

The logo for LINC (Lung and Intestine Network for Care) features a stylized red and orange flame-like shape above the letters LINC in white.

LINC

Thirty day outcomes favor fenestrated repair of complex abdominal aortic aneurysm

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The crest of Columbia University, featuring a crown atop a shield with three open books.

COLUMBIA UNIVERSITY
College of Physicians & Surgeons
DEPARTMENT OF SURGERY

Disclosures



Speaker name:

Virendra I. Patel MD MPH

I have the following potential conflicts of interest to report:

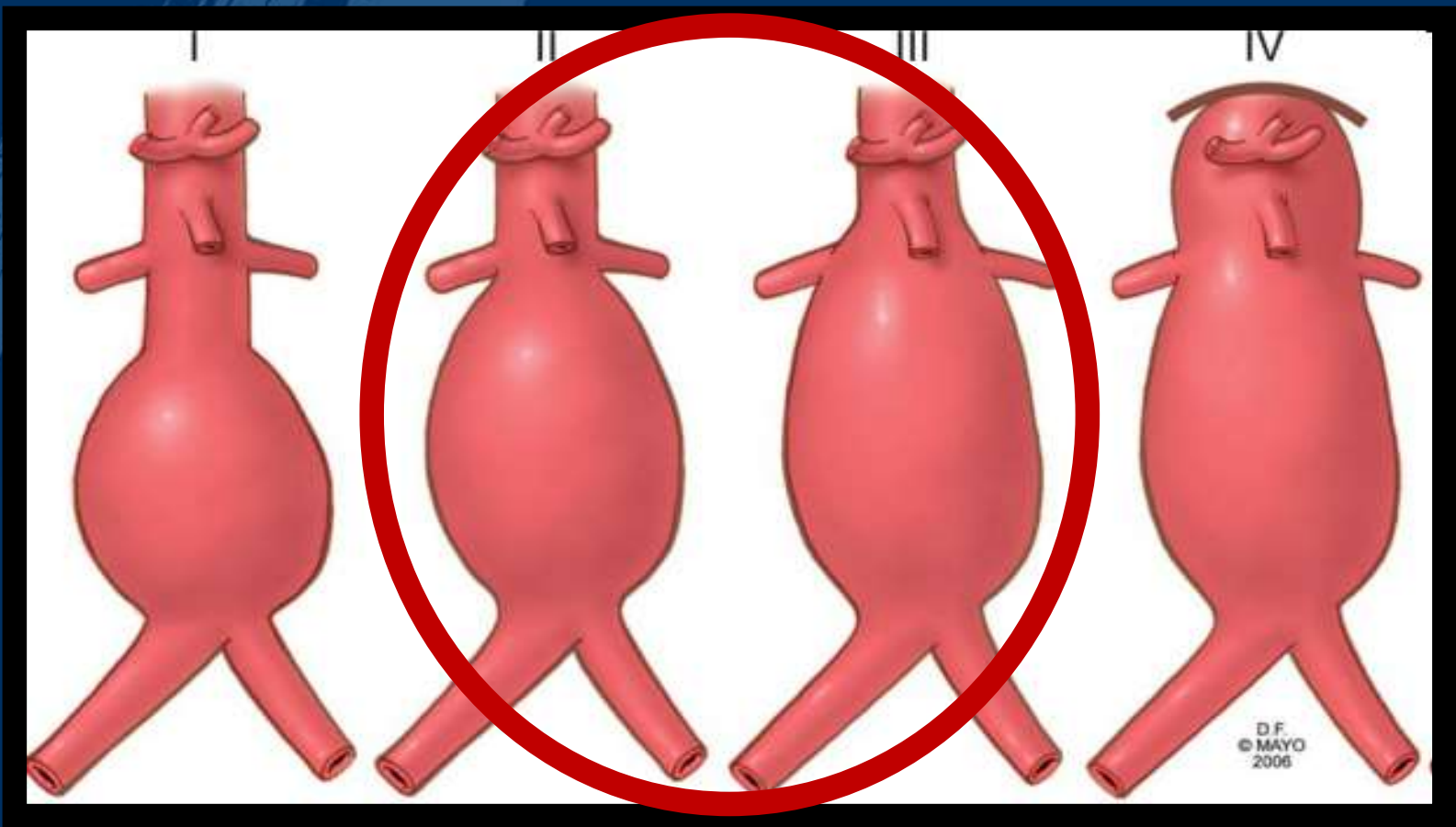
- Consulting
- Employment in industry
- Stockholder of a healthcare company
- Owner of a healthcare company
- Other(s)

- I do not have any potential conflict of interest





Types of AAA



Infra

Juxta – Para

Supra

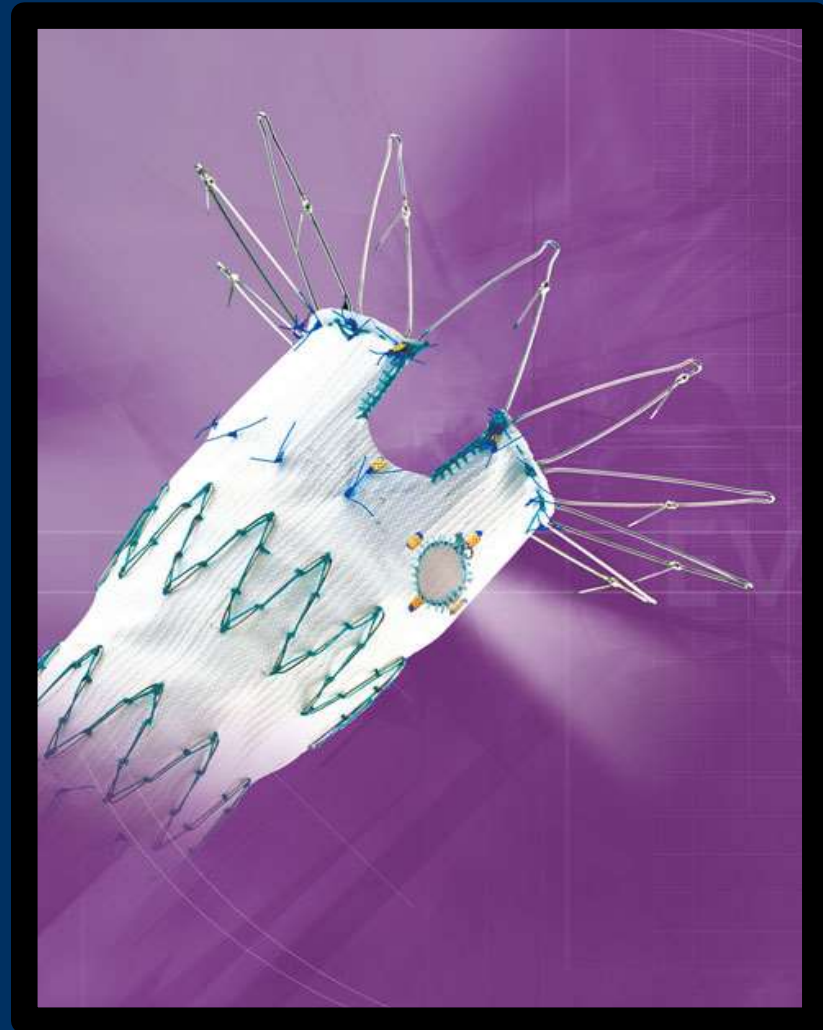




Fenestrated Stent Grafts

Initial U.S. multicenter data¹
French Multicenter Registry²

- High technical success
- Peri-operative mortality 2%
- 4% peri-operative dialysis
- 4 (3%) renal occlusions





Additional Studies

A propensity-matched comparison of early outcomes for fenestrated endovascular aneurysm repair and open surgical repair of complex abdominal aortic aneurysms

Maxime Raux, MD,
Shankha Mukhopadhyay, MD,
Jean-Pierre Becquelin, MD

Outcomes of fenestrated endovascular repair of juxtarenal aortic aneurysm

Thorarinn Kristmundsson, MD, PhD, Björn Sonesson, MD, PhD, Nuno Dias, MD, PhD, Dan Törnqvist, MD, Martin Melin, MD, PhD, and Timothy Beach, MD, PhD, Malmö, Sweden

Fenestrated endovascular aneurysm repair

J. Cross¹, K. C. ...

¹Multidisciplinary Endovascular
Correspondence to: Mis...

Results of the United States multicenter prospective study evaluating the Zenith fenestrated endovascular graft for treatment of juxtarenal abdominal aortic aneurysms

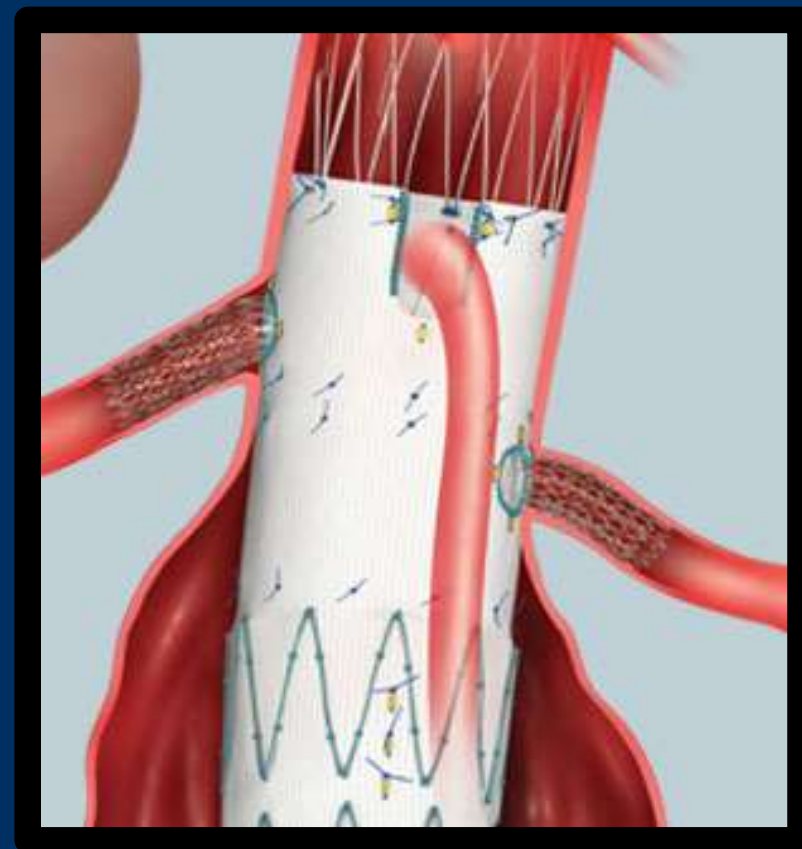
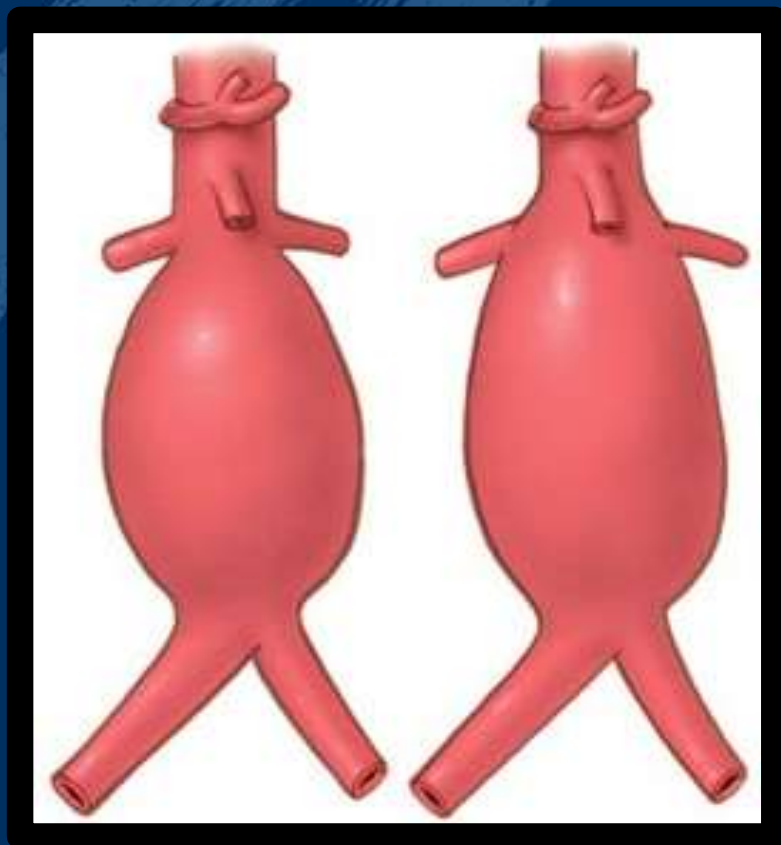
Gustavo S. Oderich, MD,^a Roy K. Greenberg, MD,^{b,f} Mark Farber, MD,^c Sean Lyden, MD,^b Luis Sanchez, MD,^d Ron Fairman, MD,^c Feiyi Jia, PhD,^f and Priya Bharadwaj, PhD,^f on behalf of the Zenith Fenestrated Study Investigators, Rochester, Minn; Cleveland, Ohio; Chapel Hill, NC; St. Louis, Mo; Philadelphia, Pa; and West Lafayette, Ind



FDA Approves Fenestrated Devices



COOK ZFEN - 2012



Specific Aims



- Compare peri-operative outcomes of open and fenestrated endovascular repair (FEVAR) of complex (juxtarenal) aortic aneurysms in a real world setting following commercial availability of FEVAR devices



Study Design and Cohort



- Retrospective cohort study
- 2012 – 2014 ACS-NSQIP Participant Use File
 - Queried by ICD-9/CPT code
 - Intact complex aneurysms
 - Open and Fenestrated repair of juxta-/para-renal aortic aneurysms





Study Population

- Total cohort: 1102
- Open: 716
- FEVAR: 386
 - 1 vessel: 283
 - 2 vessel: 60
 - 3 vessel: 43



Study Design



Study Endpoints:

- 30 day death
- Systemic complications
- Predictors of death or systemic complications





Clinical Features

Variable	OPEN (N=716)	FEVAR (N=386)	P Value
Age (years)	70 ± 9	74 ± 12	<0.001
Female	28 %	21 %	0.007
White	82 %	87 %	0.05
Smoker	44 %	32 %	<0.001
COPD	20 %	26 %	0.02
PVD	1 %	4 %	0.001





Outcomes

Variable	OPEN (N=716)	FEVAR (N=386)	P Value
OR Time (minutes)	280 ± 130	220 ± 130	<0.0001
Length of stay (days)	11 ± 10	4 ± 5	<0.0001





Peri-operative Outcomes

Variable	OPEN (N=716)	FEVAR (N=386)	P Value
Death	7%	4%	0.07
Cardiac comp.	7%	3%	0.004
Pulmonary comp.	20%	5%	<0.0001
Renal comp.	12%	4%	<0.0001





Multivariable Models – 30 day

Variable	FEVAR OR [95% CI]	P Value
Death	0.45 [0.23-0.83]	0.009
Cardiac	0.4 [0.21-0.77]	0.008
Pulmonary	0.18 [0.11-0.30]	<0.0001
Renal	0.27 [0.15-0.47]	<0.0001





Study Limitations

- Operative and Clinical data limited
- Technical details unknown
- Re-interventions unknown
- Only 30 day outcomes recorded
- Long term survival, re-interventions, or conversions unknown



Summary



- FEVAR associated with lower
 - 30 day mortality
 - Cardiac, respiratory, and renal complications
- FEVAR associated with reduced LOS and OR time
- This represents an early national experience
 - 2-3 years
 - Majority single vessel fenestrations/stents



Conclusion



- FEVAR has favorable peri-operative mortality and morbidity to OPEN repair for patients with complex aortic aneurysms and further long term studies are needed



Thank You



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