


**8:33 – 8:38** Updated 5-Year Results From The European Experience With The Novel Nexus Single And Double (Duo) Branched (OTS) Endovascular Devices (From Endospa) For The Treatment Of Zone 0 And 1 Aortic Arch Aneurysms: What Makes This Device Unique  
*Mario L. Lachat, MD*

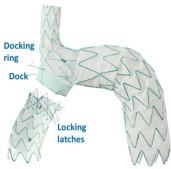
**Disclosures Mario L Lachat**  
**Endospa**  
 • Medical board, Proctor, Lecturer  
 • honorary, fees, options

Symposium Chairman  
 Daniel Teitel, MD  
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No Disclosures

**NEXUS™ AORTIC ARCH STENT GRAFT SYSTEM**



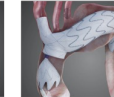



**Safe, standardized approach** that mitigates risks relative to open or minimally invasive repair  
**The first CE approved off-the-shelf single branch device**  
 Two-stent graft configuration with Dock&Lock durable mechanical fixation

**NEXUS™ DELIVERY SYSTEMS – DESIGNED FOR THE ARCH**  
 Pre-curved delivery systems designed to follow the natural curves of the aortic arch  
 Reduces device manipulation to position and orient the devices in the arch  
 Fixation tube with through wire provides secure reliable tracking for NEXUS™  
**20F Low Profile**

<p><b>Nexus single branch 2015</b></p>  <p><b>CE, 2019</b> Off-the-shelf, transfemoral</p>	<p><b>Nexus DUO 2023 (EU)</b></p>  <p>+ 1 Inner branch Customized, transfemoral</p>	<p><b>Nexus TRE 2025 (EU)</b></p>  <p>+ 2 inner branches Customized, transfemoral</p>
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**KEY DEPLOYMENT STEPS – NEXUS SB SYSTEM**

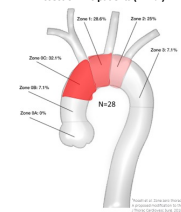
Introduction	Arch Stent Graft	Ascending Stent Graft	Completion
 <p>Smooth passage of Arch Graft delivery system over a through &amp; through guide wire</p>	 <p>Deployment of integrated branch and controlled positioning of Dock&amp;Lock facing ascending aorta</p>	 <p>Positioning &amp; controlled deployment with Dock&amp;Lock mechanical fixation</p>	 <p>Modelling balloon across Dock&amp;Lock for a durable secure connection</p>

**NEXUS Arch: A Multicenter Study Evaluating the Initial Experience With a Novel Aortic Arch Stent Graft System**  
 Authors: Lachat ML, et al. *Annals of Surgery*. 2023;277(2):e10-e17. doi:10.1097/SLA.0000000000004877  
 [Annals of Surgery • Volume 277, Number 2, February 2023]

**TREATED AORTIC ARCH ACCORDING TO MOST PROXIMAL PATHOLOGY\***

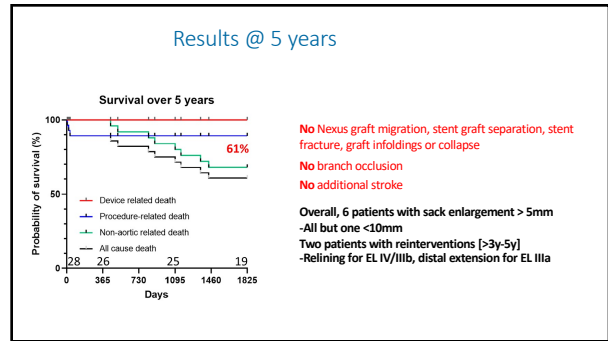
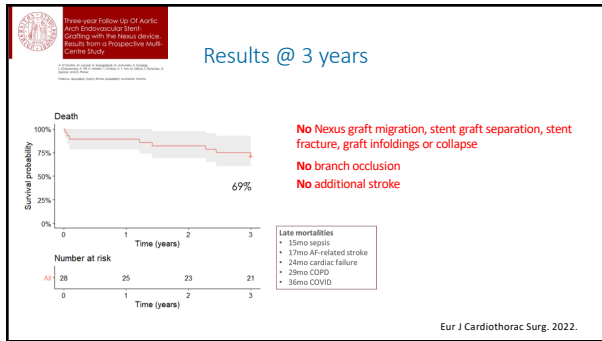
Mean age: 72 +/-6 years  
 Previous sternotomy: 54%  
 • 30-day mortality: 7.1%  
 • 30-day stroke rate: 3.6%

**Dissection in 6 patients (21.4%)**



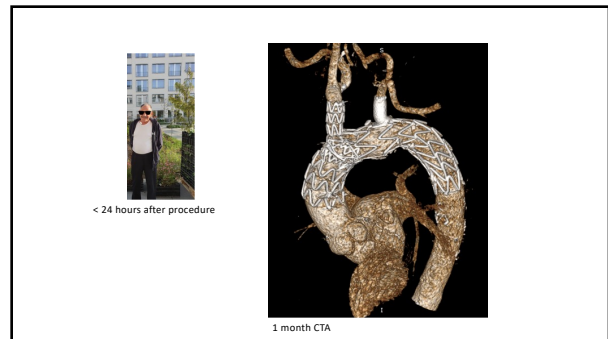
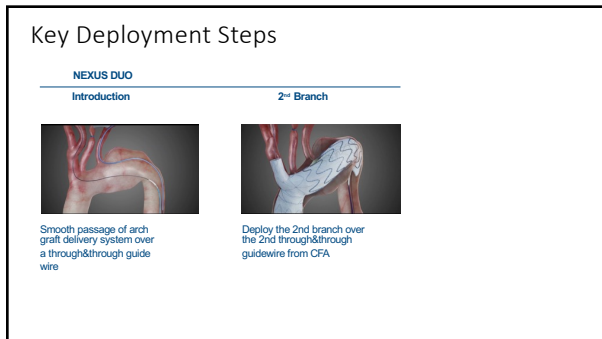
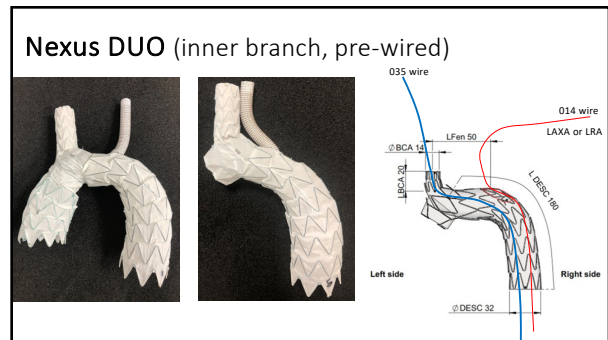
\*Based on 21 patients with proximal aortic aneurysms. †Aortic dissection was observed in 6 patients (28.6%). ‡From the University of Michigan, Ann Arbor, MI.

CAUTION: Investigational Device - Intended for United States for investigational use. End-user devices bear the CE marking of conformity.



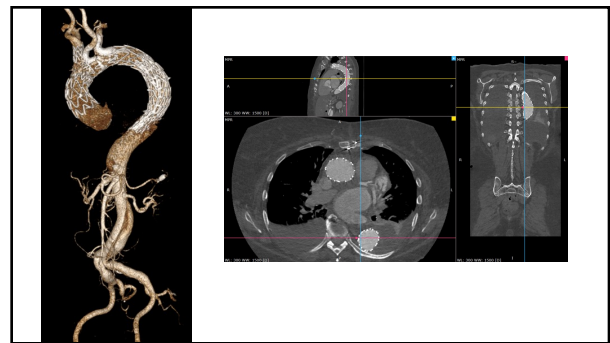
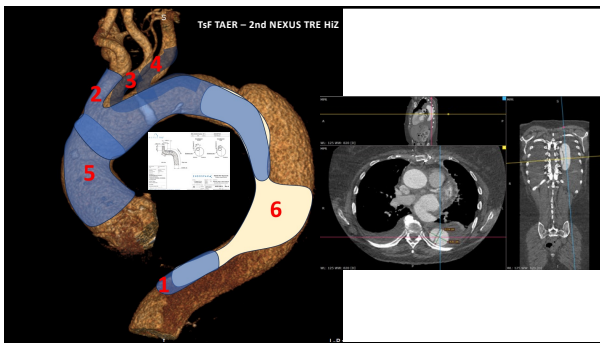
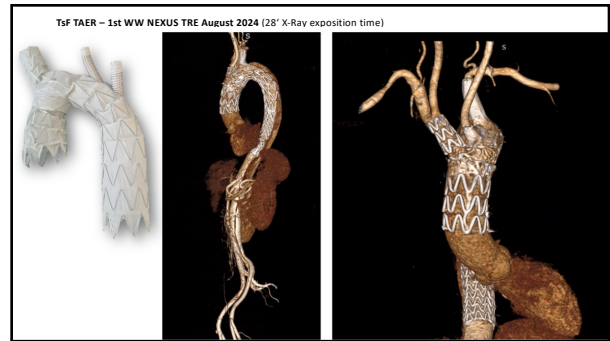
On-going trials – Nexus single branch

- **TRIOMPHE** - FDA Study
- **ARCUS** - post marketing EU Study
- **5y FUP, Device and clinical failures**



**22 consecutive EU Patients (12 AA, 10 AD)**

Failure to deliver/track/deploy/retrieve delivery system	0.0% (0/22)	Clinical Outcomes:	
Device Occlusion	0.0% (0/22)	Mortality <sup>1,2</sup>	9.1% (2/22)
Failed Exclusion of Primary entry tear	0.0% (0/22)	Disabling Stroke <sup>2</sup>	4.5% (1/22)
Surgical Conversion	0.0% (0/22)	Permanent Paralysis or Paraplegia	0.0% (0/22)
Reintervention for:		Renal Failure	0.0% (0/22)
Migration	0.0% (0/22)	Development of new dissections <sup>1</sup>	4.5% (1/22)
Stenosis or occlusion	0.0% (0/22)	<small><sup>1</sup>The same subject (Retrospect: Patient suspected Connective Tissue Disease- had Type A dissection with ascending rupture, the site treated surgical conversion; however, the patient expired on day two)  <sup>2</sup>The same subject</small>	
Endoleak	0.0% (0/22)		
Loss of device integrity	0.0% (0/22)		
Other <sup>1</sup>	4.5% (1/22)		



**Nexus @ AVC/HiZ – 5y experience**

- N=26
  - 17 Single branche (BCA) + 7 Duo + 2 TRE
  - 2 in-hospital death (8%: 1x hematoma right upper mediastinum\*, 1x RAAA, )
    - \*No direkt contact with Nexus/arch/SAT, no leakage
  - 1x stroke (4%)
  - 1x relining Type IV/IIIb
    - 18 mo. post-implantation
- Technical issue
  - 1 Fracture DUO DS
  - Successful secondary completion

## Nexus - Conclusions

### Nexus single branch

- 2 dedicated tubes with strong inter-modular locking system
  - Minimal amount of manipulations
- Safe
- Material durability @ 5year
  - No migration
  - 1 Type IIIb EL NMM (penetrating calcification spike)
- Off-the-shelf, CE approved
  - FDA trial enrollment for AD completed
- *More experience and longer follow-up*



## Nexus DUO/TRE - Conclusions

- Customized pre-wired double/triple branch aortic arch device
- «Lines up with Nexus philosophy»
  - Versatility
  - Percutaneous, transfemoral
  - Manipulation reduced to a minimum
    - + 1(2) T&T 013 or 014 guide wire
  - So far safe
  - «Durability»
    - *More experience and longer follow-up*

