


Role of Direct Segmental Artery Revascularization To Prevent SCI After Endovascular TAAA Repairs: When And How To Do It

VEITH 2024

Sukgu M Han, MD, MS, DFSVS
 Professor of Surgery and Neurological Surgery
 Chief, Division of Vascular Surgery and Endovascular Therapy
 Co-director of Keck Aortic Center
 Program Director, Vascular Surgery Residency/Fellowship
 University of Southern California



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 USC Cardiac and Vascular Institute

BEST PRACTICES
 LUSUNOVA

DISCLOSURES

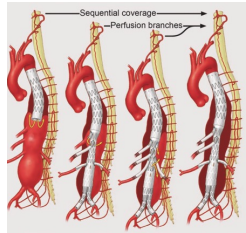
- W.L. Gore & Associates: Consultant, Research Support, Site PI for TAMBE, TBE, OSMB for GREAT registry, Scientific Advisory Board (No personal income, all paid to USC)
- Cook Medical: Consultant, Instructor/Proctor for Zenith Fenestrated, Site PI for ZFEN PLUS
- Medtronic: Consultant

Physician-Modified Endografting is an off-label procedure

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SPINAL CORD ISCHEMIA AFTER TEVAR/FBEVAR

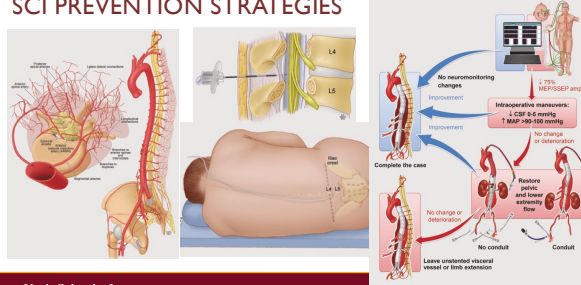
- Cleveland Clinic Experience
 - 1251 patients with endovascular treatment of aortic aneurysms
 - 1998-2010
- 2.8% risk of SCI
 - AAA: 0.3%
 - JRAAA: 0.4%
 - TA: 4.6%
 - TAAA: 4.8%
 - 53mm vs 33mm supraceliac coverage



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Eagleton MJ, J Vasc Surg 2016.

SCI PREVENTION STRATEGIES

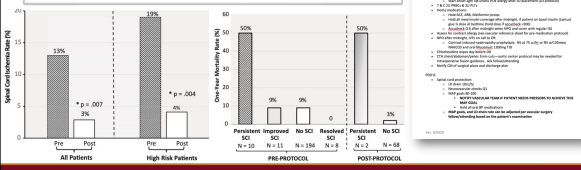


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From the Southern Association for Vascular Surgery

Implementation of a bundled protocol significantly reduces risk of spinal cord ischemia after branched or fenestrated endovascular aortic repair

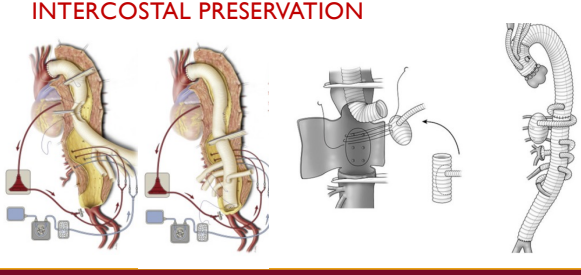
Salvatore T. Scall, MD¹; Moses Kim, MD¹; Paul Kubilis, MS¹; Robert J. Fawcett, MD¹; Kristina A. Giles, MD¹; Britney Miller, BS¹; Javannah Fatima, MD¹; Thomas S. Huber, MD, PhD¹; Scott A. Berceli, MD, PhD¹; Martin Back, MD, MS¹; and Adam W. Beck, MD¹; Gainesville, Fla and Birmingham, Ala



Group	Pre-Protocol SCI (%)	Post-Protocol SCI (%)
All Patients	13%	4%
High Risk Patients	13%	4%

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INTERCOSTAL PRESERVATION



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ADULT AORTA: EVOLVING TECHNOLOGY, SURGICAL TECHNIQUE

Intercostal artery incorporation to prevent spinal cord ischemia during total endovascular thoracoabdominal aortic repair

Asanuma, Hiroaki, MD¹; Salgia M. Bha, MD, MS²; Miguel F. Martinez, MD³; Mark J. Costantino, MD⁴; Francisco Pincheros, MD⁵; and Gregory A. Hagan, MD, MCh, FRCSC⁶; Lisa Aquino, CMA⁷

Urgent Juxtarenal Aortic Aneurysm Repair With Modified Off-the-shelf Endograft to Preserve Intercostal Arteries and Branch Incorporation by Transfemoral Access

Martinez, Fernando, MD¹; Mathew Masterton, MD²; Rodrigo Corral, MD³; Diego Herrera, MD⁴; and Luis Fernando Caporaso, MD⁵

Intercostal
Celiac
SMA
Left renal

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SEGMENTAL ARTERY FBEVAR

	N= 9
Incorporation Configuration	
Directional Branch	5 (56%)
Stented fenestration	2 (22%)
Unstented fenestration	2 (22%)
Mean Follow-Up (days)	624 +/- 489
SCI	0
Branch Patency	89%

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NEUROPROTECTIVE EXTRA-ANATOMIC BYPASS

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NEUROPROTECTIVE EXTRA-ANATOMIC BYPASS

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IDENTIFICATION OF SIGNIFICANT SEGMENTAL ARTERIES TO THE SPINAL CORD

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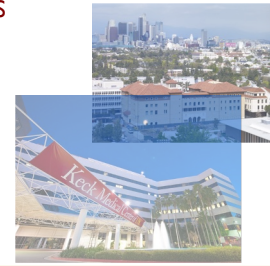
SUMMARY

- Current SCI mitigation strategies consist of multi-modal augmentation of oxygen delivery via collateral network
- Preservation of segmental artery perfusion is feasible
 - Endovascular incorporation
 - Extra-anatomic bypass
 - Identification of significant contributor to the spinal cord perfusion
- Ideal patient selection, risk/benefit remain to be determined

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ACKNOWLEDGEMENTS

- Jonathan Russin, MD
- William Mack MD



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