clinical Trials, Consulting	Clinical Trials, Consulting	Consulting	Clinical Trials, Consulting	Consulting
Received	Grants, Honoraria	Honoraria	Honoraria	Honoraria	Stock

Cook a-Branch Specifications



	Cook a-Branch
Proximal diameter (mm)	34 - 46
Distal diameter (mm)	34 - 46
IA branch diameter	12
LCCA branch diameter	8 - 10
LSA branch diameter	8 - 12
Other features	Pre-loaded cath



Outcomes of carotid-subclavian bypass performed in the setting of thoracic endovascular aortic repair

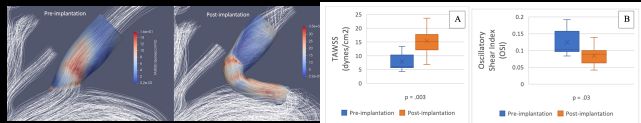
Soraya L. Voigt, MD,¹ Muthu Bhojani, MD,¹ David Remy, MD,¹ Babatunde Yerokun, MD,¹ Richard L. McCann, MD,¹ and G. Chad Hughes, MD,² Durham, NC

- Cohort: 112 patients
- Conduit: 8 mm PTFE (96%)
- Long-term potency is excellent
- 97% @ 5 yrs
- Complications may be underreported

Complications CA-SCA Bypass	
Perioperative (n=112)	
Any phrenic nerve injury (n=107)	27 (25%)
Recurrent laryngeal nerve palsy	6 (5%)
Axillary nerve palsy	2 (2%)
Neck hematoma	1 (1%)
Late (n=106)	
Anastomotic pseudo aneurysm	2 (21%)
Graft ultrafiltrate syndrome	1 (1%)

Mar 2019

RETROGRADE BRANCH... PROBLEM?



	Peak Pressure (mmHg)	Peak Flow (cm ³ /sec)	Mean Pressure (mmHg)	Mean Flow (cm ³ /sec)
Pre-implantation	159 (158-160)	40.4 (39.5-41.6)	125.1 (125.0-125.5)	12.5 (12.3-13.9)
Post-implantation	153 (151-154)	41.3 (37.2-44.8)	122.9 (122.4-123.8)	13.5 (12.5-14.9)
p value	0.005	0.59	0.003	0.13

Values displayed as median (interquartile range). P values are based on paired analysis (Wilcoxon signed-rank test)

Courtesy of William Yoon, MD

Ascending Aortic Considerations

- Diameter (>38 mm) → Increased risk of TAAD
- Length for sealing >25 → Prior asc repair often too short
- Hx of dissection without repair → Increased risk of TAAD
- Calcifications → Stroke Risks
- Prior coronary bypass → Limits length to great vessels
- Mechanical valve replacement → Device delivery
- Suitable Great Vessel landing zones



Anatomic Criteria	Cook a-Branch
Length ST-J-IA	>50
Asc diameter (mm)	< 38
Prox seal length (mm)	> 40 mm
Access (Fr)	22 - 24

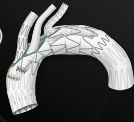
Double and Triple Branch Devices

PROS

- No cervical debranching
- Antegrade branches for innominate/ L carotid (retro also)
- Potential for total percutaneous technique

CONS

- Sequential arch manipulation
- Less forgiven to ascending graft kinks
- Wound complications with cervical incisions



COOK
a-Branch®

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Clinical Determinates of Device Selection

- **Three Vessel Repair**
 - First Choice: 3 vessel with retrograde L CCA and L SCA
 - Avoids the need for great vessel exposure
- **Two Vessel Repair**
 - Indications - Occluded L SCA
 - Bovine trunk (small origin)
 - Critical anatomy - vert from arch (L SCA transposition)
- **Indications for Great Vessel Bypass/Exposure**
 - Presence of dissection in the great vessels which makes distal sealing difficult
 - Short and/or large IA requiring R CCA-R SCA bypass/bp
 - Prevention of significant stroke

Device selection is often determined by clinical and anatomic factors

Multicenter global early feasibility study to evaluate total endovascular arch repair using three-vessel branch stent-grafts for aneurysm and dissections

Emanuel R. Tenorio, Gustavo S. Oderich, Tilo Kölbel, Nuno V. Dias, Mark A. Farber, Carlos H. Timaran, Nikolaos Tsilimparis, Thomasz Jakimowicz and Stéphan Haulon

- Multicenter global feasibility study in eight academic centers (2016-2019)
- 3-vessel inner branch arch devices with retrograde LSA branch
- 39 patients (mean age, 70)



Oct 2021

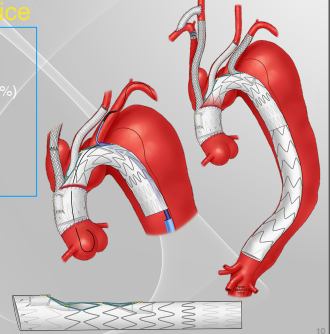
Multicenter global experience with 3-vessel arch branch device

Procedure Details

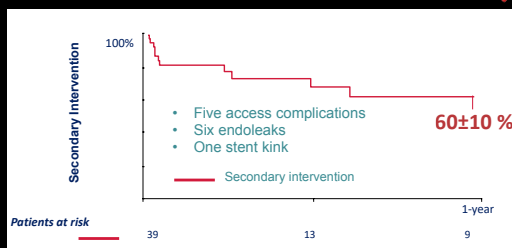
- Technical success was 100%
- Bilateral open carotid access in 35 patients (90%)
- Rapid ventricular pacing in 27 patients (69%)
- Contrast volume, 146 ± 109 ml
- Fluoroscopy time, 50 ± 24 min
- Total OR time, 266 ± 83 min

30-day Outcomes

- In-hospital mortality, 5%
- Stroke, 5%
- Technical success, 100%
- No LSA branch occlusions

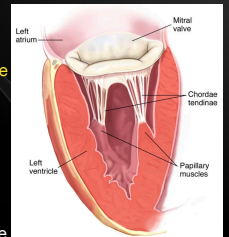


Secondary intervention



Position of the Wire in the Ventricle

- Wire perforation is a serious complication
- Wire should **NOT** be located under papillary muscle chordae
- Wire should be coiled but avoid inserting too deep into the ventricle
- Contusion of ventricular muscle
- Tracks thru ventricular wall → perforation/rupture



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