Patient selection for TAAA repair

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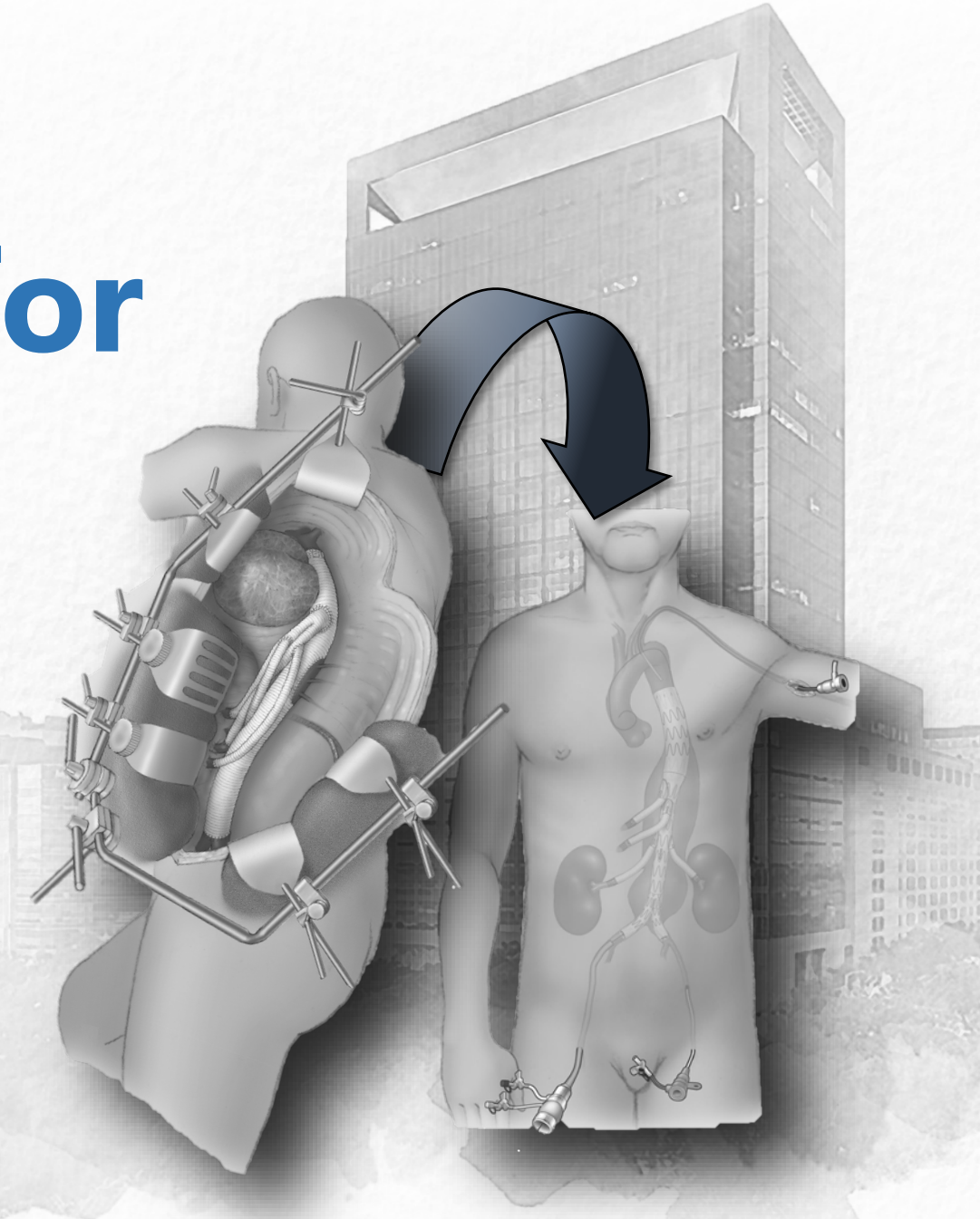


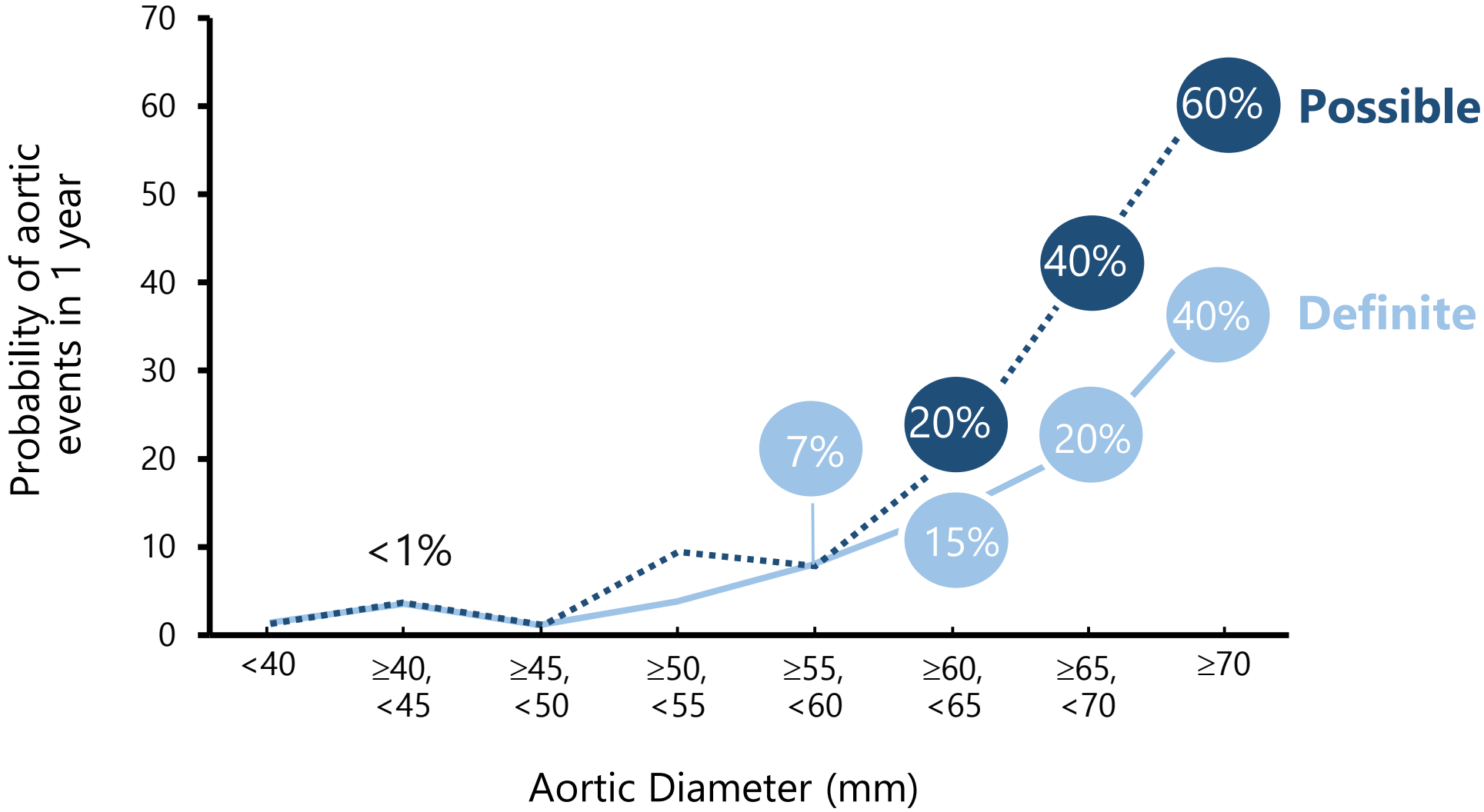
Disclosures

Heidi Lane, PA-C

- **Consulting, research grants, scientific advisory board**
  None
- **Investigational use of devices**
  Cook Fenestrated and Branched Grafts

- **Special thank you**
  Gustavo S. Oderich MD and Thanila A. Macedo MD

Risk of rupture



Joon Bum Kim et al: Circulation; 132:1620, 2015

Risk of rupture of a 6-cm TAAA?

BSA	Annual Risk
1.3	18%
1.8	12%
2.5	7%

	Aortic Size (cm)									
	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0
BSA (m^2)										
1.30	2.69	3.08	3.46	3.85	4.23	4.62	5.00	5.38	5.77	6.15
1.40	2.50	2.86	3.21	3.57	3.93	4.29	4.64	5.00	5.36	5.71
1.50	2.33	2.67	3.00	3.33	3.67	4.00	4.33	4.67	5.00	5.33
1.60	2.19	2.50	2.80	3.13	3.44	3.75	4.06	4.38	4.69	5.00
1.70	2.05	2.35	2.65	2.94	3.24	3.53	3.82	4.12	4.41	4.71
1.80	1.94	2.22	2.50	2.78	3.06	3.33	3.61	3.89	4.17	4.44
1.90	1.84	2.11	2.37	2.63	2.89	3.16	3.42	3.68	3.95	4.22
2.00	1.75	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00
2.10	1.67	1.90	2.14	2.38	2.62	2.86	3.10	3.33	3.57	3.80
2.20	1.59	1.82	2.05	2.27	2.50	2.72	2.95	3.18	3.41	3.64
2.30	1.52	1.74	1.96	2.17	2.39	2.61	2.83	3.04	3.26	3.48
2.40	1.46	1.67	1.88	2.08	2.29	2.50	2.71	2.92	3.13	3.33
2.50	1.40	1.60	1.80	2.00	2.20	2.40	2.60	2.80	3.00	3.20

= low risk (~ 4% per year) = moderate risk (~ 7% per year) = High risk (~ 12% per year) = severe risk (~ 18% per year)

Zafar MA et al. J Thoracic and CV Surgery 2018

Risk of rupture of a 6-cm TAAA?

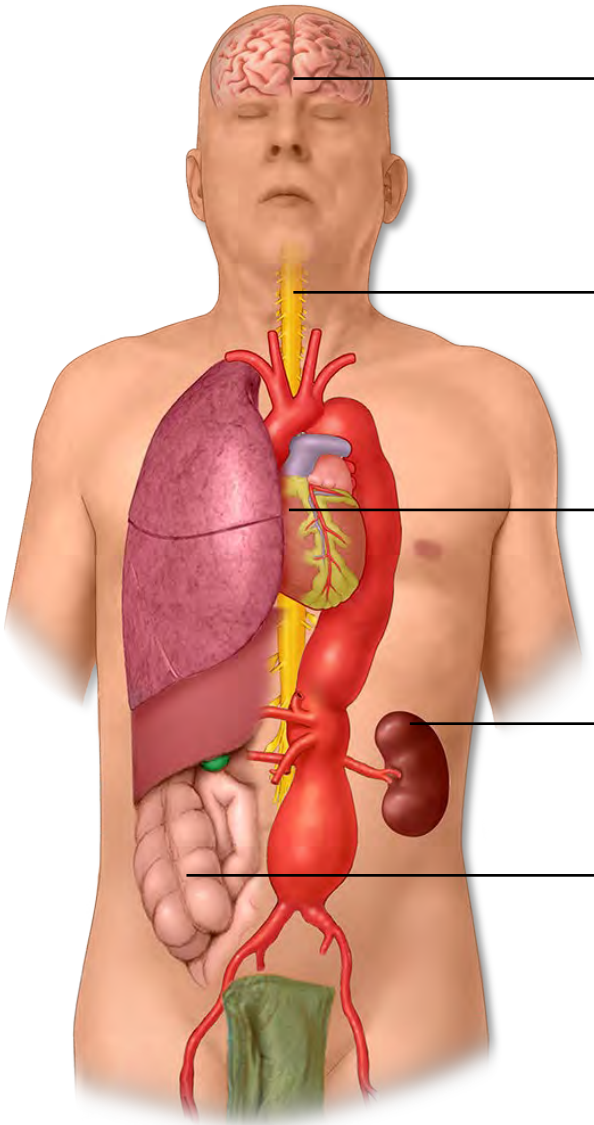
Height	Annual Risk
55″	18%
67″	12%
81″	7%

		Aortic Size (cm)									
		3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0
Height (inches)	(m)										
55	1.40	2.50	2.86	3.21	3.57	3.93	4.29	4.64	5.00	5.36	5.71
57	1.45	2.41	2.76	3.10	3.45	3.79	4.14	4.48	4.83	5.17	5.52
59	1.50	2.33	2.67	3.00	3.33	3.67	4.00	4.33	4.67	5.00	5.33
61	1.55	2.26	2.58	2.90	3.23	3.55	3.87	4.19	4.52	4.84	5.16
63	1.60	2.19	2.50	2.81	3.13	3.44	3.75	4.06	4.38	4.69	5.00
65	1.65	2.12	2.42	2.73	3.03	3.33	3.64	3.94	4.24	4.55	4.85
67	1.70	2.06	2.35	2.65	2.94	3.24	3.53	3.82	4.12	4.41	4.71
69	1.75	2.00	2.29	2.57	2.86	3.14	3.43	3.71	4.00	4.29	4.57
71	1.80	1.94	2.22	2.50	2.78	3.06	3.33	3.61	3.89	4.17	4.44
73	1.85	1.89	2.16	2.43	2.70	2.97	3.24	3.51	3.78	4.05	4.32
75	1.90	1.84	2.11	2.37	2.63	2.89	3.16	3.42	3.68	3.95	4.21
77	1.95	1.79	2.05	2.31	2.56	2.82	3.08	3.33	3.59	3.85	4.10
79	2.00	1.75	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00
81	2.05	1.71	1.95	2.20	2.44	2.68	2.93	3.17	3.41	3.66	3.90

= low risk (~ 4% per year) = moderate risk (~ 7% per year) = High risk (~ 12% per year) = severe risk (~ 18% per year)

Zafar MA et al. J Thoracic and CV Surgery 2018

Risks of complex aortic repair



Stroke

Paralysis

Cardiac/pulmonary complications

Dialysis

Bowel gangrene

DEATH

CLINICAL PRACTICE GUIDELINE

2022 ACC/AHA Guideline for the Diagnosis and Management of Aortic Disease

Isselbacher et al. JACC, November 2 2022

Thoracoabdominal Aortic Aneurysm

RUPTURED

Open Repair is recommended (Class 1)

STABLE

Endovascular Repair is reasonable in centers with expertise and access to devices **(Class 2b)**

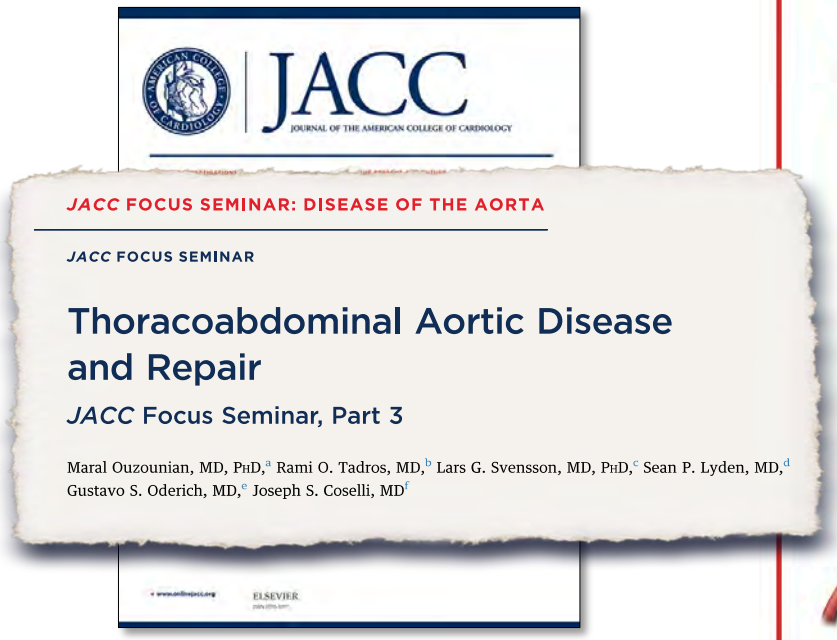
INTACT

Repair is recommended when diameter is ≥ **6-cm (Class 1)**

In patients with **genetically triggered aortic diseases (e.g. Marfans), open repair is recommended (Class 1)**

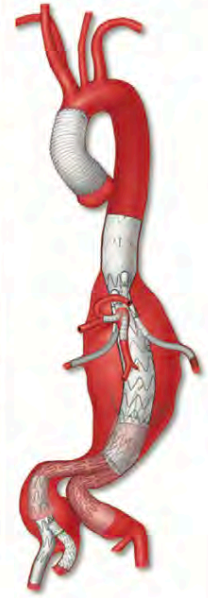
In patients with suitable anatomy, **FB-EVAR may be considered** in centers with expertise and access to devices **(Class 2b)**

Thoracoabdominal aortic aneurysms



CENTRAL ILLUSTRATION Treatment Framework for Open vs Endovascular Thoracoabdominal Aortic Aneurysm Repair

Favors Open	⟷	Favors Endovascular
Younger/longer expectancy	Age at repair/ Expected lifespan	Older/shorter expectancy
Poor access Poor landing zones	Anatomy	Good access Suitable landing zones Favorable visceral/renal anatomy
Chronic dissection	Pathology	Acute dissection
Heritable thoracic aortic disorder	Etiology	Degenerative aneurysm
Good cardiopulmonary reserve	Fitness	Poor cardiopulmonary reserve
Elective repair Emergency repair without a viable endovascular solution	Urgency	Elective repair Emergency repair with suitable anatomy for off-shelf solution



Ouzounian M, et al. J Am Coll Cardiol. 2022;80(8):845-856.

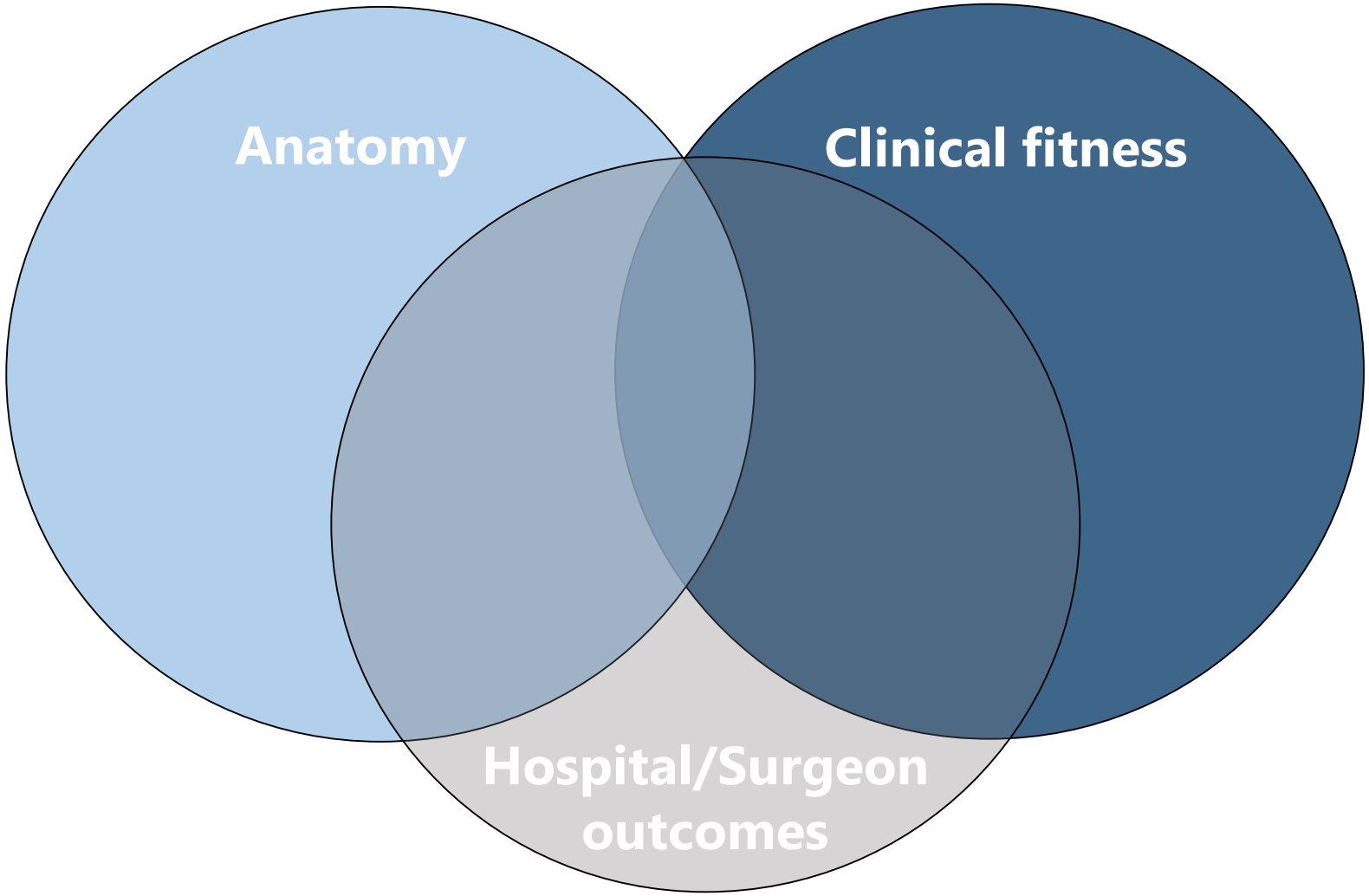
Open thoracoabdominal aortic repair remains the gold standard for definitive, durable repair. Endovascular thoracoabdominal aortic repair is rapidly evolving and provides a promising, less invasive method of repair.

Ouzounian M et al. JACC 2022

Treatment selection

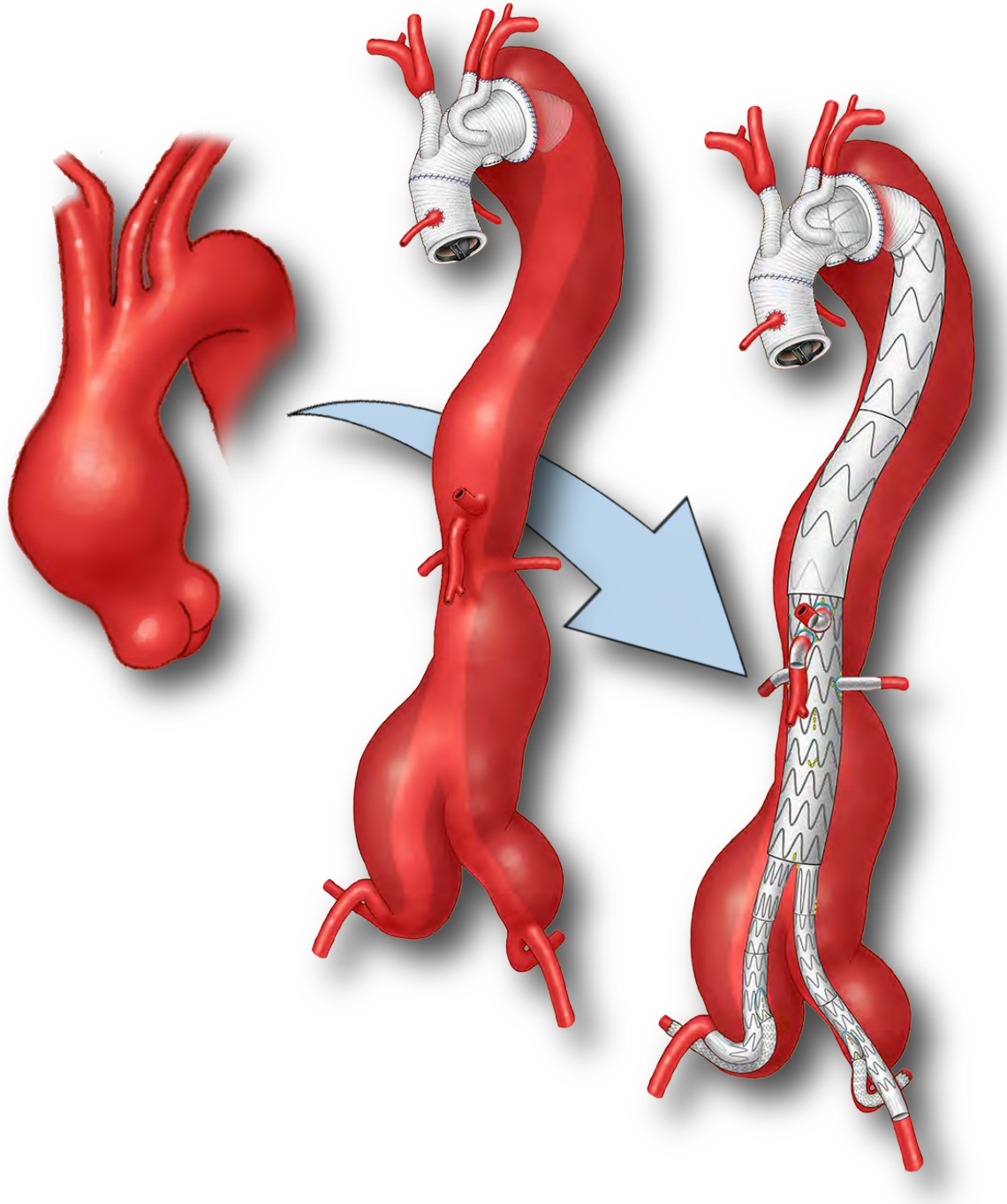
	FRAIL	**R**ISK	**A**NATOMY	**G**ENET**I**C	**L**IFE **E**XPECTANCY
Open	No	Low	Any	Any	>10 years
Endovascular	No or Frail	Low or High	**Suitable**	Selected	≧10 years
Non-Operative	Super	Prohibitive	Poor	-	Short (<1-2y)

Decision-making



Anatomical factors

- Landing zones
- Access
- Target vessels
  - Diameter
  - Early bifurcation
  - Accessory anatomy
  - Occlusive disease
- Atheromatous debris (‘shagginess’)



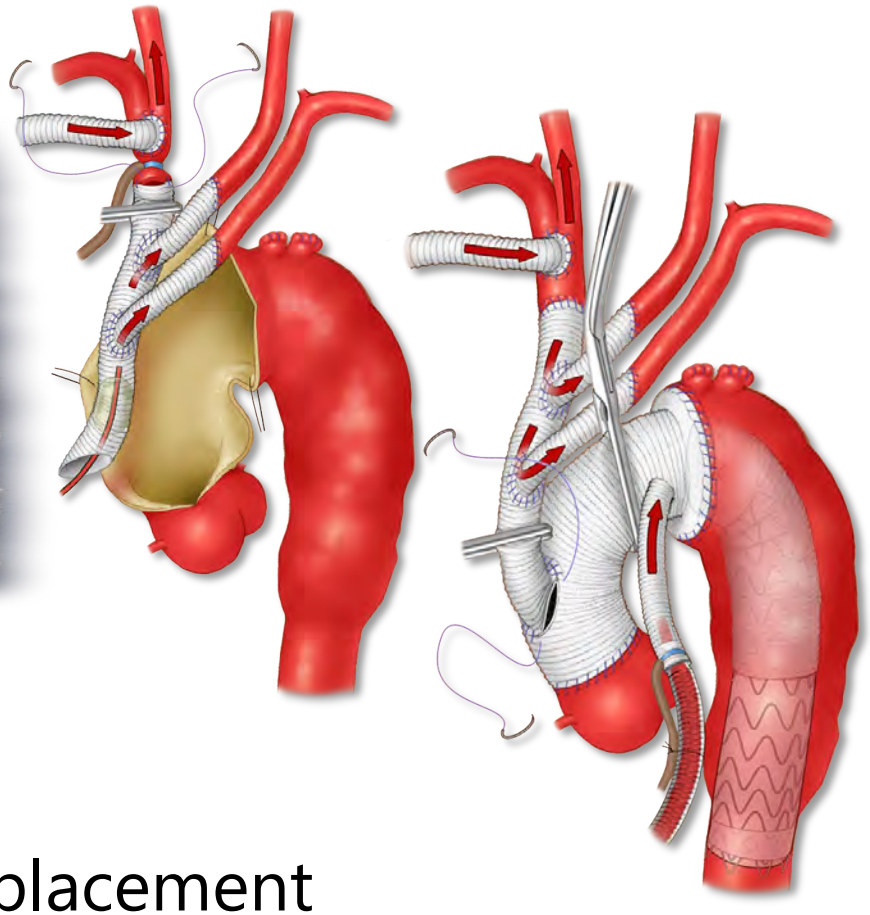
Mega-aorta syndrome

CLINICAL RESEARCH STUDIES

Check for updates

Staged total arch replacement, followed by fenestrated-branched endovascular aortic repair, for patients with mega aortic syndrome

Hidetake Kawajiri, MD,[a,b] Emanuel R. Tenorio, MD, PhD,[c] Mohammad A. Khasawneh, MBBS,[b] Alberto Pochettino, MD,[a] Bernardo C. Mendes, MD,[b] Giulianna B. Marcondes, MD, MS,[c] Guilherme B. B. Lima, MD,[c] *and* Gustavo S. Oderich, MD,[c] *Rochester, Minn; and Houston, Tex*

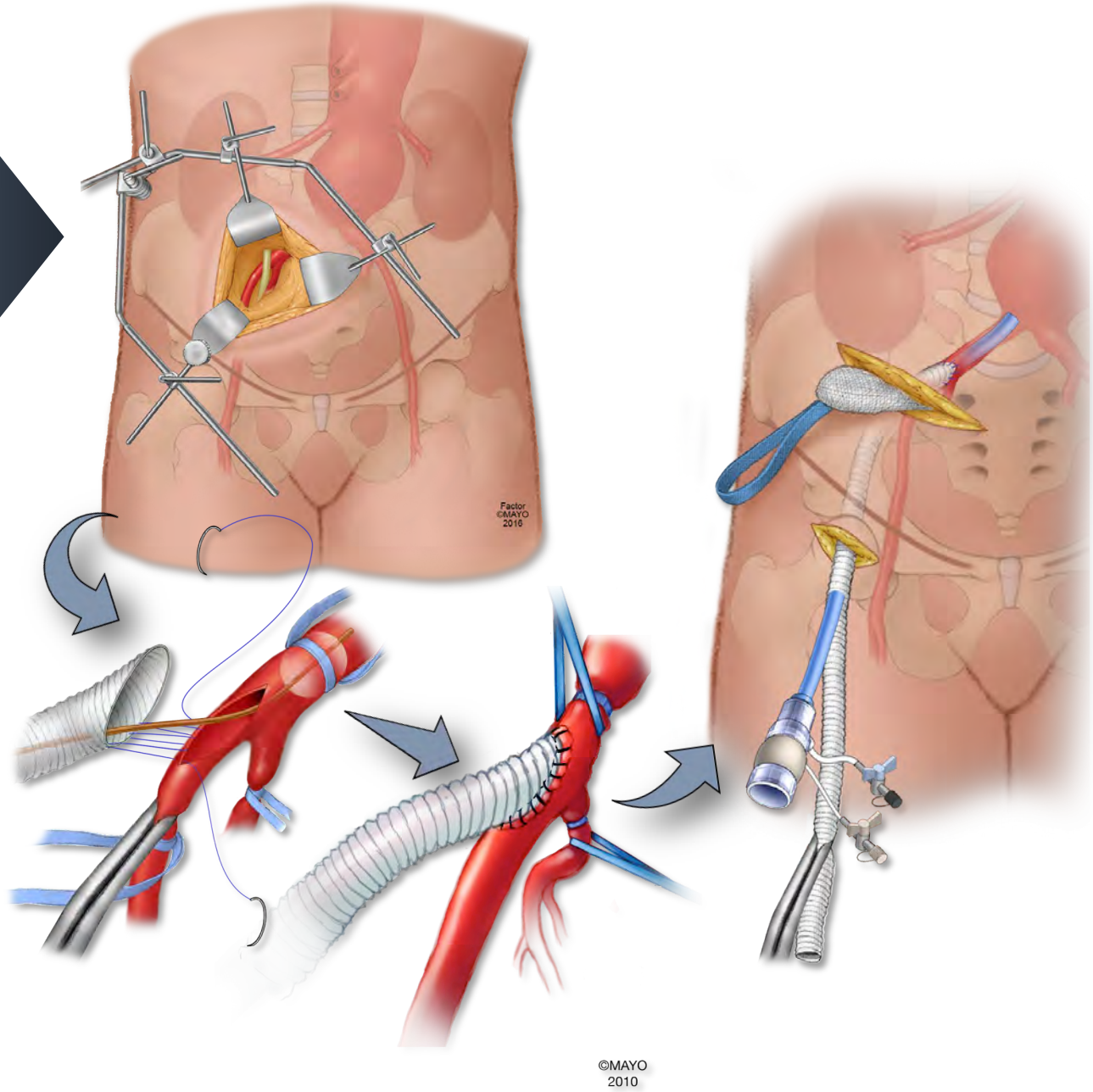


- 520 consecutive planned FB-EVARs
- 11 patients required first stage total arch replacement
  - One 30-day mortality (10%)
  - 10 completed FB-EVAR procedure with no mortality (90%)

Kawajiri et al. J Vasc Surg 2021

Access

- Stenosis
- Tortuosity
- Prior stents
- Kinked grafts



Iliofemoral conduits during FB-EVAR

Outcomes of iliofemoral conduits during fenestrated-branched endovascular repair of complex abdominal and thoracoabdominal aortic aneurysms

Marina Dias-Neto, MD, PhD, Giulianna Marcondes, MD, Emanuel R. Tenorio, MD, PhD, Guilherme B. Barbosa Lima, MD, PhD, Aidin Baghbani-Oskouei, MD, Andrea Vacirca, MD, PhD, Bernardo C. Mendes, MD, Naveed Saqib, MD, Aleem K. Mirza, MD, and Gustavo S. Oderich, MD *Houston, TX; and Rochester, MN*

- 466 consecutive FB-EVAR patients enrolled in prospective IDE study
- Iliofemoral conduits used in 35 patients (8%)
- No inadvertent iliac artery ruptures
- 30-day mortality: 1%

Neto et al. J Vasc Surg 2023

Target vessels

- 520 consecutive patients treated for complex AAAs

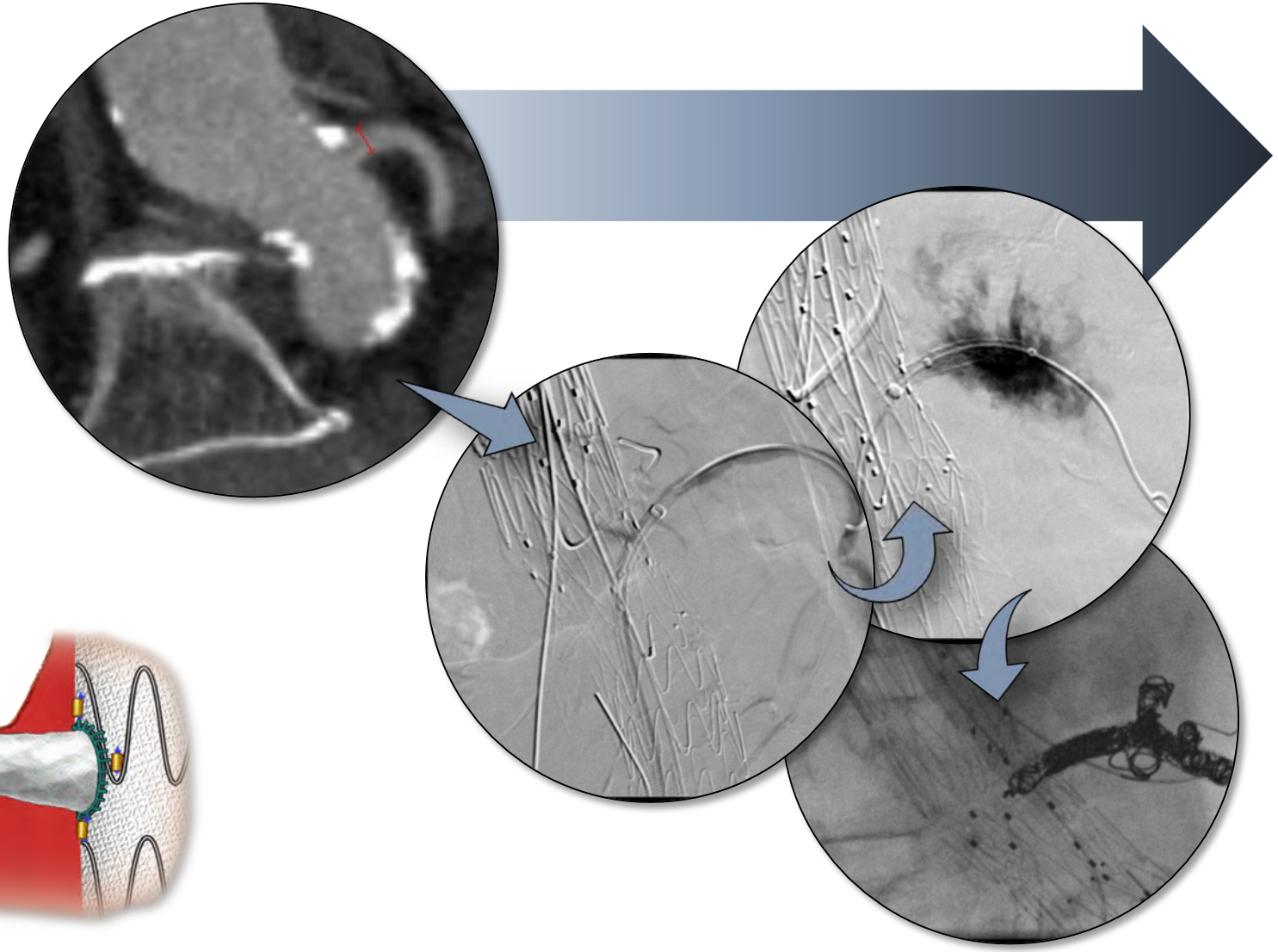
Anatomical criteria	n = 520
Bifurcation <13mm	42 (9%)
Diameter <4mm	28 (5%)
aRA with >40% eRPP*	28 (5%)
Any issue	92 (18%)

* eRPP, estimated renal parenchyma perfusion

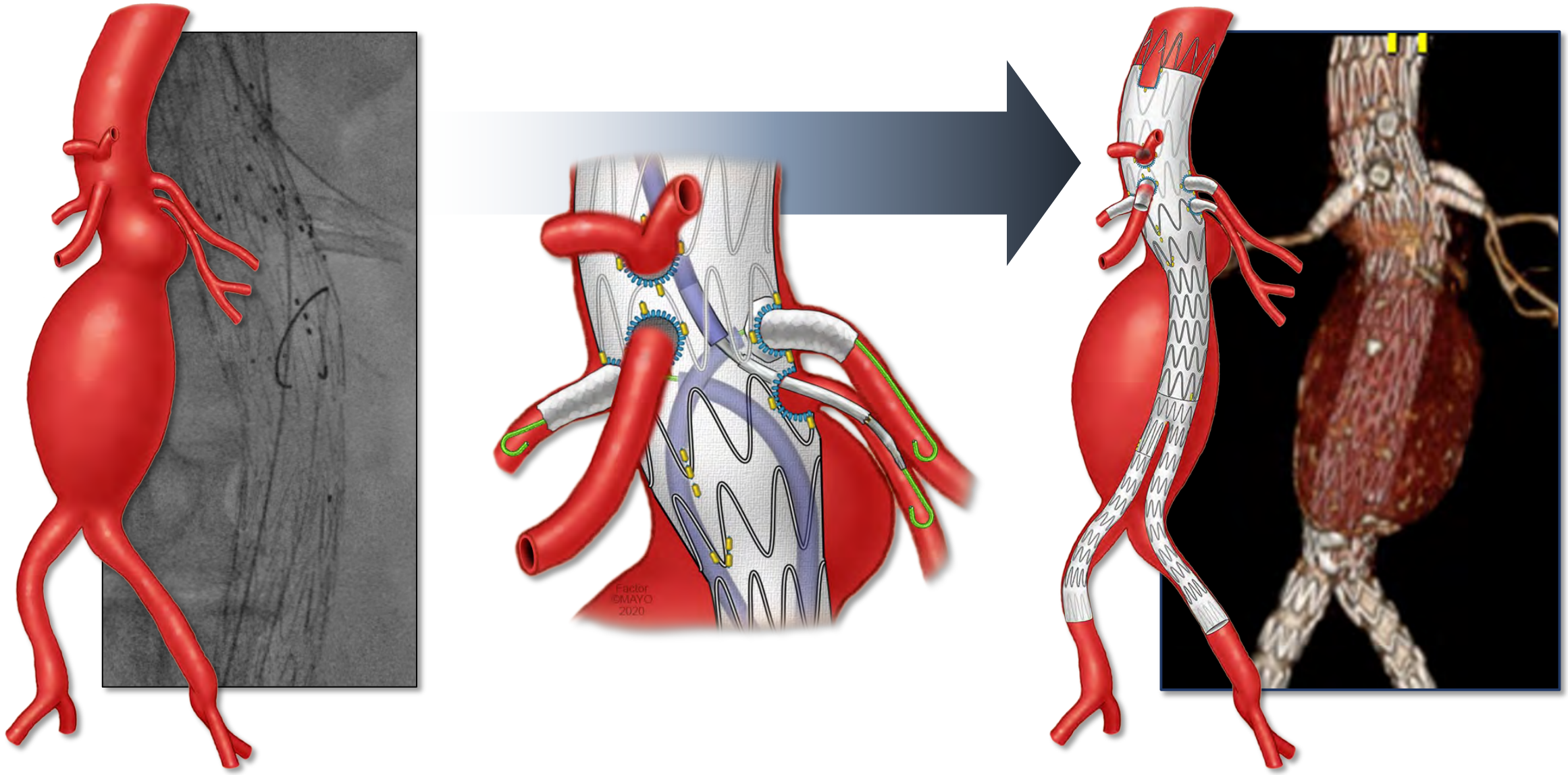
Mendes et al. J Vasc Surg 2015

Issues with small renal arteries

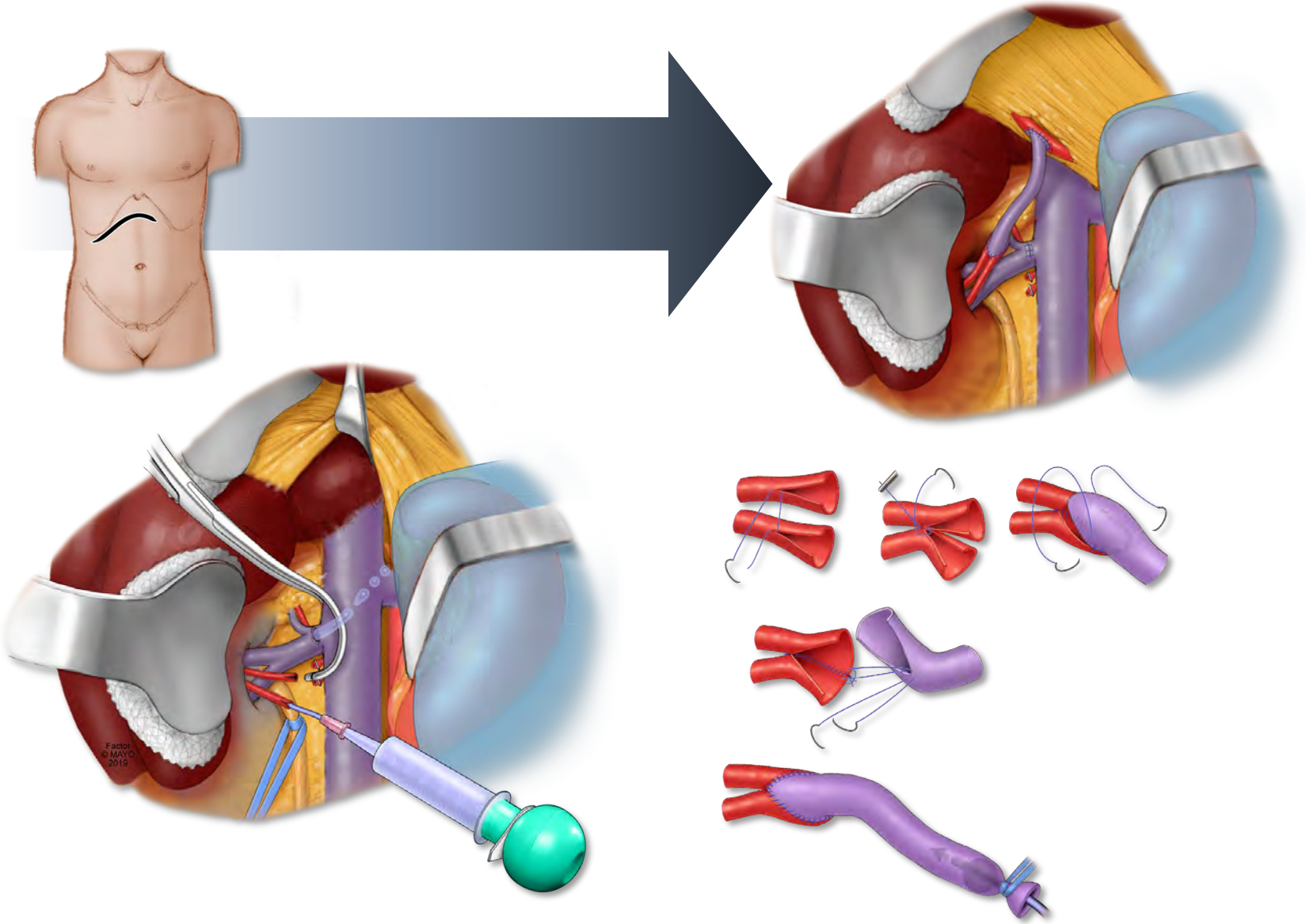
- Difficult catheterization
- Vessel disruption or dissection
- Stent stenosis or occlusion



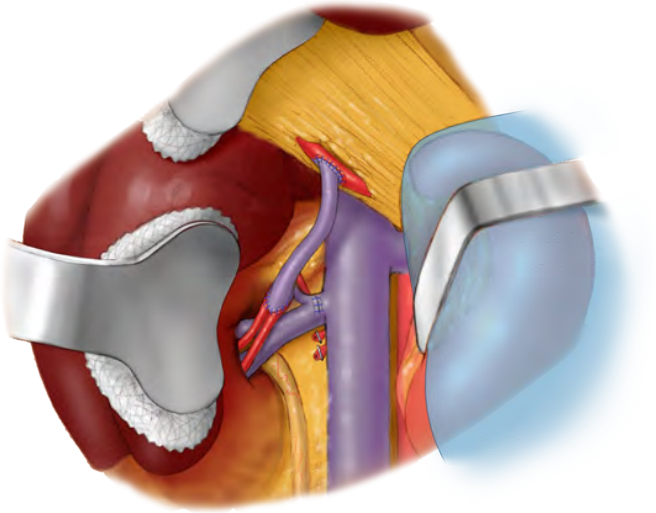
Double fenestrations

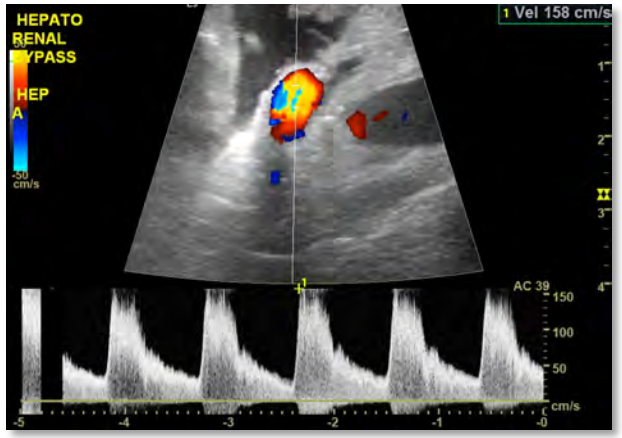


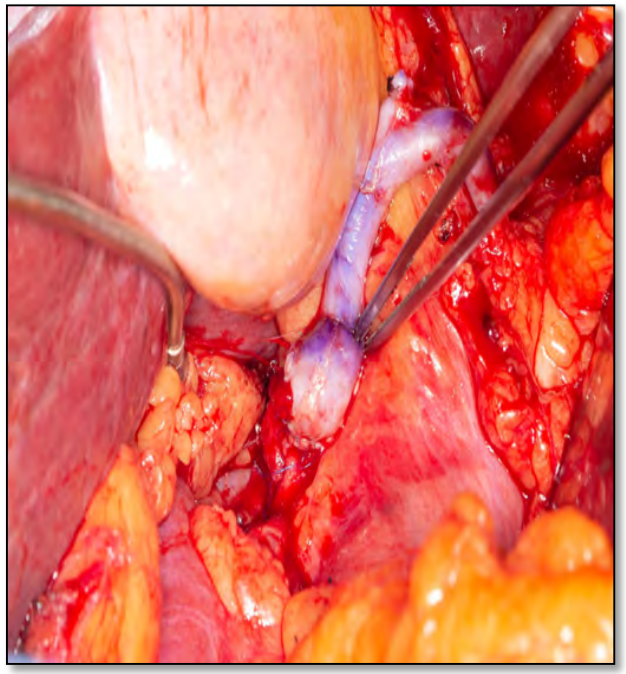
Hepato-renal bypass

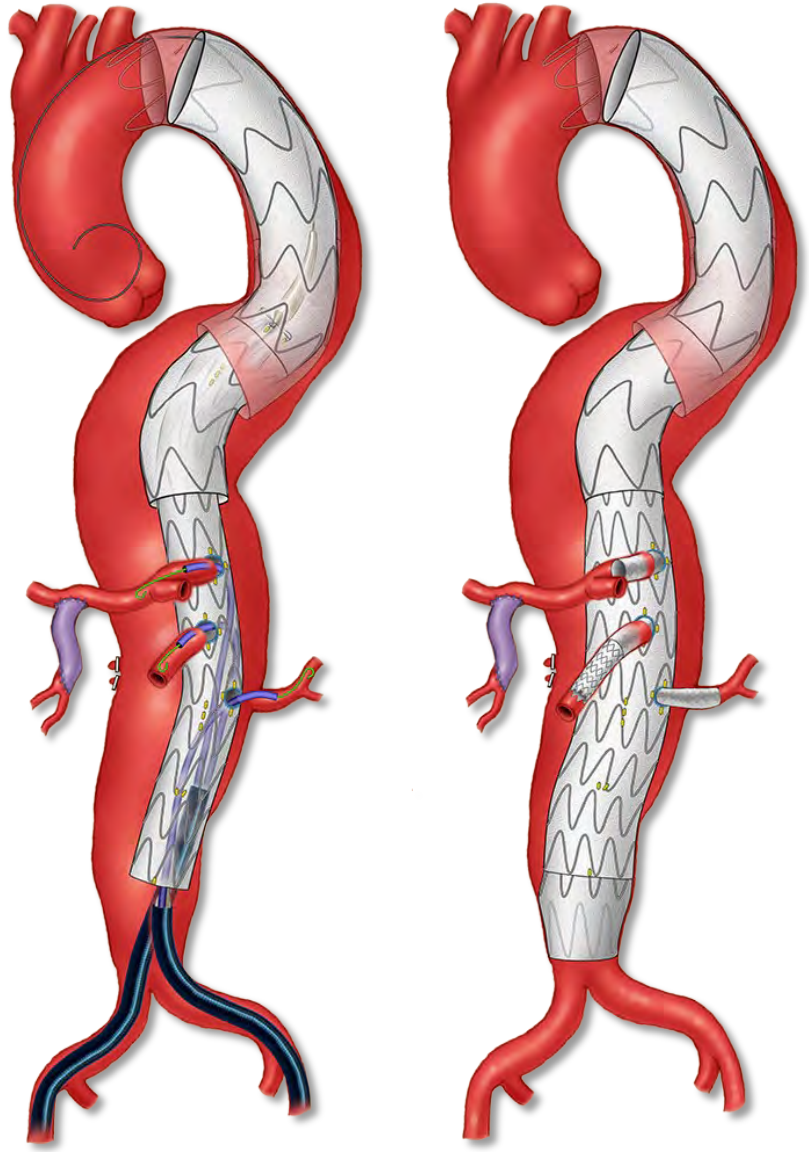


Hepato-renal bypass

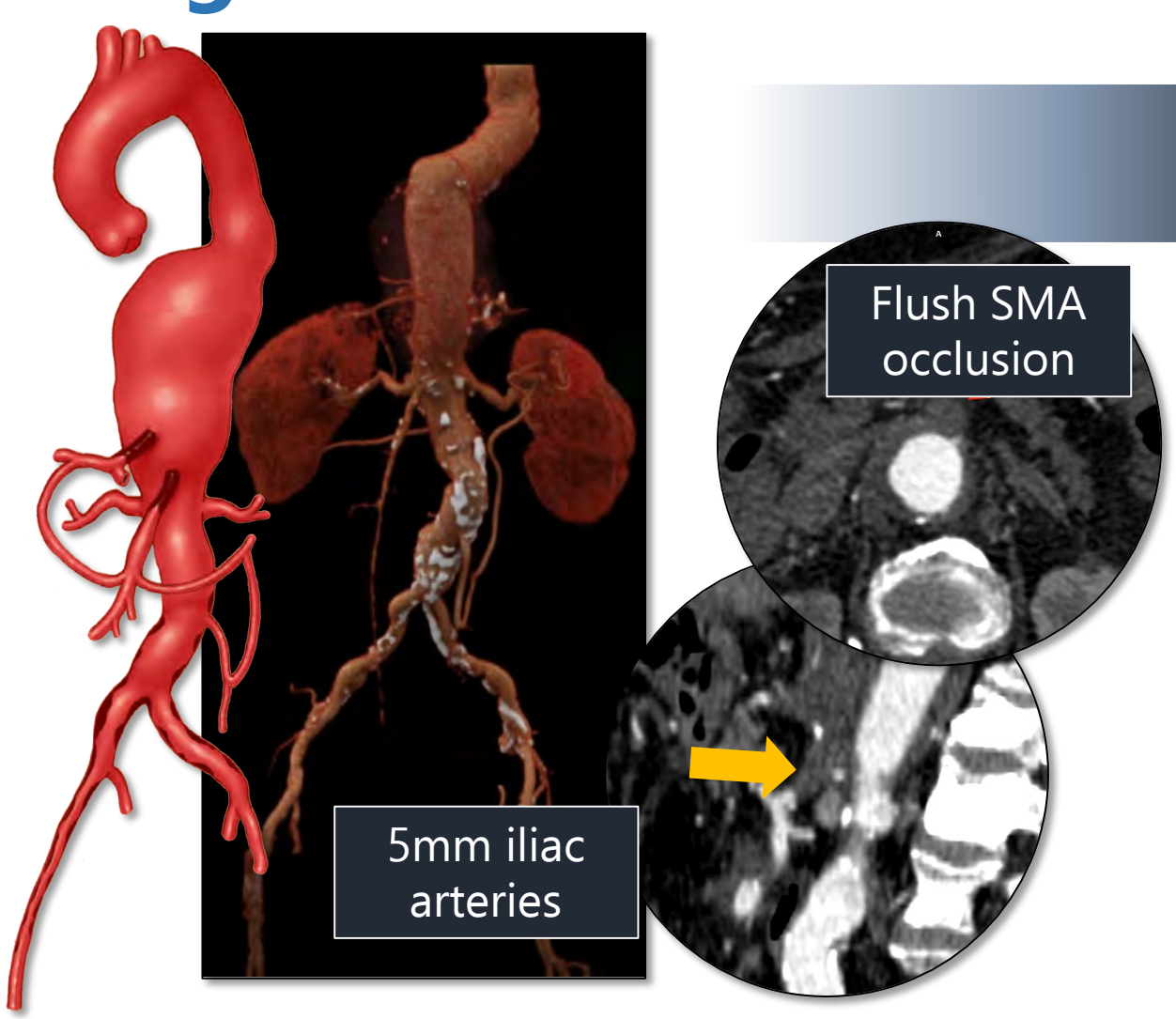


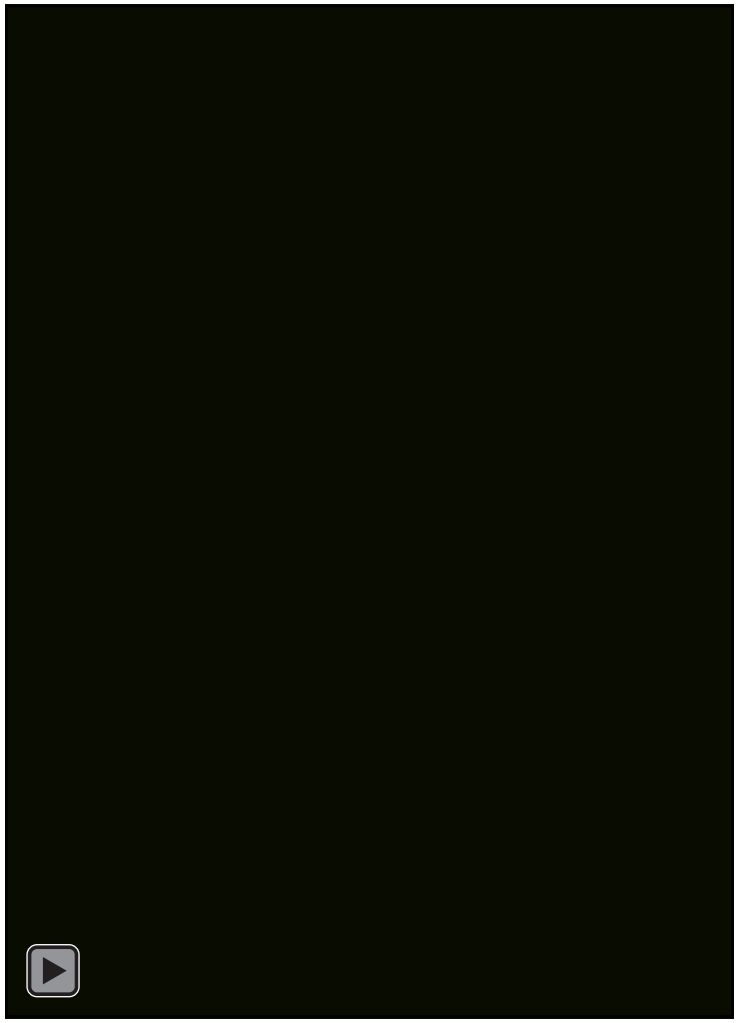




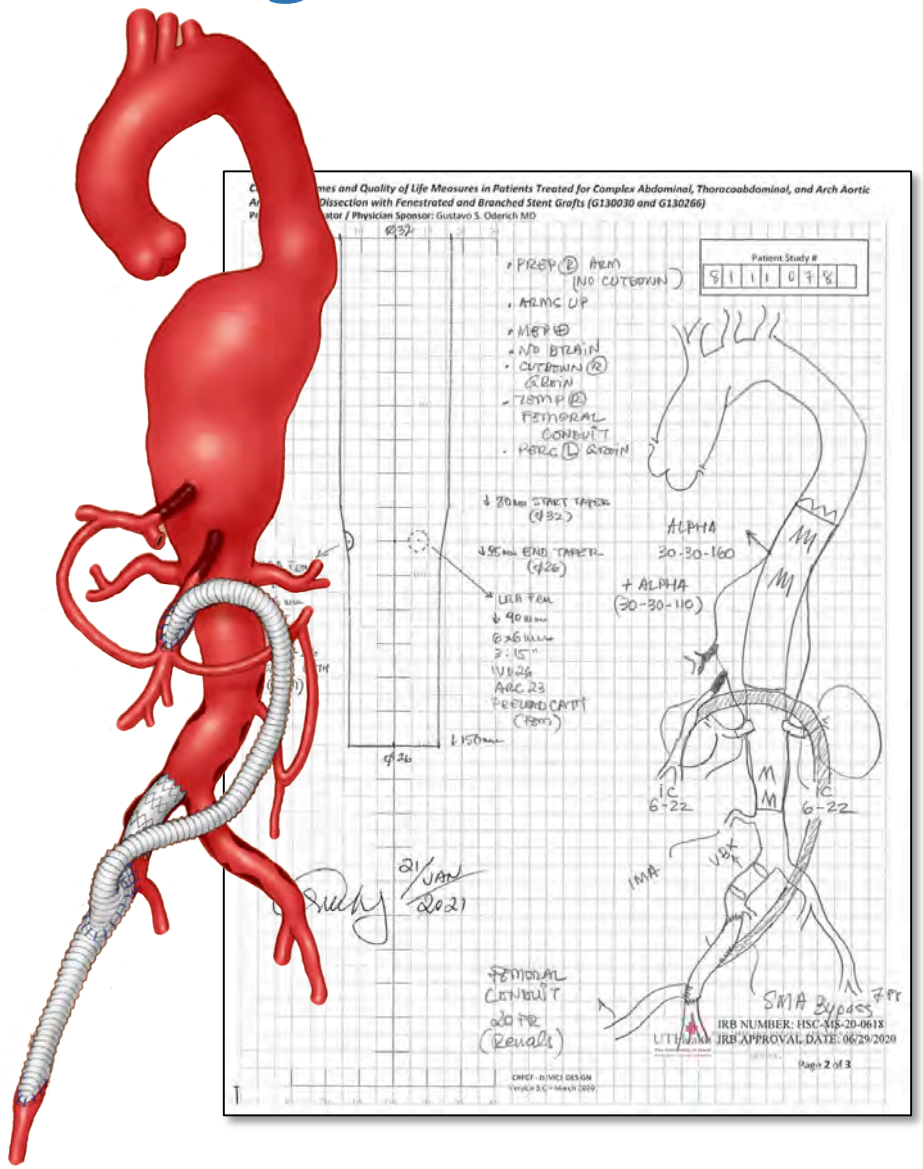


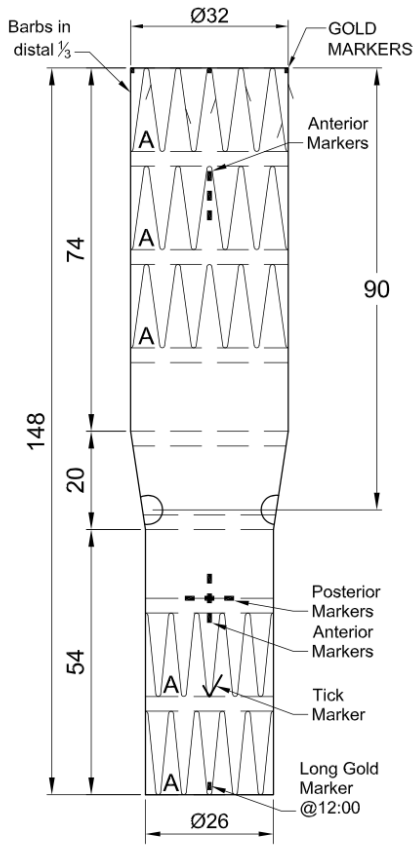
77F with chronic mesenteric ischemia and large TAAA

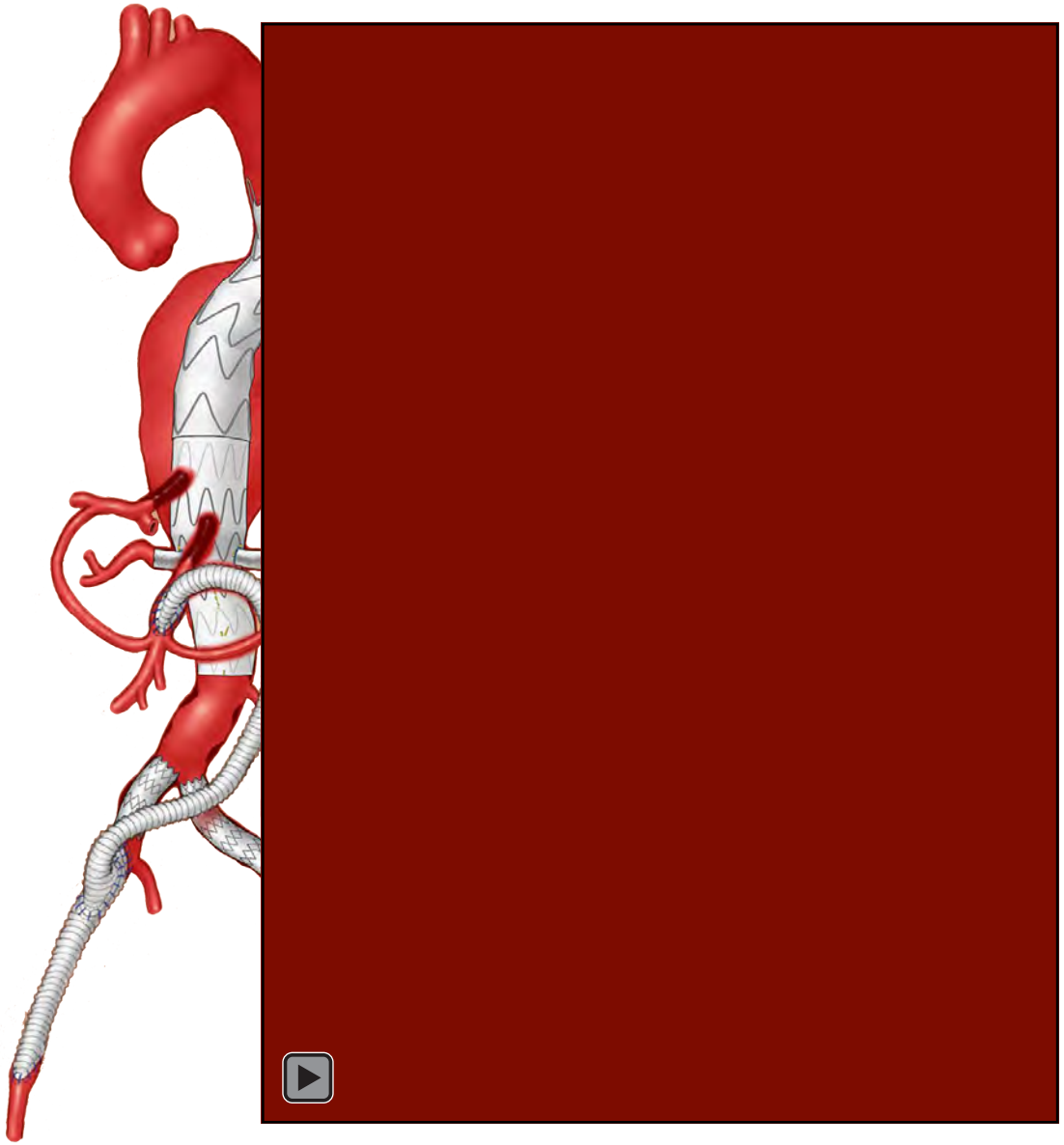




Staged FB-EVAR

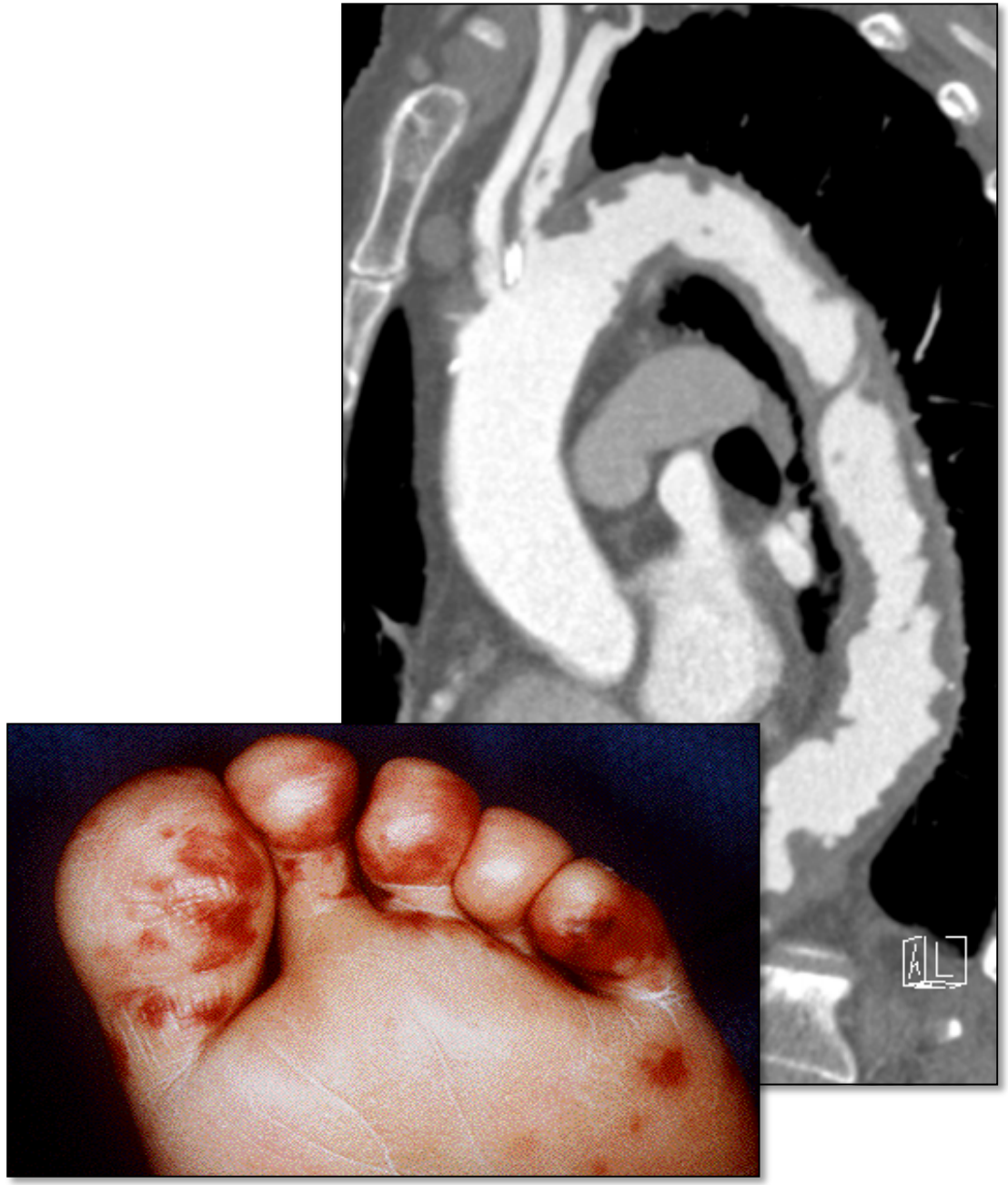






‘Shaggy aorta’

- Mesenteric ischemia and mortality
  Patel SD et al. Eur J Vasc Endovasc Surg 2014
- Stroke
  Kahler P et al. Ann Thorac Surg 2014
- Spinal cord ischemia
  Kato M et al. Eur J Cardiothoracic Surg 2014
- Renal deterioration
  Sandri et al. J Vasc Surg 2017



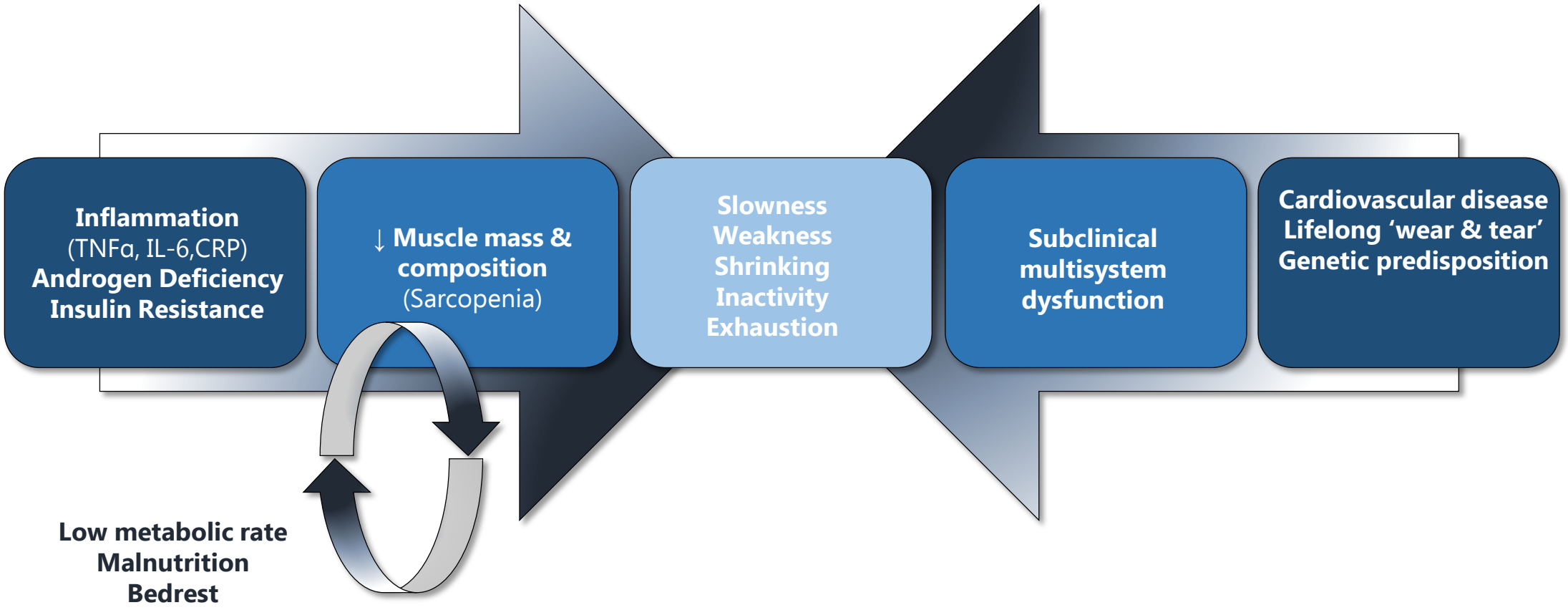
Life expectancy

Time?

Quality of life?

- Frailty, sarcopenia
- Advanced cardiac disease
- Advanced pulmonary disease
- End-stage renal disease
- Malignancies

Frailty phenotype



Modified from Afilalo J, et al. JACC 2014

Frailty and sarcopenia

Check for up

Psoas muscle area and attenuation are highly predictive of complications and mortality after complex endovascular aortic repair

Jussi M. Kärkkäinen, MD, PhD,[a,b] Gustavo S. Oderich, MD,[c] Emanuel R. Tenorio, MD, PhD,[c] Keouna Pather, MD,[a] Niku Oksala, MD, PhD, DSc(med),[d,e] Thanila A. Macedo, MD,[a] Terri Vrtiska, MD,[a] Barend Mees, MD, PhD,[f,g] *and* Michael J. Jacobs, MD, PhD,[f,g,h] *Rochester, Minn; Kuopio and Tampere, Finland; Houston, Tex; Maastricht, The Netherlands; and Aachen, Germany*

Eur J Vasc Endovasc Surg (2020) 59, 31—39

Pre-operative Psoas Muscle Size Combined With Radiodensity Predicts Mid-Term Survival and Quality of Life After Fenestrated-Branched Endovascular Aortic Repair☆

Jussi M. Kärkkäinen [a], Emanuel R. Tenorio [a], Niku Oksala [b,c,d], Thanila A. Macedo [a], Indrani Sen [a], Bernardo C. Mendes [a], Randall R. DeMartino [a], Michael J. Jacobs [e,f], Barend Mees [e,f], Gustavo S. Oderich [a,*]

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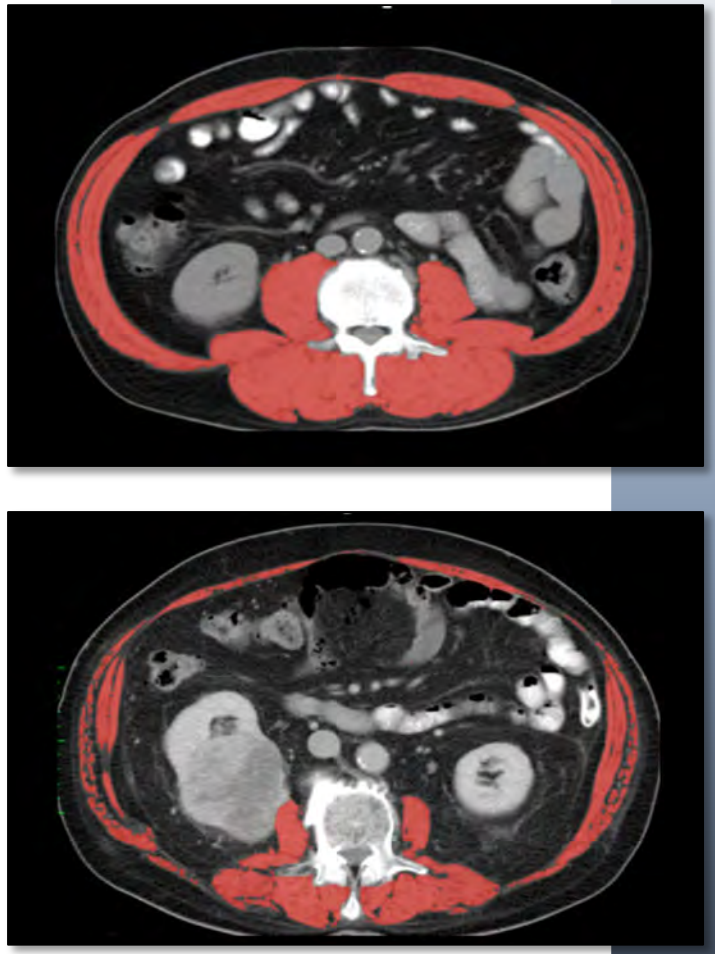
[f] European Vascular Center, Aachen-Maastricht, Germany and the Netherlands

Karkkainen J et al. J Vasc Surg 2020
Karkkainen J et al. Eur J Vasc Surg 2020

Sarcopenia

- Sarcopenia is a component of frailty characterized by loss of skeletal muscle mass and fatty infiltration of skeletal muscle
- Skeletal muscle mass can be evaluated using computed tomography (CT)
- Sarcopenia has been associated with an increased mortality and functional decline

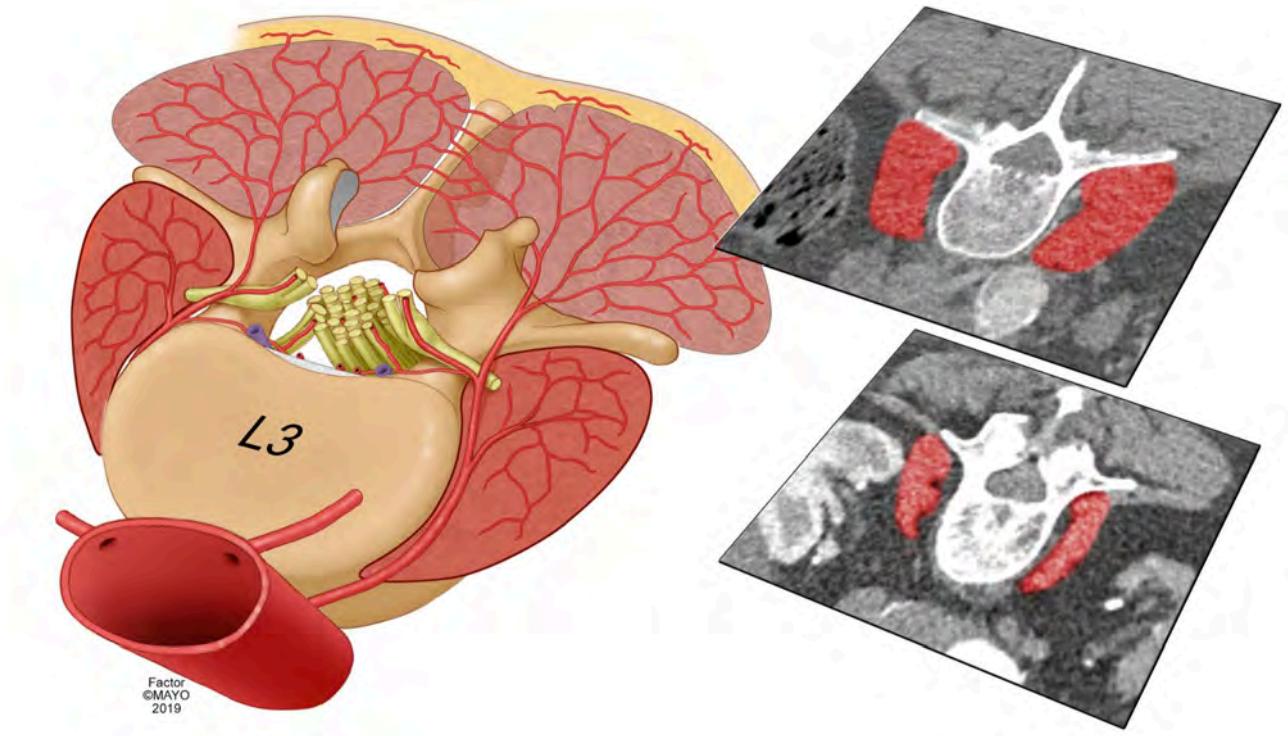


Mayr R et al. World J Urol 2018

Psoas muscle area (PMA) & density (PMD)

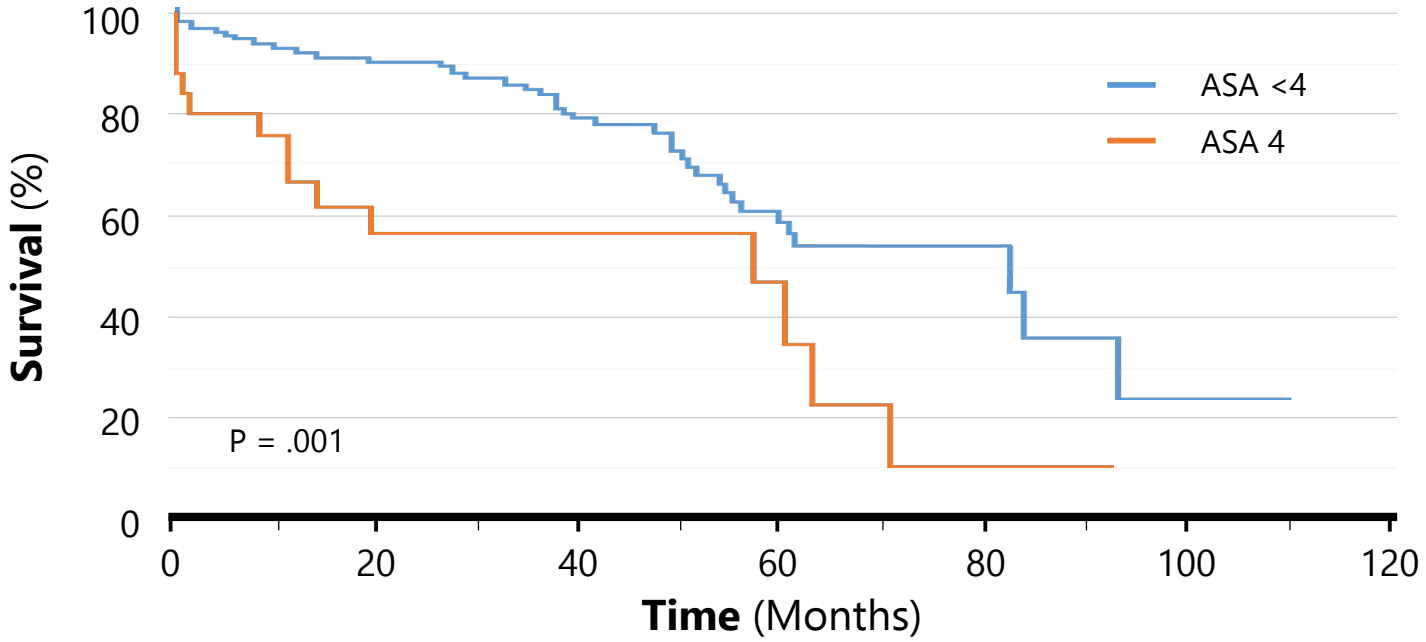
- Measurement at L3-level from a single axial slice where both transverse processes are visible

- Lean Psoas Muscle Area
  LPMA = PMA × PMD (cm^{2}HU)



ASA classification

Expected survival
ASA Class 4
- 2-years: 60%
- 5-years: 30%

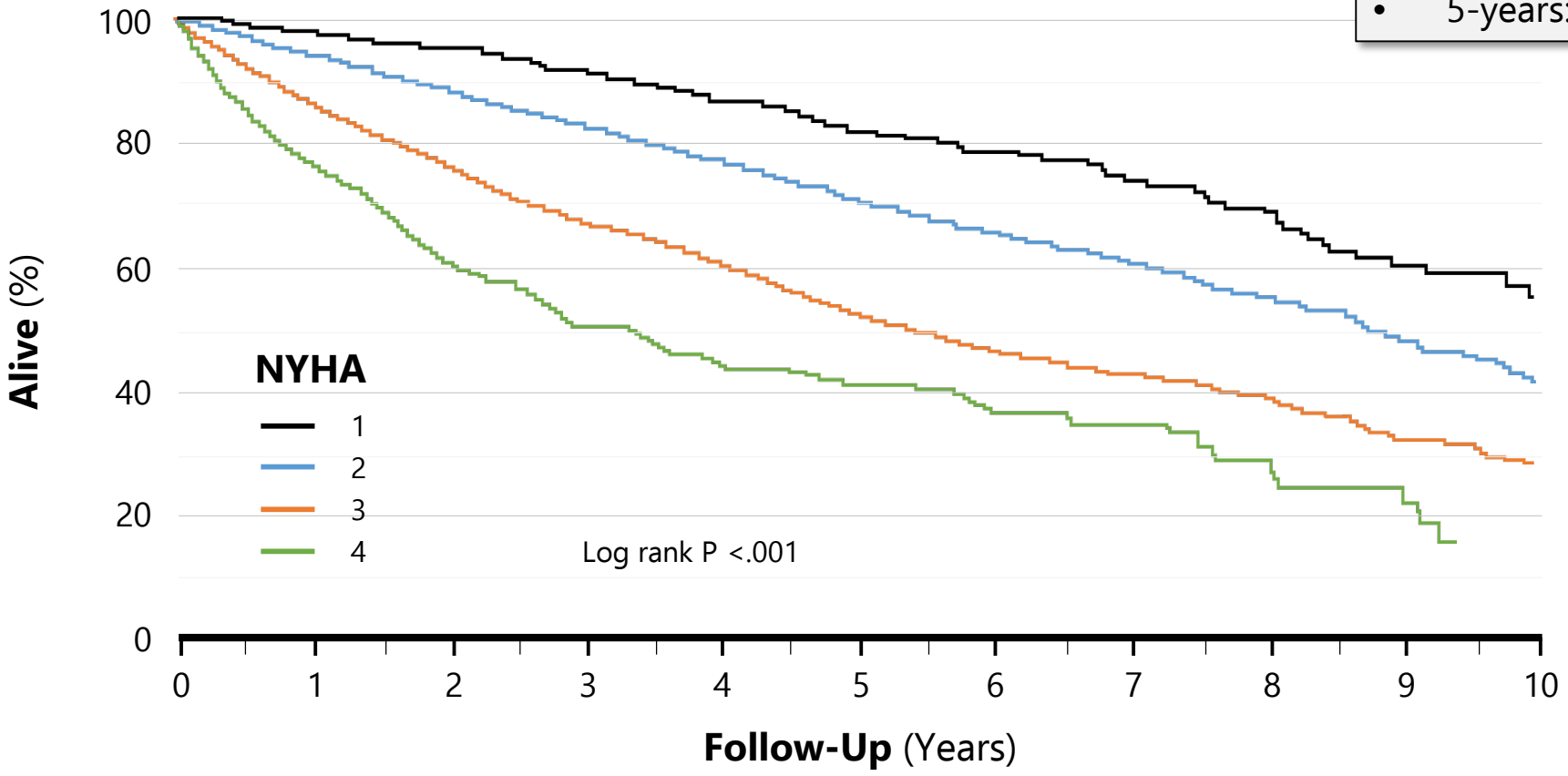


	ASA <4					ASA 4				
Months	**12**	**24**	**36**	**48**	**60**	**12**	**24**	**36**	**48**	**60**
K-M Estimate	.92	.89	.84	.75	.58	.67	.57	.57	.57	.47
Standard Error	.02	.03	.04	.05	.06	.09	.09	.09	.09	.12
N at Risk	141	114	91	71	44	16	11	7	6	4

Pini R et al. J Vasc Surg 2019

Congestive heart failure

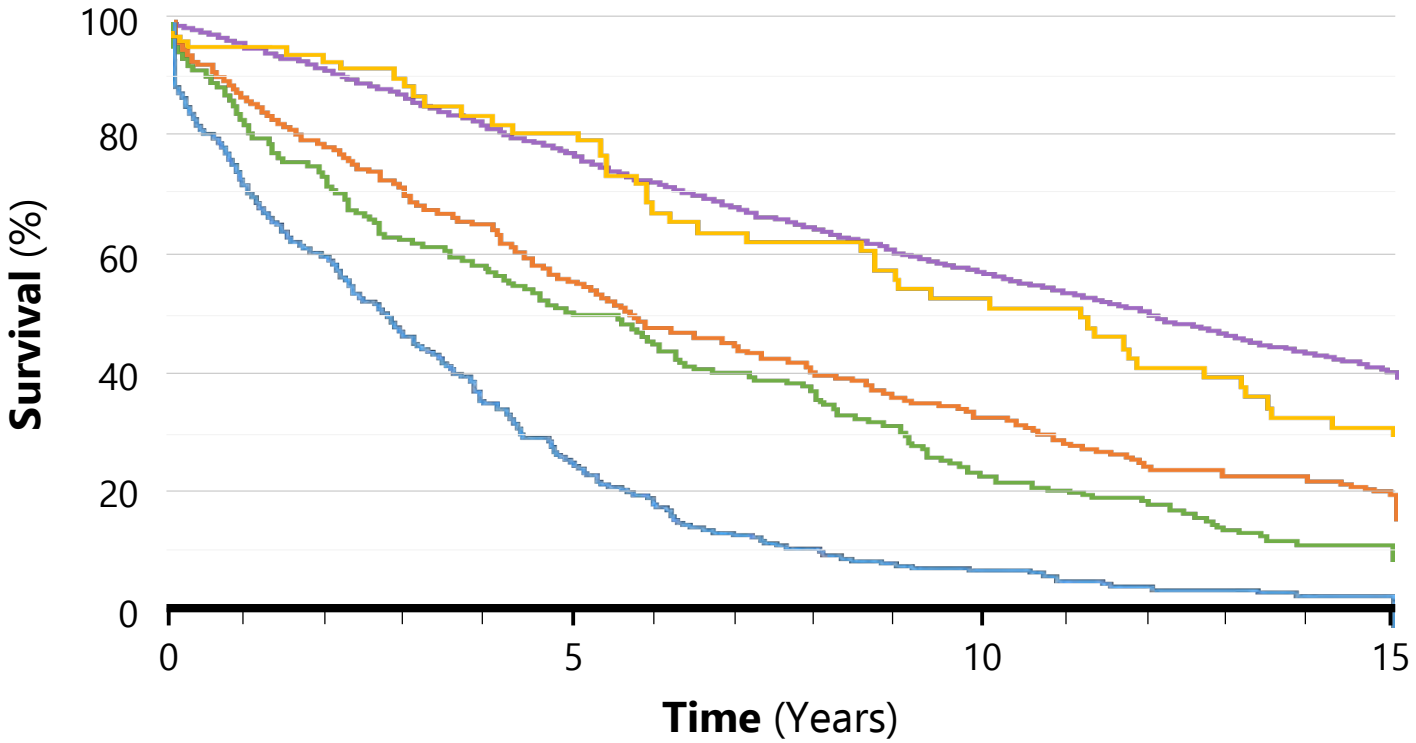
Expected survival
NYHA Class 4
- 2-years: 60%
- 5-years: 40%



Arnold JM et al. European Heart Journal. 2013

Chronic pulmonary disease

Expected survival
Gold Class 4
- 2-years: 60%
- 5-years: 20%



van Hirtum PV et al. Respiratory Medicine 2018

77M, 8-cm TAAA

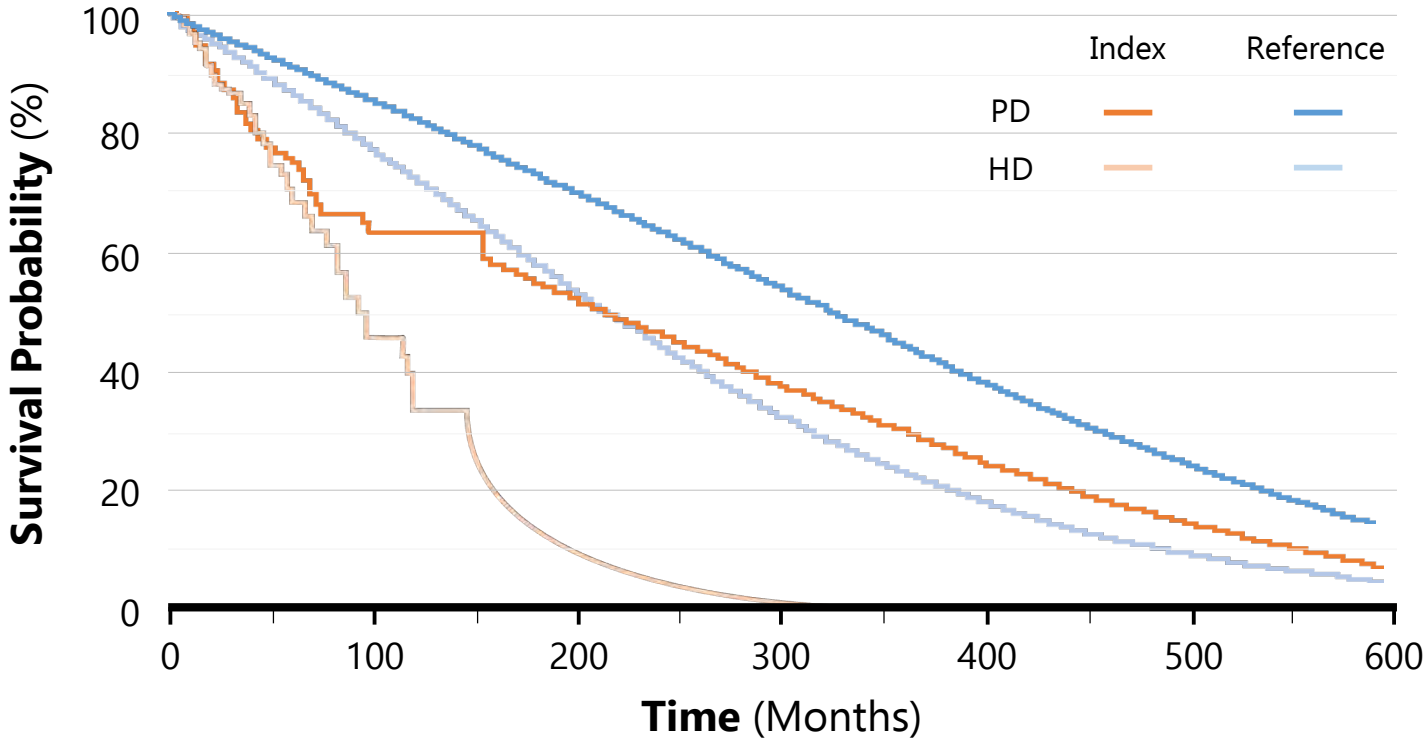
- FEV1: 1.1 L (36%)
- DLCO: 11 ml/min/mmHg (43%)
- Home O2

- No complications
- Alive at 18 month follow up

Oderich et al. Ann Surg 2021

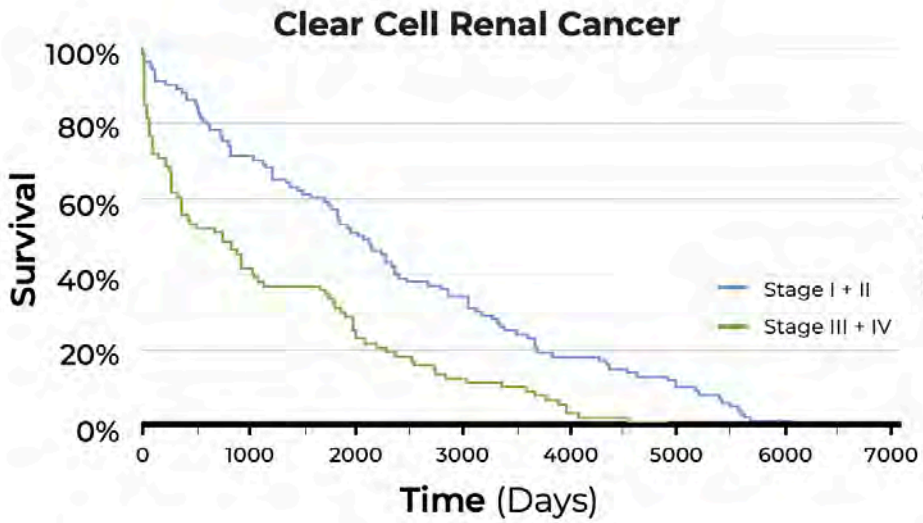
End-stage renal disease

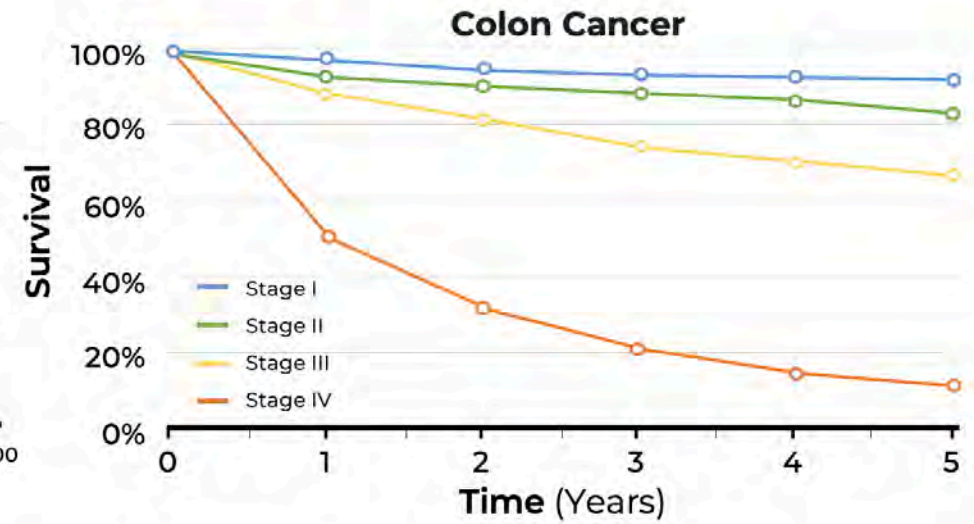
Expected survival
- 2-years: 60%
- 5-years: 40%

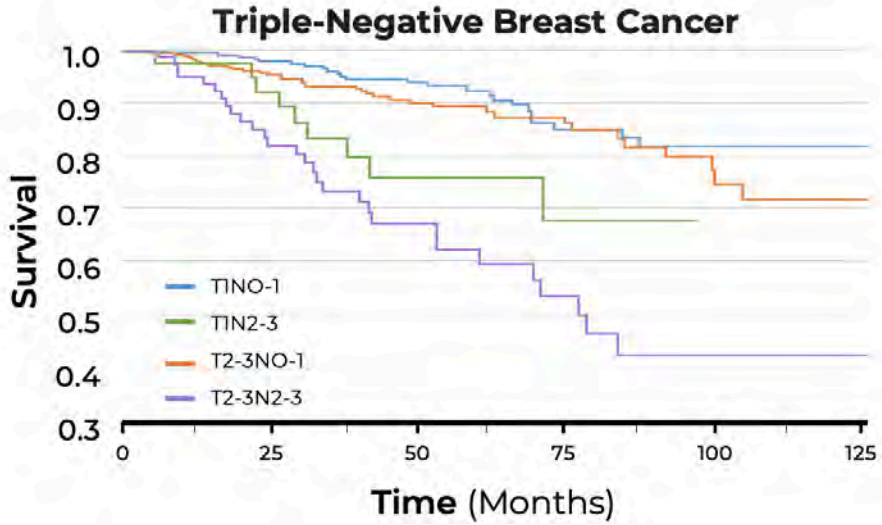


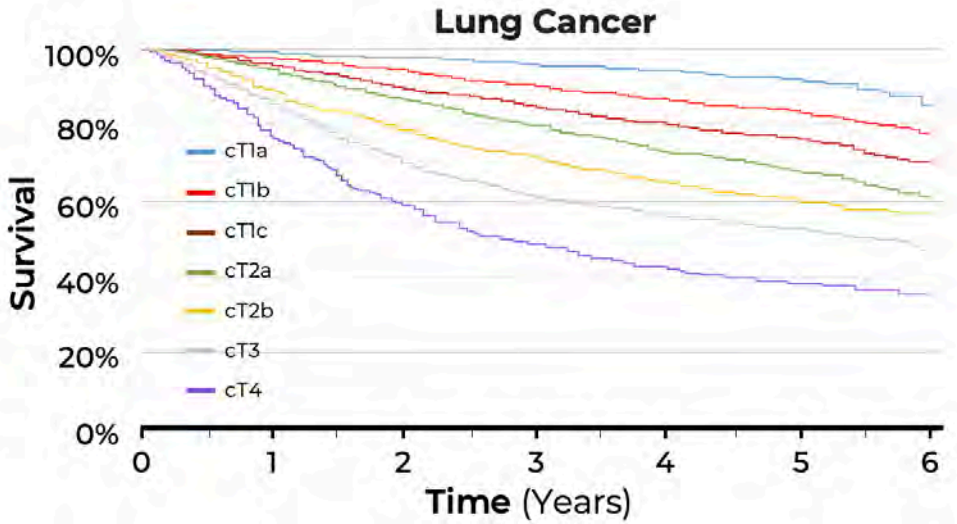
Kao TW et al. J Nephrol. 2010

Malignancies (~15% of aneurysm patients)



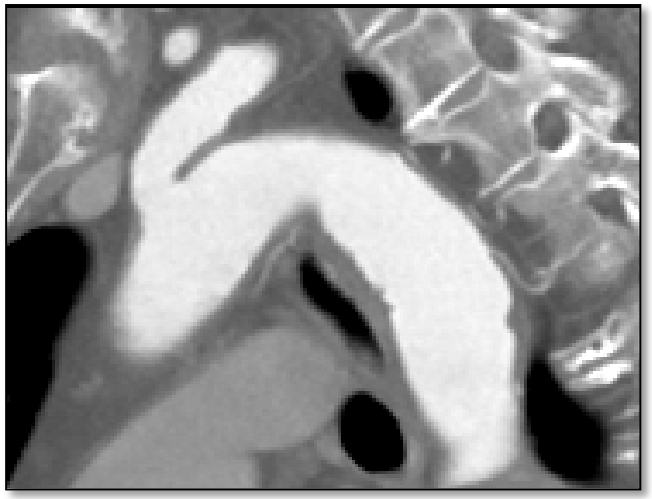


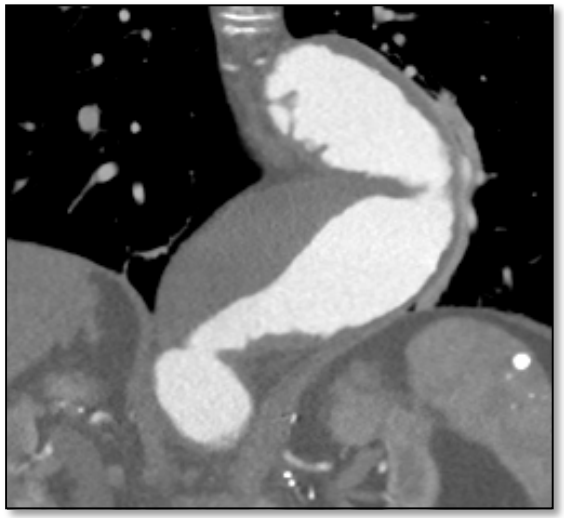




84F, large TAAA

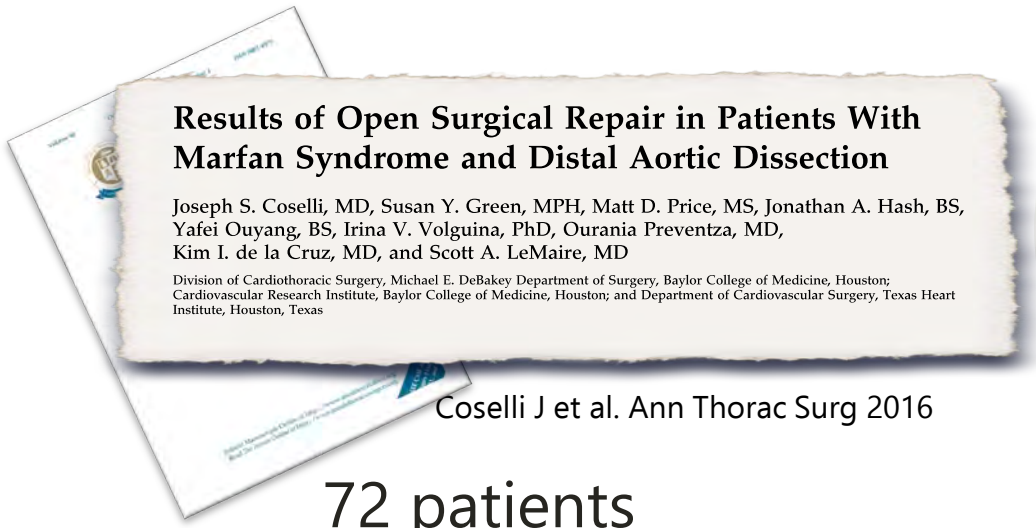
- Frail, debilitated state
- Home O2
- CHF (EF 20%)
- Cr 2.6 mg/dL





No Repair

Genetically triggered aortic diseases



Results of Open Surgical Repair in Patients With Marfan Syndrome and Distal Aortic Dissection

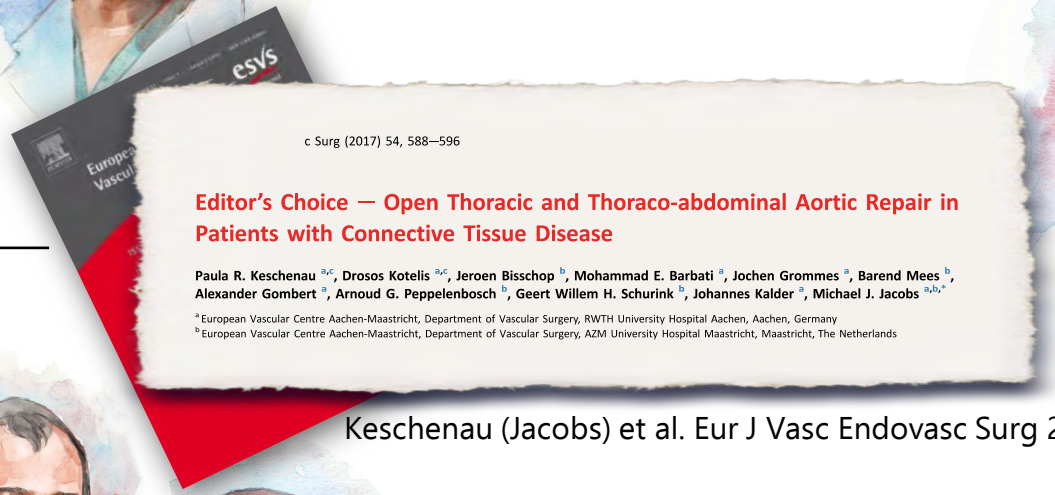
Joseph S. Coselli, MD, Susan Y. Green, MPH, Matt D. Price, MS, Jonathan A. Hash, BS, Yafei Ouyang, BS, Irina V. Volguina, PhD, Ourania Preventza, MD, Kim I. de la Cruz, MD, and Scott A. LeMaire, MD

Division of Cardiothoracic Surgery, Michael E. DeBakey Department of Surgery, Baylor College of Medicine, Houston; Cardiovascular Research Institute, Baylor College of Medicine, Houston; and Department of Cardiovascular Surgery, Texas Heart Institute, Houston, Texas

Coselli J et al. Ann Thorac Surg 2016

127 patients
Mean age 43±12
Mortality: 4%

72 patients
Median age, 41
Mortality: 11%



c Surg (2017) 54, 588—596

Editor's Choice — Open Thoracic and Thoraco-abdominal Aortic Repair in Patients with Connective Tissue Disease

Paula R. Keschenau [a,c], Drosos Kotelis [a,c], Jeroen Bisschop [b], Mohammad E. Barbati [a], Jochen Grommes [a], Barend Mees [b], Alexander Gombert [a], Arnoud G. Peppelenbosch [b], Geert Willem H. Schurink [b], Johannes Kalder [a], Michael J. Jacobs [a,b,*]

[a] European Vascular Centre Aachen-Maastricht, Department of Vascular Surgery, RWTH University Hospital Aachen, Aachen, Germany
[b] European Vascular Centre Aachen-Maastricht, Department of Vascular Surgery, AZM University Hospital Maastricht, Maastricht, The Netherlands

Keschenau (Jacobs) et al. Eur J Vasc Endovasc Surg 2017

2012 patients
314 patients with CTDs
Mortality: 6% (<50 yo)

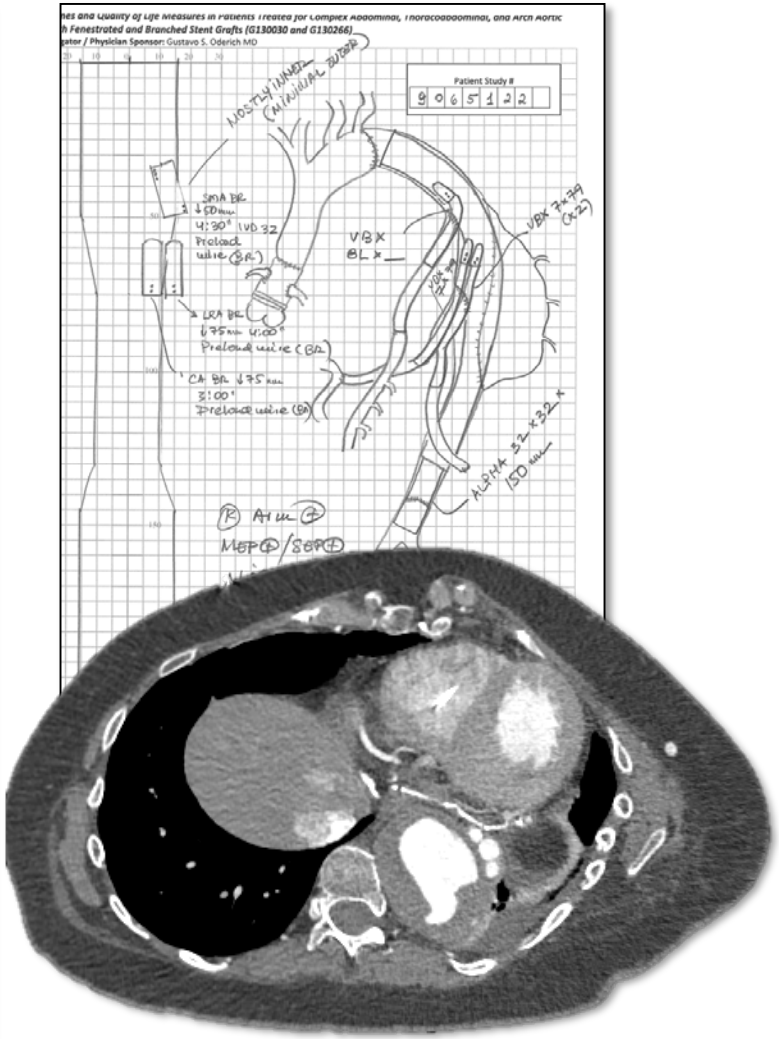
Open Descending and Thoracoabdominal Aortic Repairs in Patients Younger Than 50 Years Old

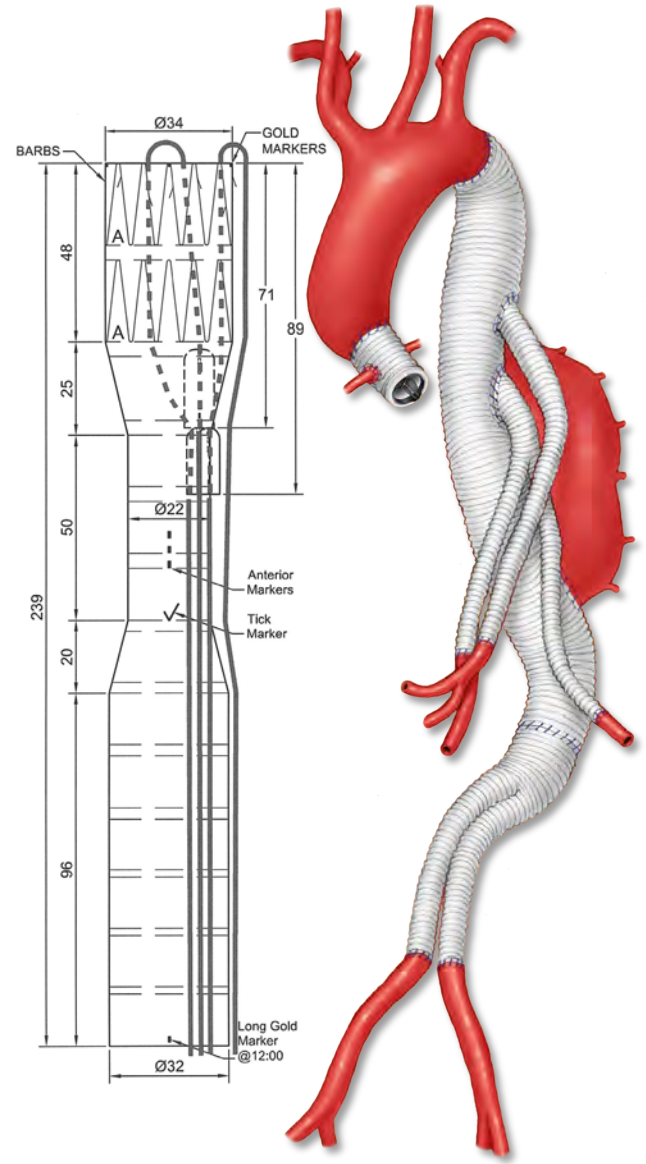
Akiko Tanaka, MD, PhD, Samuel D. Leonard, MS, Harleen K. Sandhu, MD, MPH, Rana O. Afifi, MD, Charles C. Miller III, PhD, Kristofer M. Charlton-Ouw, MD, Amberly Ray, BS, Madiha Hassan, MD, Hazim J. Safi, MD, and Anthony L. Estrera, MD

Department of Cardiothoracic and Vascular Surgery, McGovern Medical School at The University of Texas Health Science Center at Houston (UTHealth) and Memorial Hermann Hospital, Houston, Texas

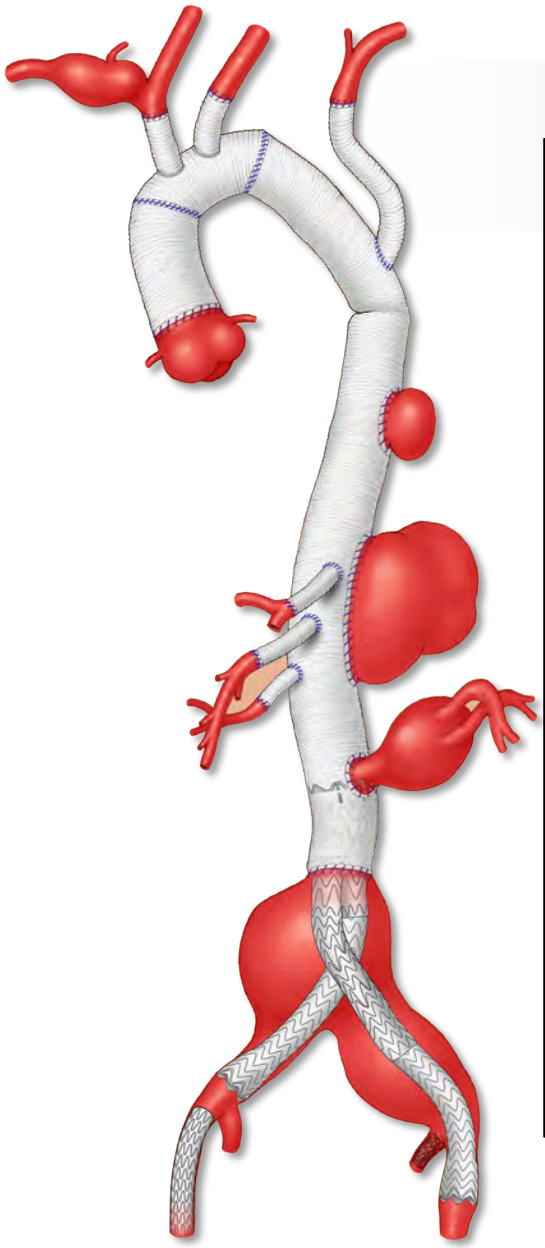
Tanaka et al. Ann Thorac Surg 2019

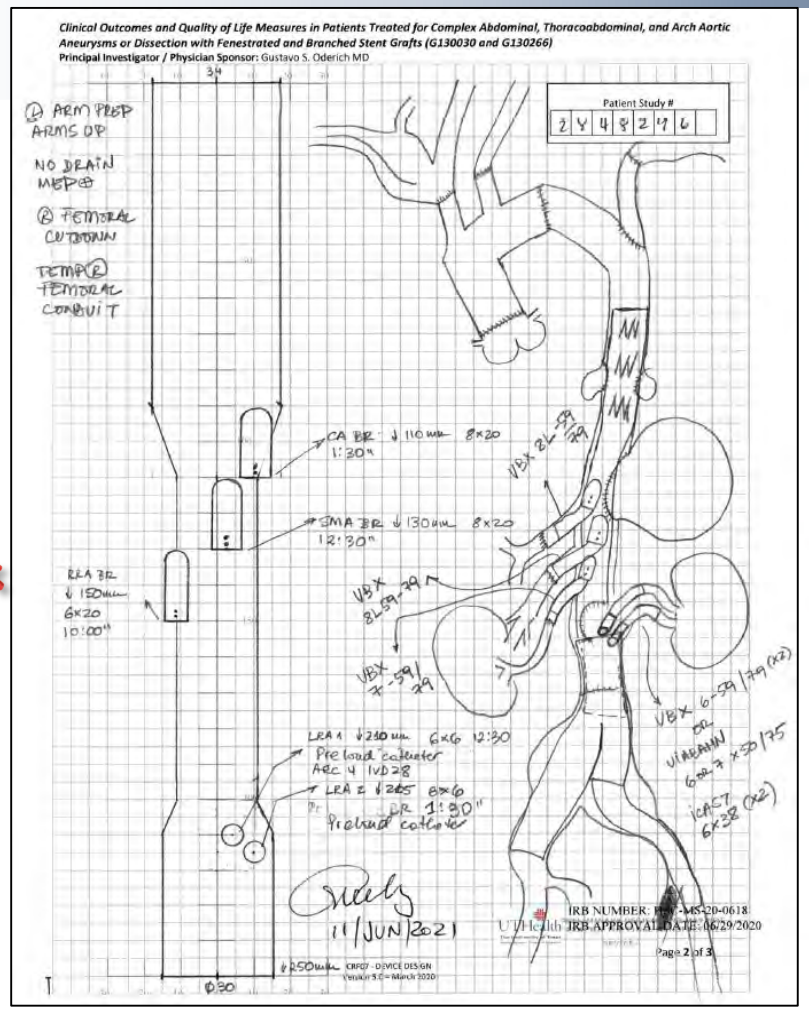
26M, LDS, intercostal patch TAAA

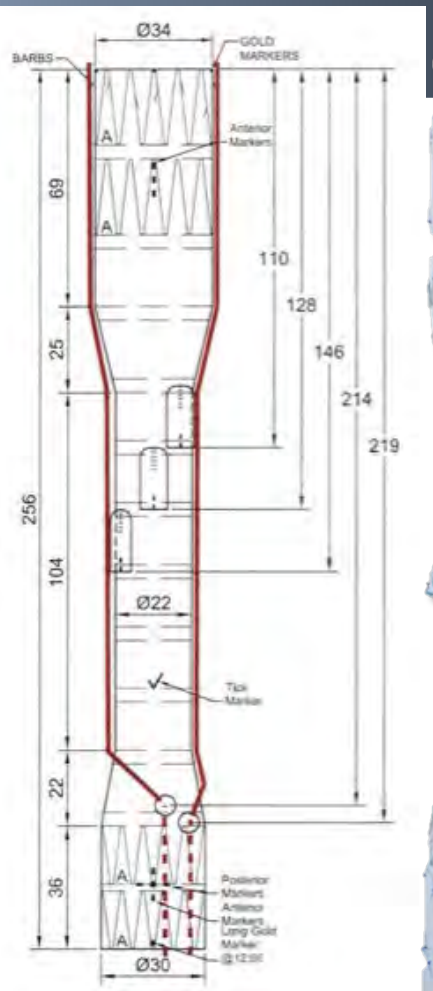


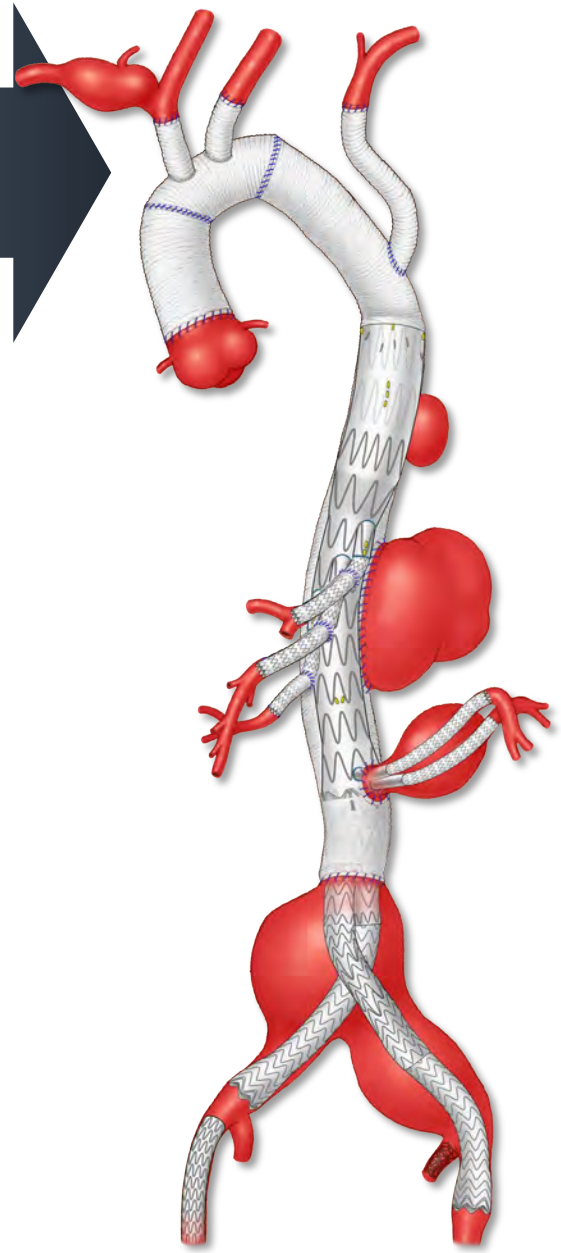


45F, LDS, multiple patch aneurysms









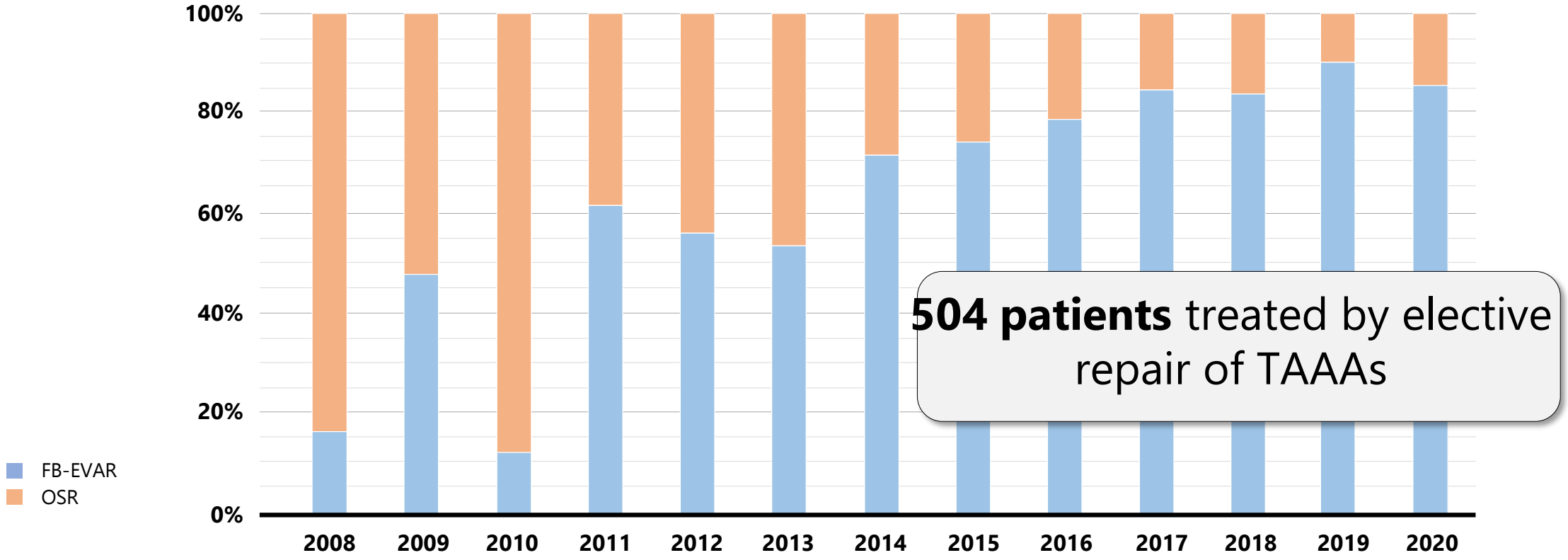
TREATMENT TRENDS AND OUTCOMES FOLLOWING ENDOVASCULAR VERSUS OPEN SURGICAL REPAIR OF THORACOABDOMINAL AORTIC ANEURYSMS

Ying Huang MD PhD, Jill Colglazier MD, Thomas C. Bower MD, Alberto Pochetino MD, Manju Kalra MBBS, Randall DeMartino MD, Kevin Greason MD, Scott Harmsen, Peter Gloviczki MD and Gustavo S. Oderich MD

Presented at the Annual Meeting of the European Society for Vascular and Endovascular Surgery

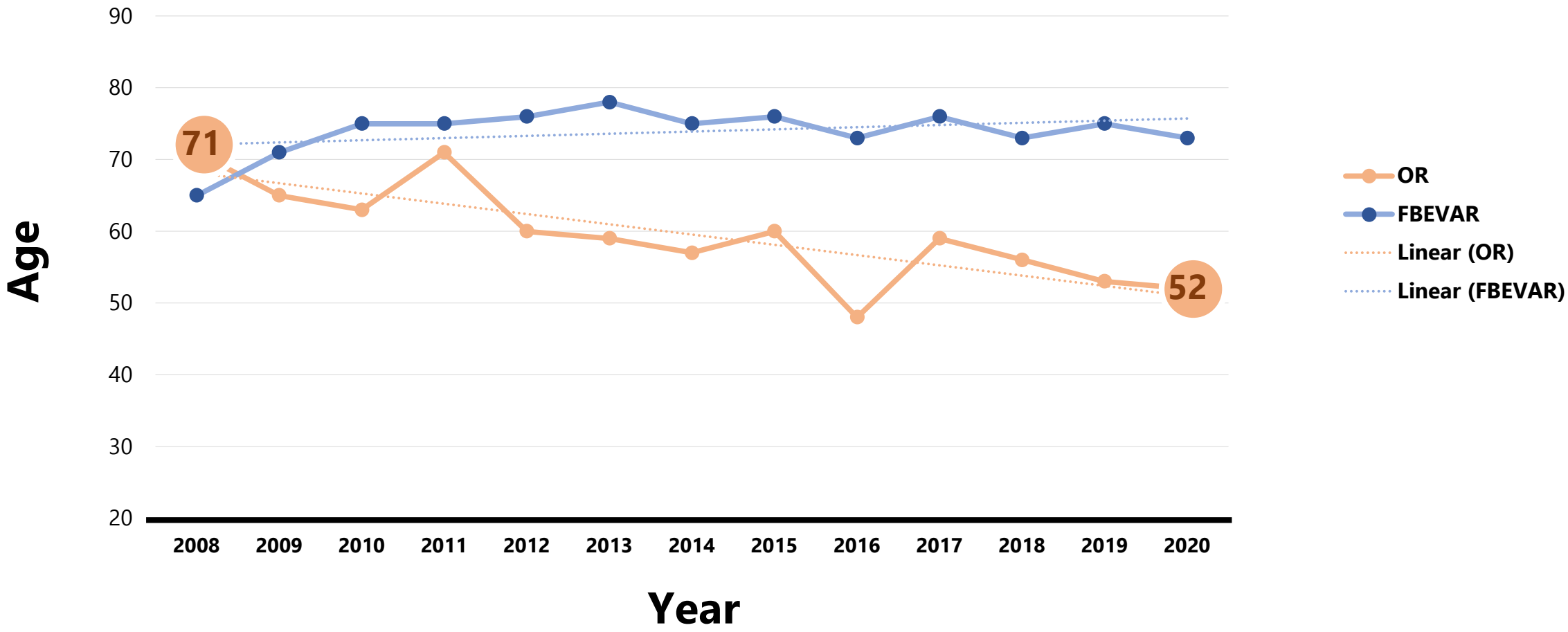
Submitted for publication (2024)

Treatment trends (2008-2020)

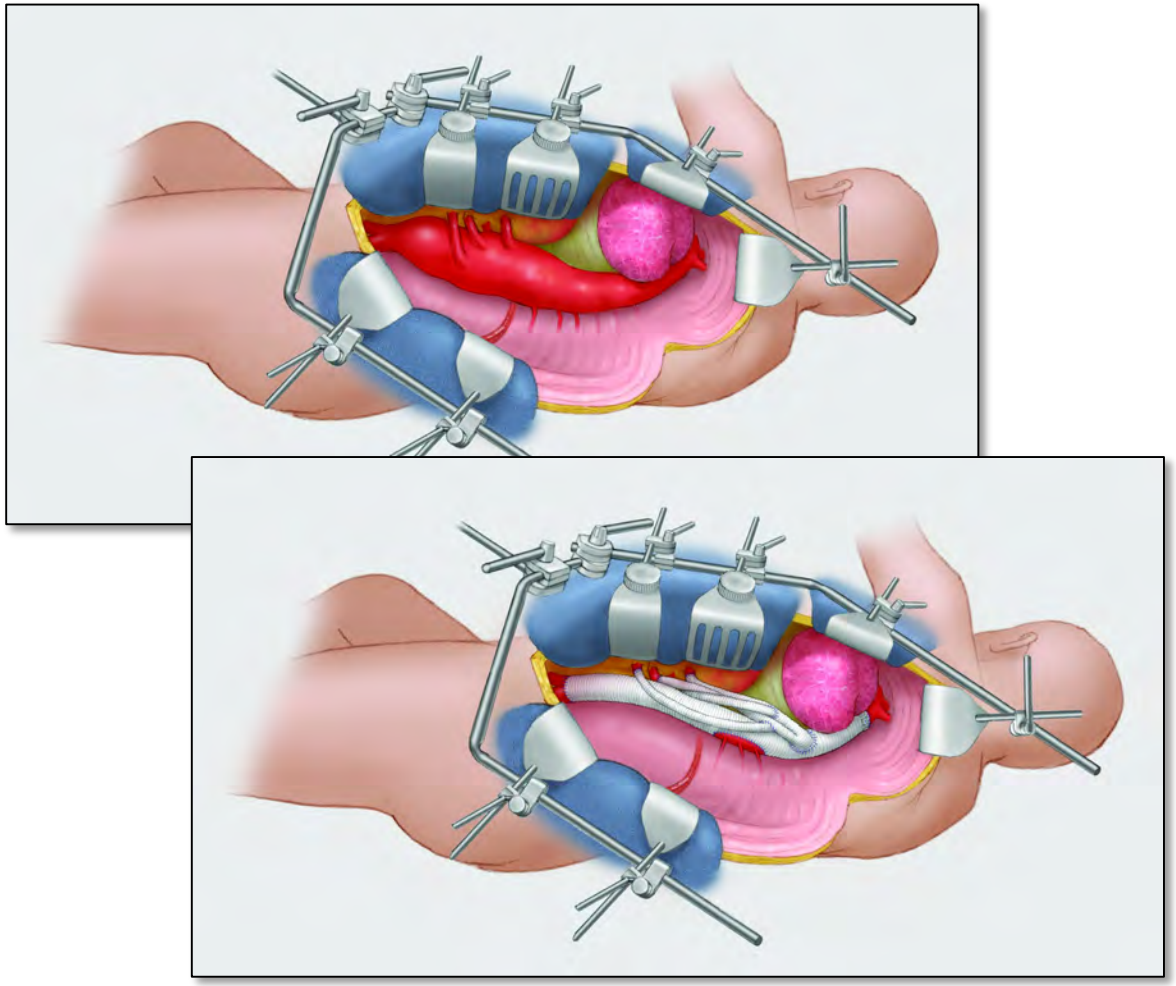


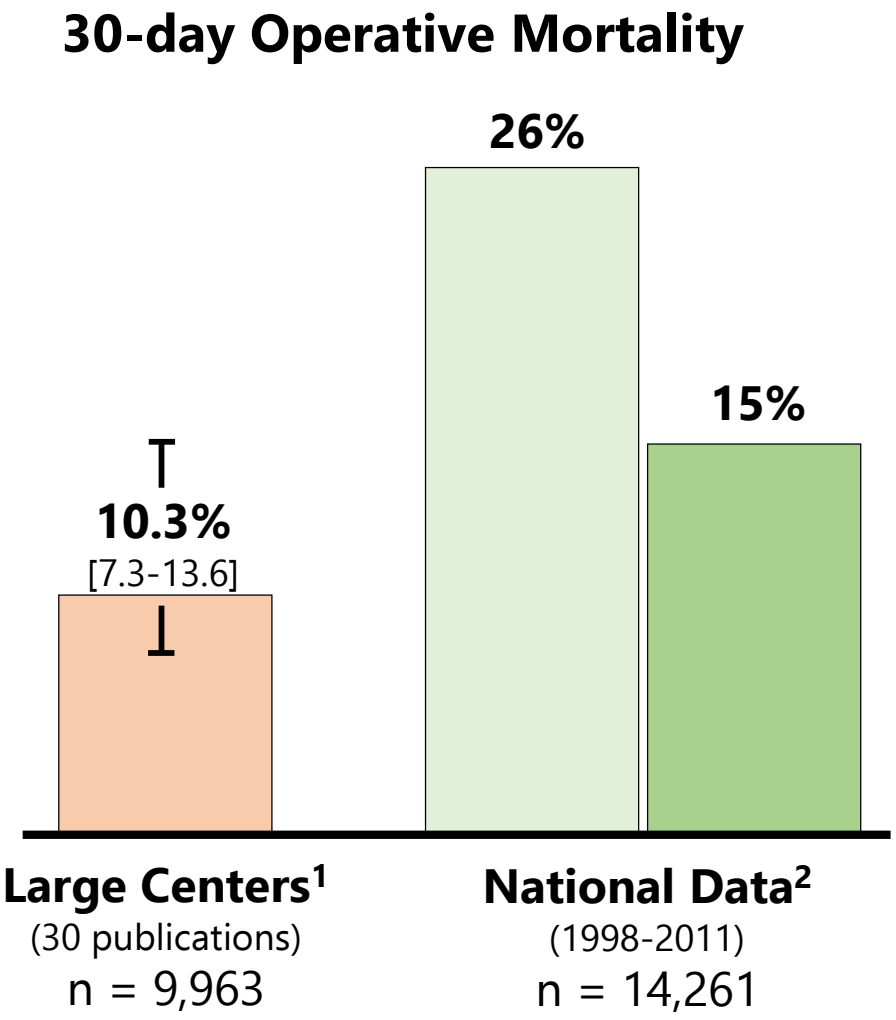
Number of Cases	Procedure Year												
Overall	18	29	25	18	16	30	46	50	51	52	56	78	35
OSR	15	15	22	7	7	14	13	13	11	8	9	8	5
FB-EVAR	3	14	3	11	9	16	33	37	40	44	47	70	30

Decline in age of open surgical patients



Open surgical TAAA repair



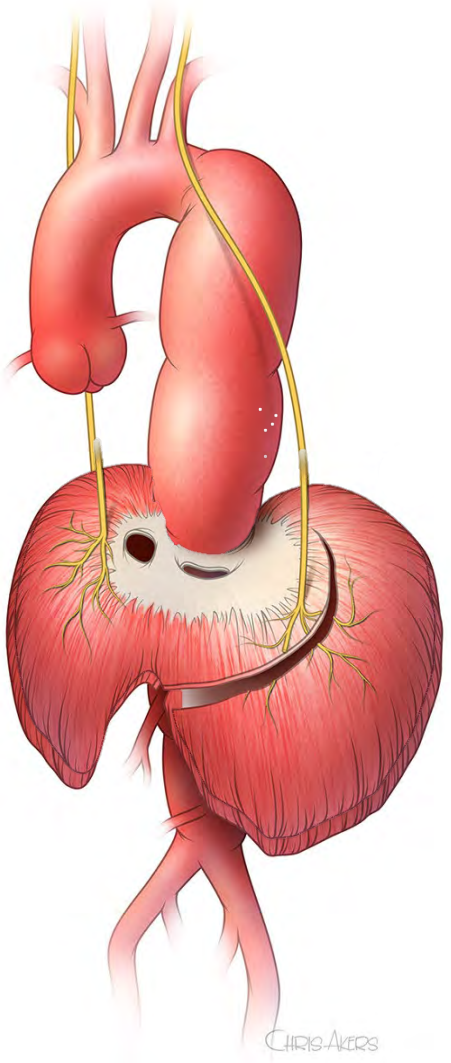


1. Moulakakis et al. J Vasc Surg 2018

2. Polanco et al. J Vasc Surg 2021

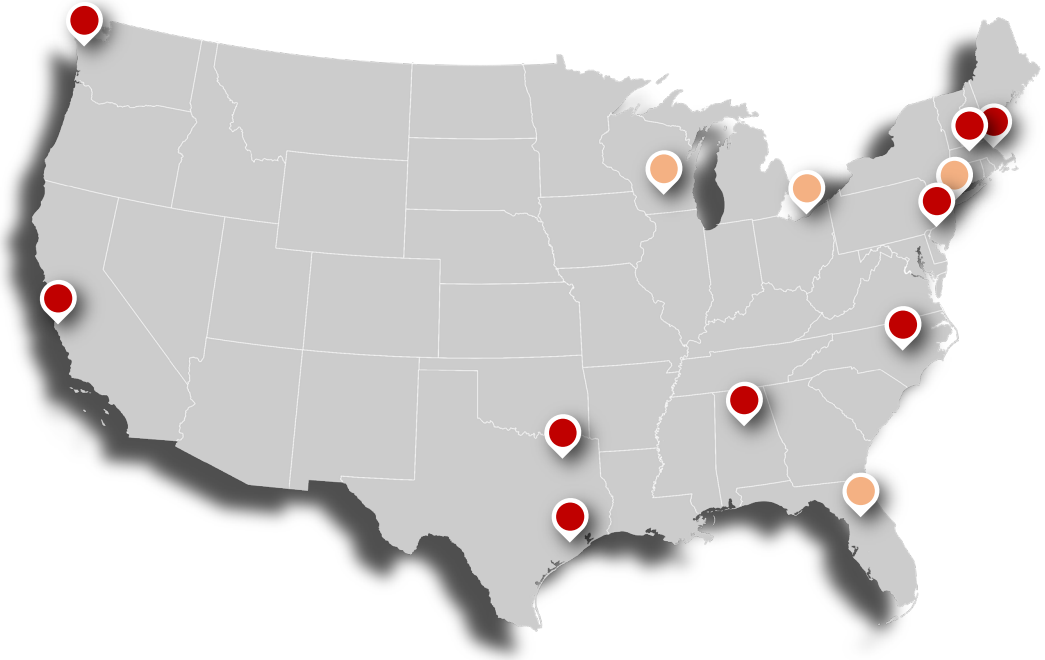
Morbidity of Open TAAA Repair

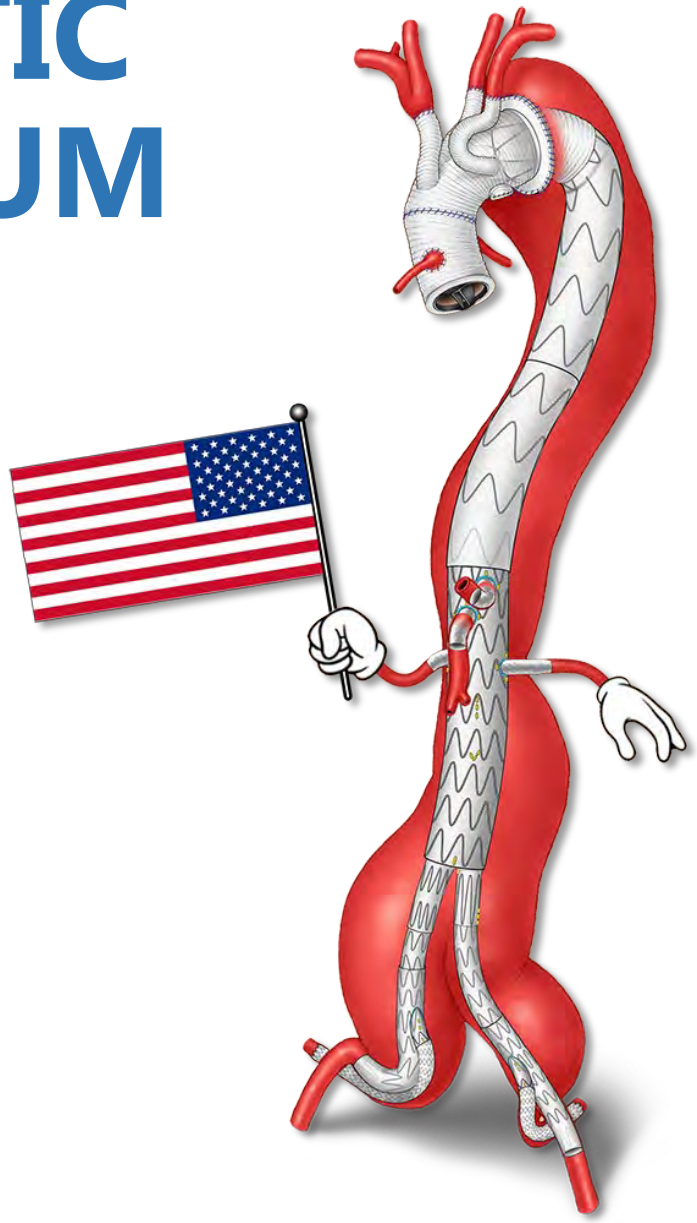
	Overall n = 2012	Age < 50 n = 276	Age > 50 n = 1736	p value
Respiratory failure	**39%**	31%	40%	.004
New onset dialysis	**21%**	12%	23%	.19
Stroke	5%	4%	6%	.19
Spinal cord injury	**8%**	3%	9%	.001
Mortality	16%	6%	17%	.001
Length of stay	13	12	14	.17



Tanaka et al. Ann Thorac Surg 2019

UNITED STATES AORTIC RESEARCH CONSORTIUM

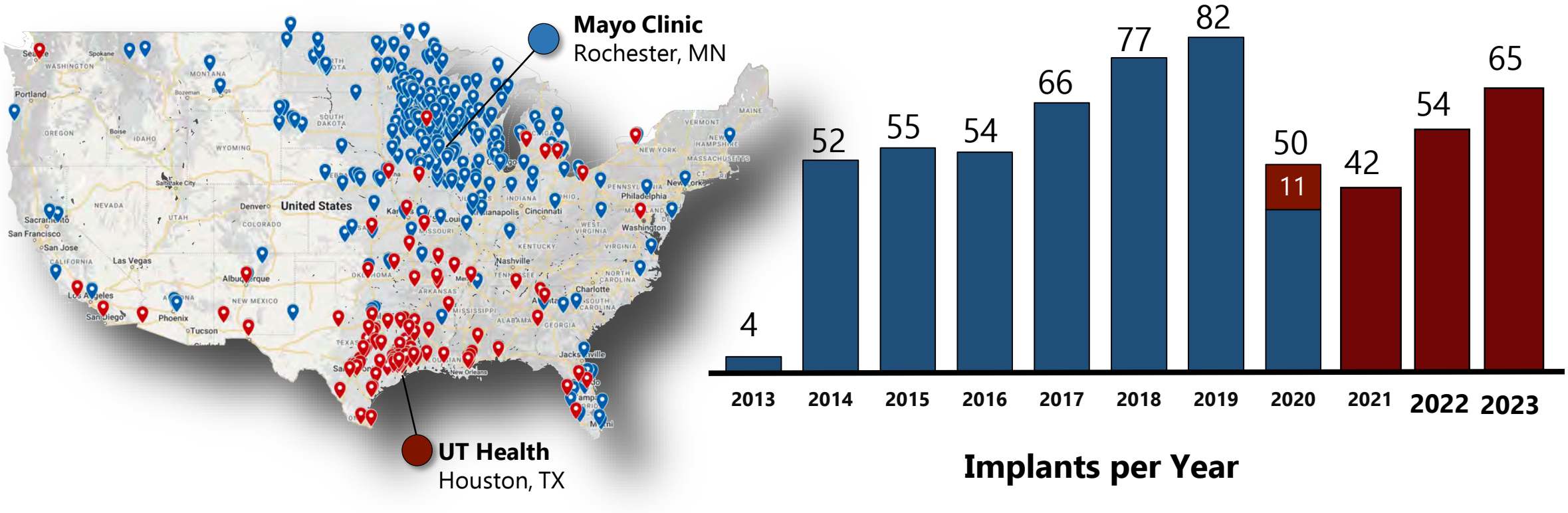




- Nine ongoing prospective, non-randomized IDE studies
- Event adjudication, internal monitoring and FDA reporting
- Data sharing agreement
- Digital encrypted database

PS-IDE patient enrollment

565 patients underwent FB-EVAR implantation



Patient characteristics

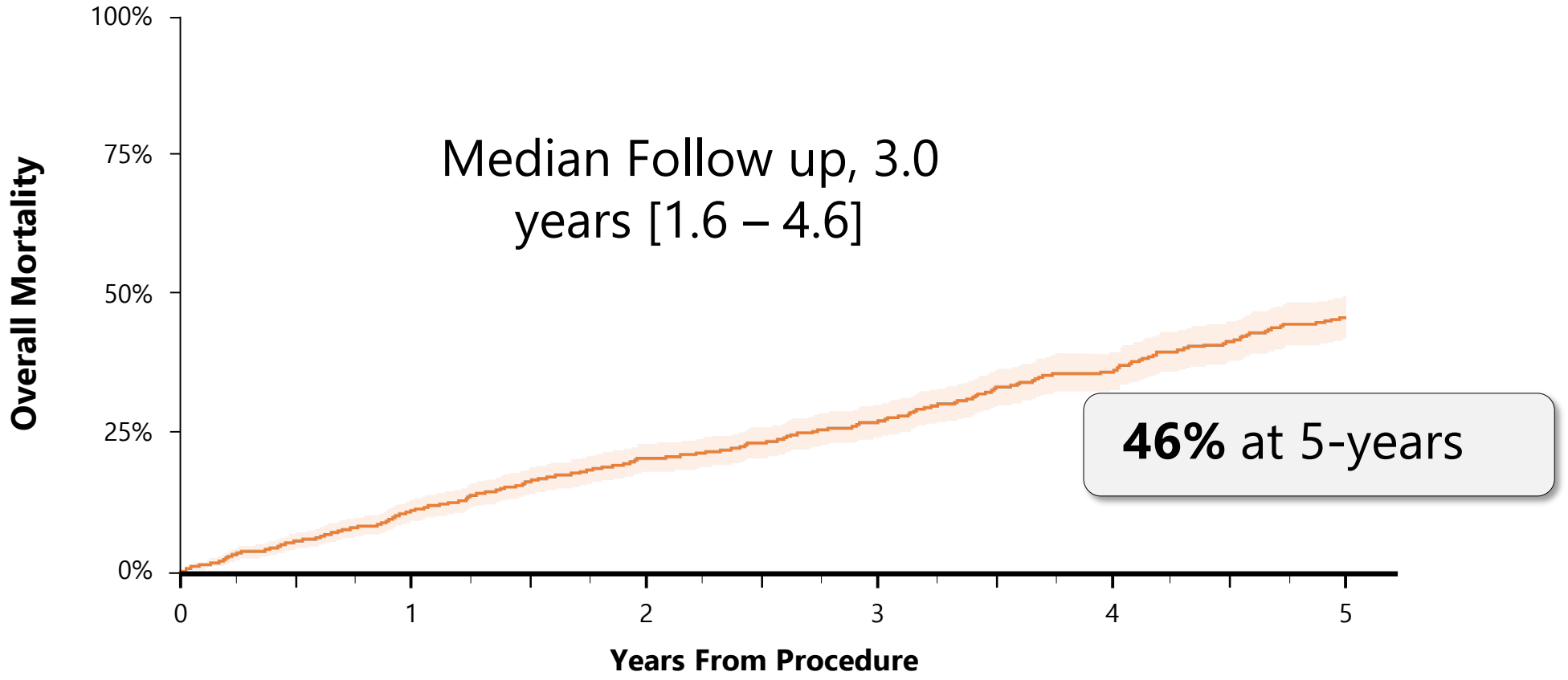
	All patients n = 629	IDE Mayo n = 475	UTHealth n = 154	P Value
Male sex	441 (70)	336 (71)	105 (68)	.55
Age (years, mean ± SD)	73 ± 9	**74 ± 8**	**71 ± 10**	**<.001**
Hypertension	570 (91)	**420 (88)**	**150 (97)**	**<.001**
Hyperlipidemia	483 (77)	373 (79)	110 (71)	.07
Tobacco use	466 (74)	**372 (78)**	**94 (61)**	**<.001**
Coronary artery disease	298 (47)	229 (48)	69 (45)	.46
CKD Stage III to V	277 (44)	217 (46)	60 (39)	.14
COPD	201 (32)	142 (30)	59 (38)	**.05**
Diabetes Mellitus	89 (14)	69 (15)	20 (13)	.63
ESRD (CKD Stage V)	11 (2)	**2 (0.4)**	**9 (6)**	**<.001**
ASA Class ≥ 3	391 (62)	**238 (50)**	**123 (80)**	**<.001**

EFFECTIVENESS OF FENESTRATED-BRANCHED ENDOVASCULAR AORTIC REPAIR TO PREVENT MORTALITY AND RUPTURE IN PATIENTS WITH THORACOABDOMINAL AORTIC ANEURYSMS

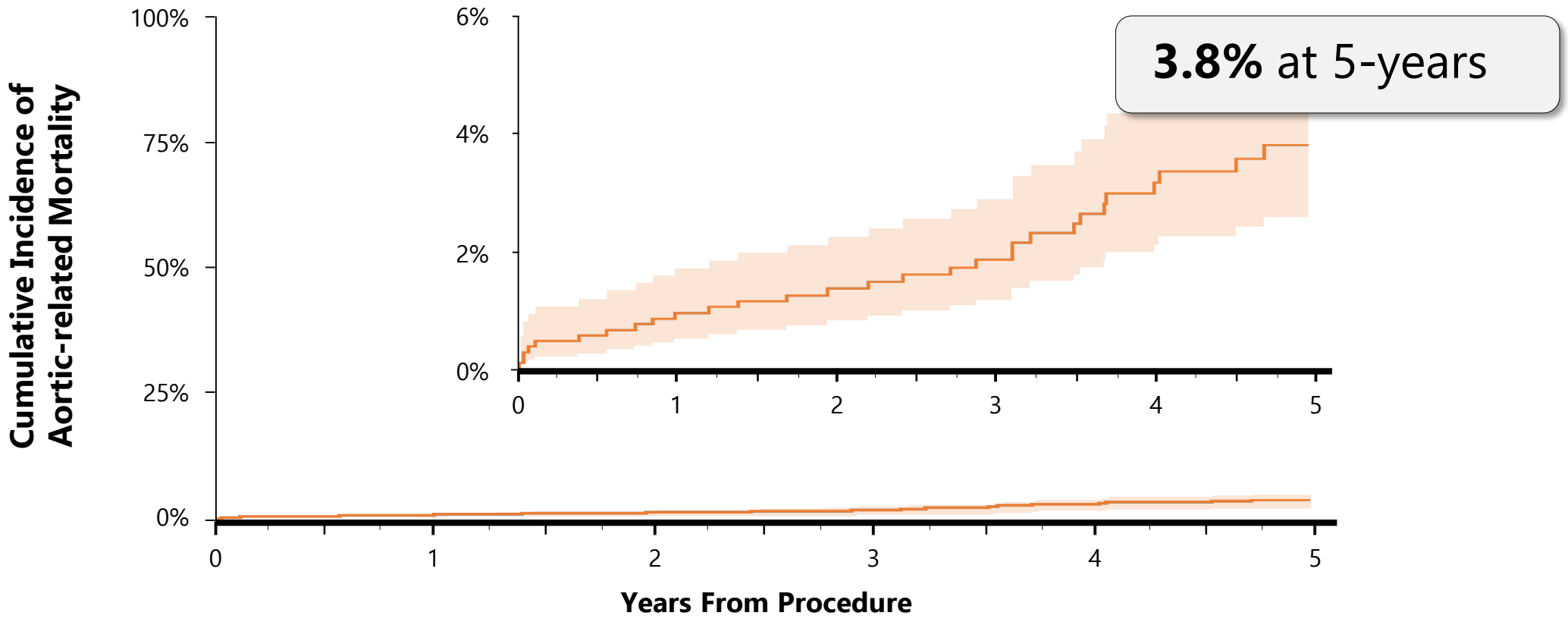
Gustavo S. Oderich MD, Ying Huang MD PhD, William Scott Harmsen, Emanuel R. Tenorio, Andres Schanzer, Carlos H. Timaran, Darren B. Schneider, Bernardo C. Mendes, Matthew J. Eagleton, Mark A. Farber, Warren J. Gasper, Adam W. Beck, Matthew P. Sweet, Anthony Lee

On Behalf of the United States Aortic Research Consortium

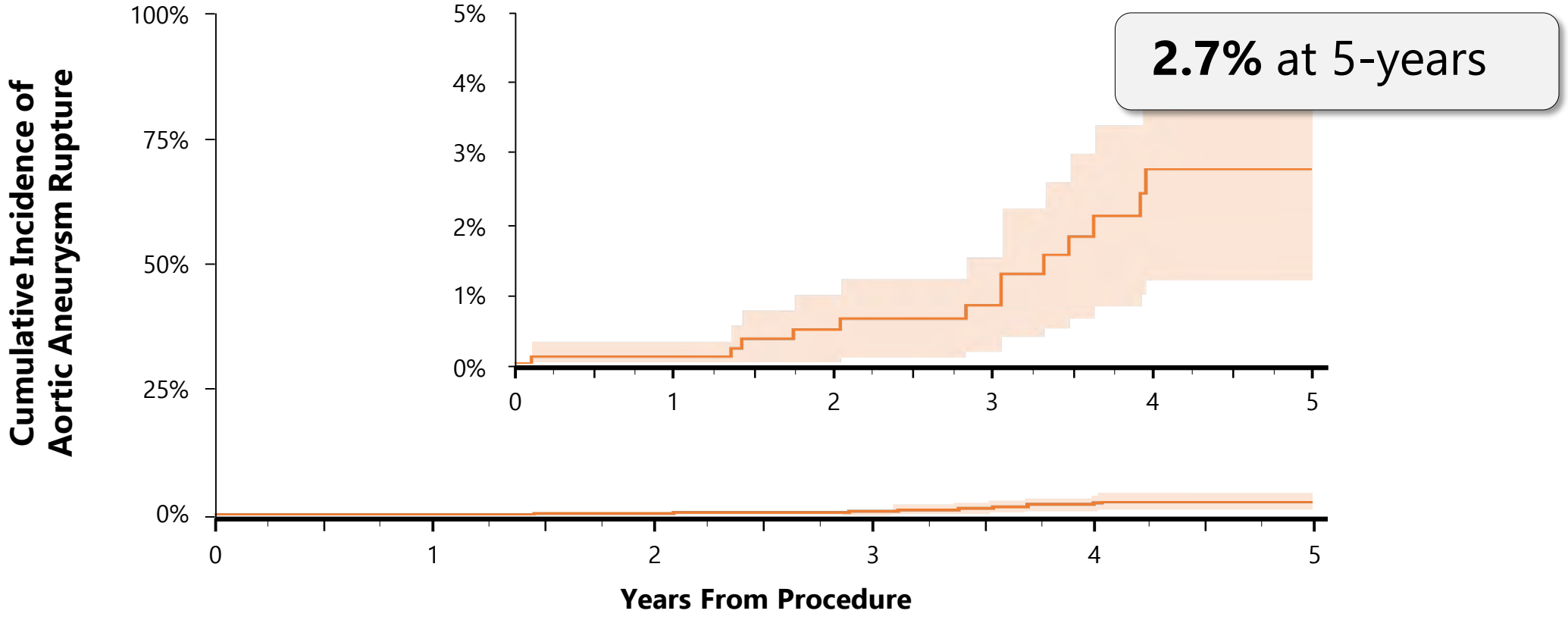
Submitted for publication (Circulation 2024)



Number at Risk	1072	904	724	523	346	162
Cumulative Incidence	0.0	11	21	27	36	46
95% CI	-	9.2 – 13	18 – 23	24 – 30	33 – 40	42 – 49



Number at Risk	1072	904	724	523	346	162
Cumulative Incidence	0.0	0.9	1.4	1.9	3.0	3.8
95% CI	-	0.5 – 1.7	0.8 – 2.2	1.1 – 2.9	2.0 – 4.3	2.6 – 5.4



Number at Risk	1062	874	689	478	306	135
Cumulative Incidence	0.0	0.1	0.5	0.8	2.1	2.7
95% CI	-	0.0 – 0.3	0.0 – 1.0	0.2 – 1.5	0.8 – 3.4	1.2 – 4.3

1,577 Extent I-III TAAAs…

From the Society for Vascular Surgery

Check for updates

Comparison of single- and multistage strategies during fenestrated-branched endovascular aortic repair of thoracoabdominal aortic aneurysms

Marina Dias-Neto, MD,[a] Emanuel R. Tenorio, MD,[a] Ying Huang, MD,[a] Tomasz Jakimowicz, MD,[b] Bernardo C. Mendes, MD,[c] Tilo Kölbel, MD,[d] Jonathan Sobocinski, MD,[e] Luca Bertoglio, MD,[f] Barend Mees, MD,[g] Mauro Gargiulo, MD,[h] Nuno Dias, MD,[i] Andres Schanzer, MD,[j] Warren Gasper, MD,[k] Adam W. Beck, MD,[l] Mark A. Farber, MD,[m] Kevin Mani, MD,[n] Carlos Timaran, MD,[o] Darren B. Schneider, MD,[p] Luis Mendes Pedro, MD,[q] Nikolaos Tsilimparis, MD,[r] Stéphan Haulon, MD,[s] Matt Sweet, MD,[t] Emília Ferreira, MD,[u] Matthew Eagleton, MD,[v] Kak Khee Yeung, MD,[w] Manar Khashram, MD,[x] Andrea Vacirca, MD,[a] Guilherme B. Lima, MD,[a] Aidin Baghbani-Oskouei, MD,[a] Katarzyna Jama, MD,[b] Giuseppe Panuccio, MD,[d] Fiona Rohlffs, MD,[d] Roberto Chiesa, MD,[f] Geert Willem Schurink, MD,[g] Charlotte Lemmens, MD,[g] Enrico Gallitto, MD,[h] Gianluca Faggioli, MD,[h] Angelos Karelis, MD,[i] Ezequiel Parodi, MD,[m] Vivian Gomes, MD,[m] Anders Wanhainen, MD,[n] Anastasia Dean, MD,[n] Jesus Porras Colon, MD,[o] Felipe Pavarino, MD,[o] Ryan Gouveia e Melo, MD,[q,r] Sean Crawford, MD,[s] Rita Garcia, MD,[u] Tiago Ribeiro, MD,[u] Kaj Olav Kappe, MD,[w] Samira Elize Mariko van Knippenberg, MD,[w] Bich Lan Tran, MD,[w] Sinead Gormley, MD,[x] *and* Gustavo S. Oderich, MD,[a] on behalf of the International Aortic Research Consortium, *Houston, TX; Warszawa, Poland; Rochester, MN; Hamburg, Germany; Lille, France; Milan, Italy; Maastricht, The Netherlands; Bologna, Italy; Malmö, Sweden; Worcester, MA; San Francisco, CA; Birmingham, AL; Chapel Hill, NC; Uppsala, Sweden; Dallas, TX; Philadelphia, PA; Lisbon, Portugal; Munich; Germany; Paris, France; Seattle, WA; Boston, MA; Amsterdam, The Netherlands; and Auckland, New Zealand*

Comparison of Staging Strategies During Fenestrated-Branched Endovascular Aortic Repair of Thoracoabdominal Aortic Aneurysms

Marina Dias-Neto, Tomasz Jakimowicz, Tilo Kolbel, Luca Bertoglio, Barend Mees, Andres Schanzer, Gasper Warren, Adam Beck, Mark A. Farber, Carlos Timaran, Bernardo Mendes and Gustavo S. Oderich,

on behalf of the Trans-Atlantic Aortic Research Consortium

SVS | 2022 Vascular Annual Meeting
JUNE 15-18, BOSTON MA

Department of Cardiothoracic & Vascular Surgery

- **Staged repair** was associated with **lower mortality** (4% v 7%), lower risk of **spinal cord injury** (10% v 15%), **permanent paraplegia** (3% v 8%) and **composite mortality/permanent paraplegia** (6% v 14%)
- Staged repair offered **higher patient survival and lower incidence of aortic-related mortality at 5-years**

Dias Neto M et al. J Vasc Surg 2023

893 patients…

CLINICAL RESEARCH STUDIES

Check for updates

Fenestrated-branched endovascular aortic repair is a safe and effective option for octogenarians in treating complex aortic aneurysm compared with nonoctogenarians

Fernando Motta, MD,[a] Gustavo S. Oderich, MD,[b] Emanuel R. Tenorio, MD, PhD,[b] Andres Schanzer, MD,[c] Carlos H. Timaran, MD,[d] Darren Schneider, MD,[e] Matthew P. Sweet, MD,[f] Adam W. Beck, MD,[g] Matthew J. Eagleton, MD,[h] *and* Mark A. Farber, MD,[a] on behalf of The United States Aortic Research Consortium, *Chapel Hill, NC; Rochester, Minn; Worcester and Boston, Mass; Dallas, Tex; New York, NY; Seattle, Wash; and Birmingham, Ala*

Conclusion

- FB-EVAR is safe and effective with **nearly identical outcomes in octagenarians** compared to non-octagenarians

Motta et al. J Vasc Surg 2020

Conclusion

- Open repair remains the first option for fit patients with connective tissue disorders and unsuitable anatomy
- FB-EVAR is associated with lower morbidity and mortality compared to open surgical repair, despite being used in older and higher risk patients
- FB-EVAR should be considered in patients with suitable anatomy and in centers with expertise
- Limitations of FB-EVAR continue to be access, regulatory approval, cost and need for surveillance

Thank You!

Department of
Cardiothoracic & Vascular Surgery

UTHealth Houston
McGovern Medical School

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