

2023 MID-ATLANTIC CONFERENCE
11th ANNUAL CURRENT CONCEPTS IN
VASCULAR THERAPIES

2023

Hilton Virginia Beach Oceanfront
Virginia Beach, Virginia

APRIL 20-22




CEPHALIC VEIN THROMBOSIS

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VASCULAR THERAPIES

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Where do I refer my
aneurysm? Who needs a
vascular surgeon and who
needs a dedicated aortic
center/MDC/Impact of high-
volume center on complex
aortas



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Eastern Virginia Medical School

Outline

Disclosures

Introduction

Definitions :complex aortas vs complicated aortas

Guidelines for aortic patient management

What happens to the patient I referred

Referrer's' dilemma

Multidisciplinary aortic clinic

Impact of high-volume aortic center

Role for regionalization of care

Conclusions

Disclosures

Consultant for W.L.Gore, Medtronic, Abbott Medical, LifeNet, Phillips

So what's up with the title

“Where do I refer my aneurysm? Who needs a vascular surgeon and who needs a dedicated aortic center/MDC/Impact of high-volume center on complex aortas”

... a little chaotic!

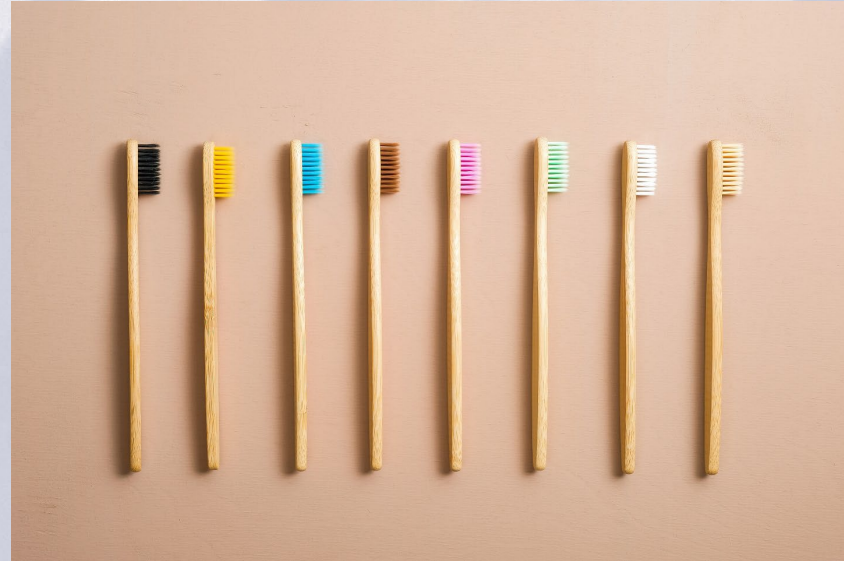


Complex aortas (many shades)

Involvement of multiple branches
(visceral or cerebrovascular) and/or
involvement of thoracic + abdominal
segment

Involvement of aorta above the renal
arteries

Ascending, arch, thoracic,
thoracoabdominal, visceral





Complicated aortas

Ruptured aorta

End-organ malperfusion (cerebrovascular, limb, spinal cord, visceral, renal)

Spectrum of complex pathologies: aortic dissection, intramural hematoma, penetrating aortic ulcer, mural thrombus, mycotic aortas, inflammatory aortic pathology, connective tissue disorders



What are the guidelines (AAA)

One time AAA US screening for men and women ages 65-75 with tobacco use history

Also check for concomitant aneurysm (popliteal) once diagnosed

Vascular surgery referral on diagnosis

Medical Mx, Smoking cessation

Surveillance (3 y for 3.0-3.9 cm, 12 m for 4.0-4.9 cm, 6 m for 5.0-5.4 cm)

Repair if >5.5 cm (5.0 for female), saccular (any size), rapid enlargement

High volume center (>10 per year, <5% mortality)

Postop surveillance



What are the guidelines (TAA)

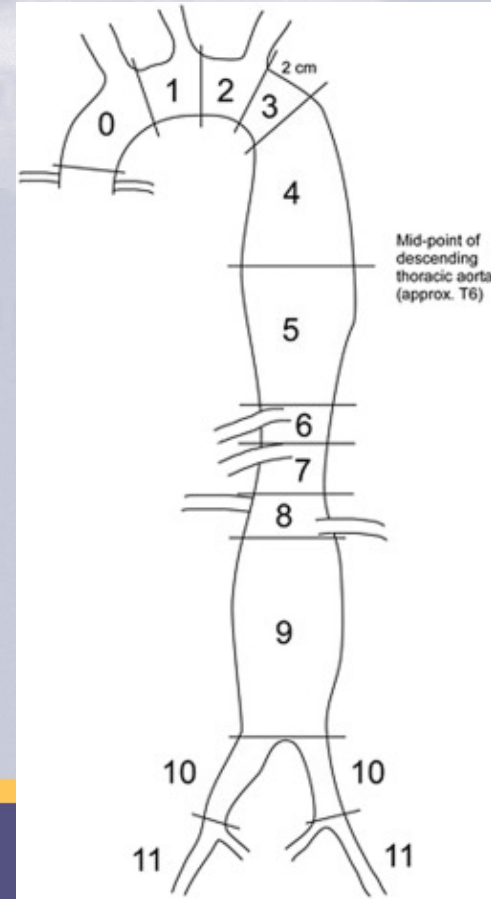
Aortic zones

Repair if 5.5 mm or larger, saccular, high risk anatomy

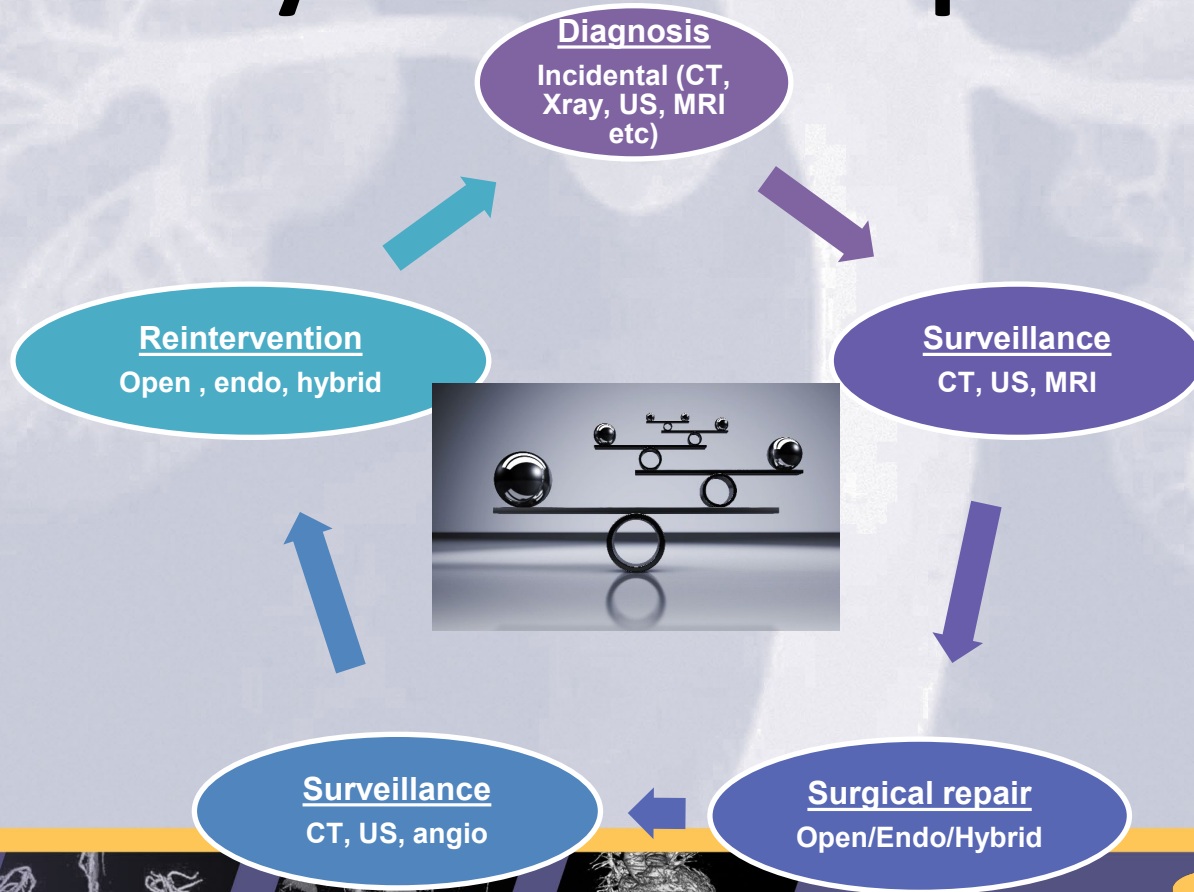
TEVAR is preferred

Increasing role for hybrid OR, on-table mapping softwares (CBCT, Overlay)

Spinal cord ischemia protocols, access conduit, left subclavian revascularization



Journey of an aortic patient



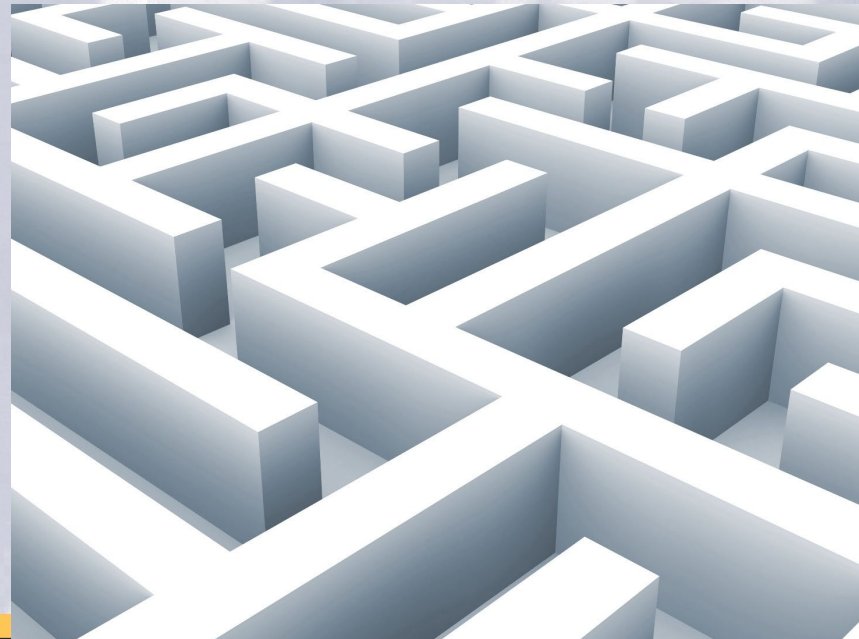
Referrers' dilemma

Vascular surgeon / Cardiac surgeon / Aortic surgeon ???

Community vs university hospital

Single specialty vs multispecialty group

General surgeon?



Multidisciplinary aortic team

Recommendations for Multidisciplinary Aortic Teams

COR	LOE	Recommendations
1	C-EO	1. For patients with acute aortic disease that requires urgent repair, a multidisciplinary team should determine the most suitable intervention.
2a	C-LD	2. For patients who are asymptomatic with extensive aortic disease, or who may benefit from complex open and endovascular aortic repairs, or with multiple comorbidities for whom intervention is considered, referral to a high-volume center (performing at least 30-40 aortic procedures annually) with experienced surgeons in a Multidisciplinary Aortic Team is reasonable to optimize treatment outcomes. ¹⁻⁶

2022 ACC/AHA guidelines for diagnosis and management of aortic disease

Includes vascular su

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Aortic case confere

High volume center, a new buzzword?



high volume center



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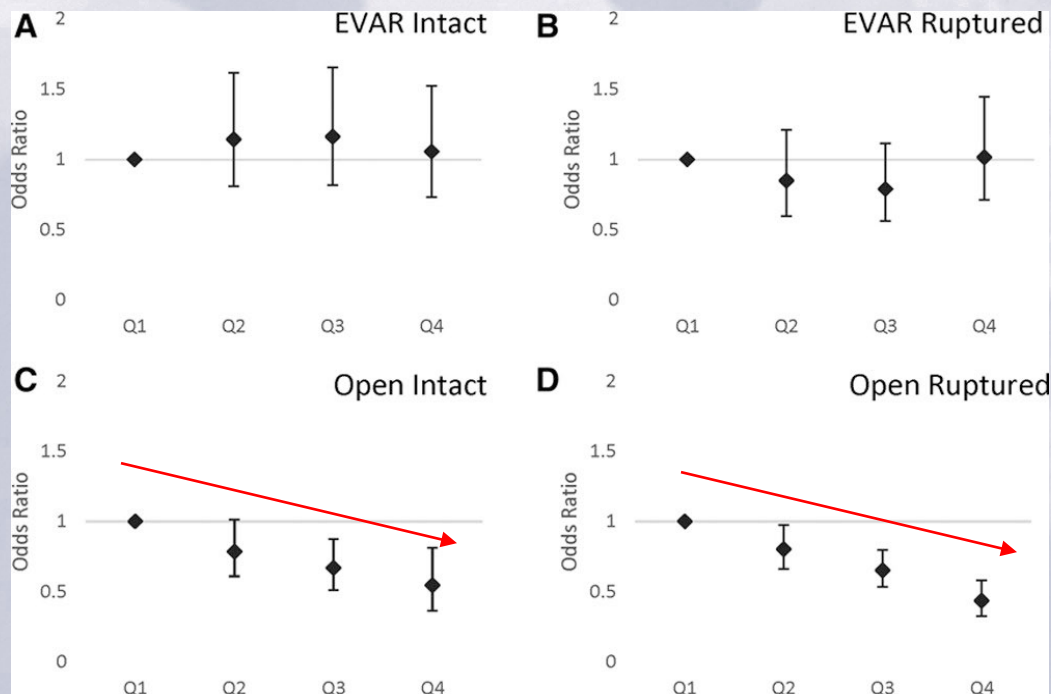
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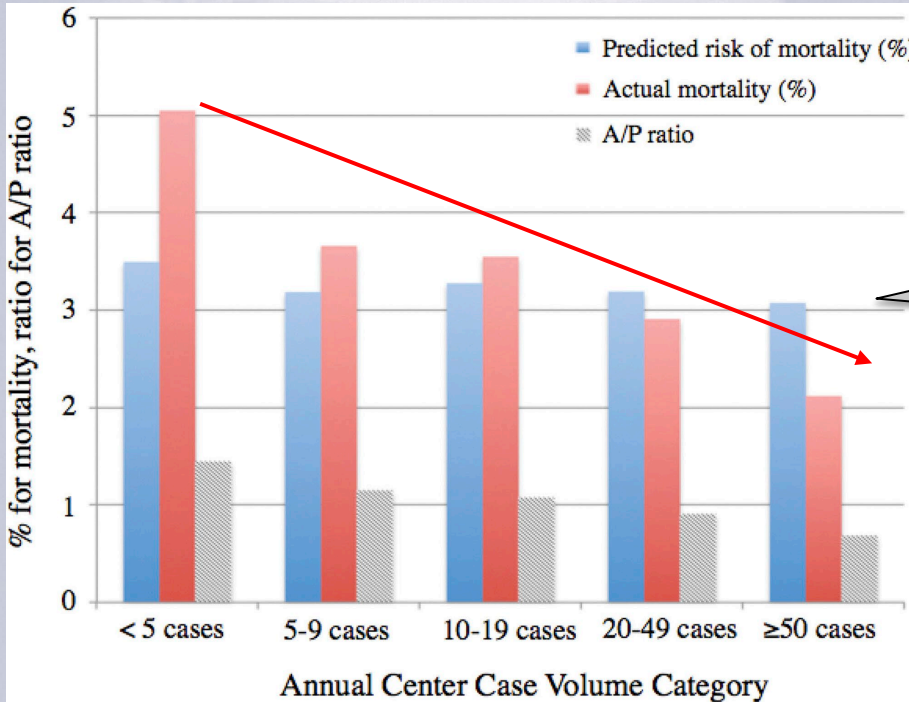
High volume aortic center

≥ 10 (per hospital) and
≥ 7 (per surgeon) open
abdominal aortic
aneurysm per year*



Salvatore T. Scali. Circulation. Hospital Volume Association With
Abdominal Aortic Aneurysm Repair Mortality, Volume: 140, Issue:
15, Pages: 1285-1287, DOI:
(10.1161/CIRCULATIONAHA.119.042504)

High volume center



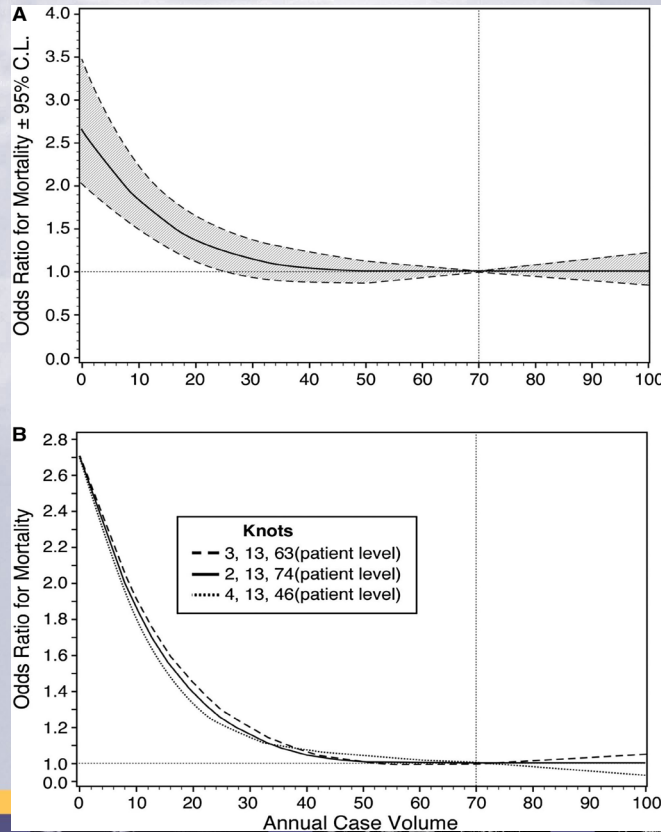
2022 ACC/AHA
Improved
outcomes with
increased annual
center case
volume

Eric M. Isselbacher. Circulation. 2022 ACC/AHA Guideline for the Diagnosis and Management of Aortic Disease: A Report of the American Heart Association/American College of Cardiology Joint Committee on Clinical Practice Guidelines, Volume: 146, Issue: 24, Pages: e334-e482, DOI: (10.1161/CIR.0000000000001106)



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High volume center

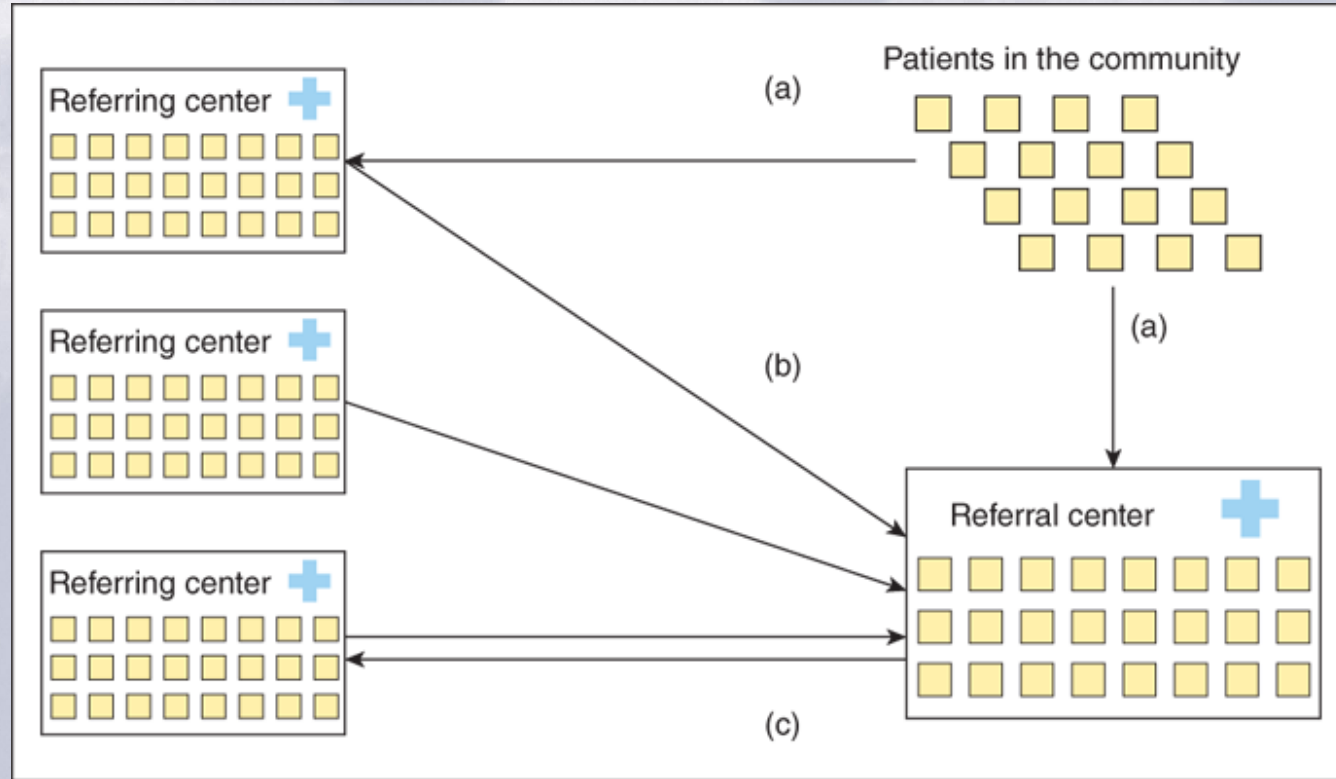


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Guideline for the Diagnosis and Management of Aortic
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Committee on Clinical Practice Guidelines,

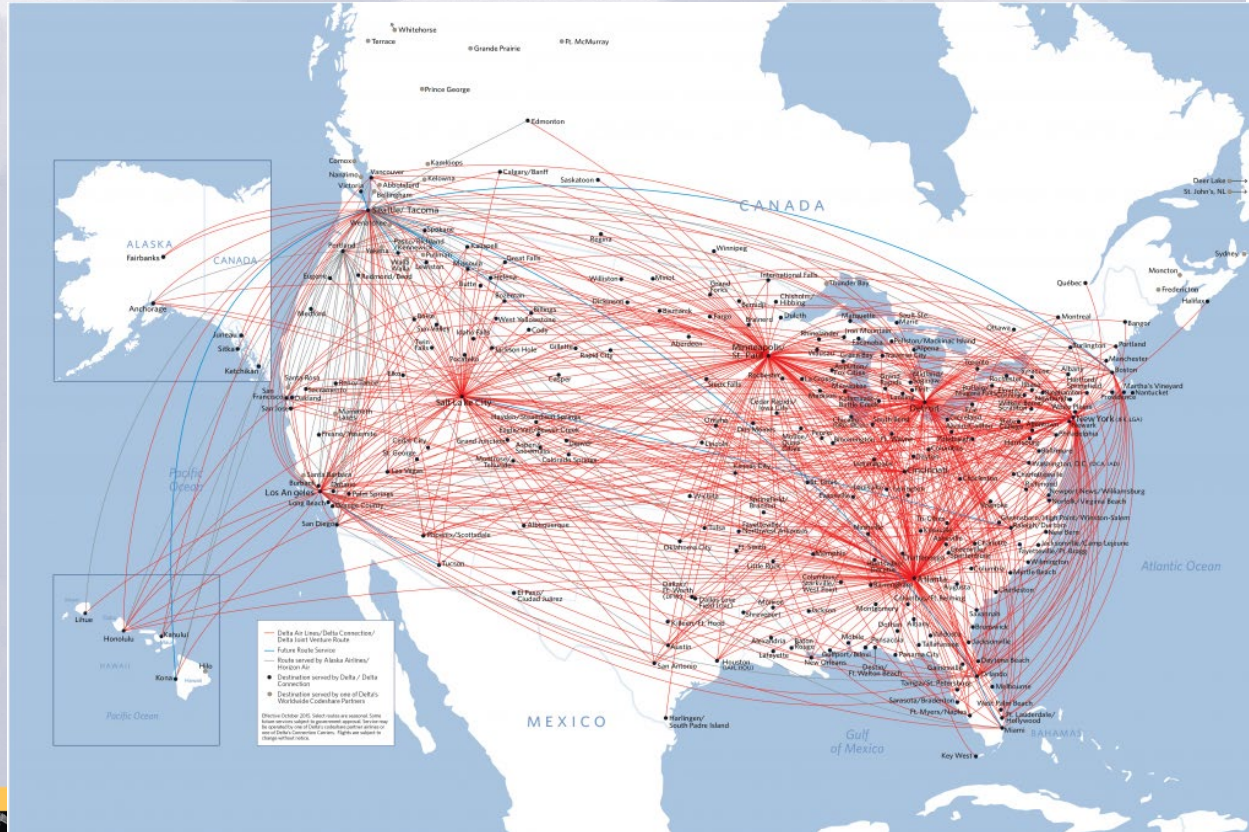
Regionalization of healthcare

- ✓ Regionalization of healthcare: shifting of care to designated centers within a certain system or region
- ✓ Hub and spoke model



Are we reinventing the wheel?

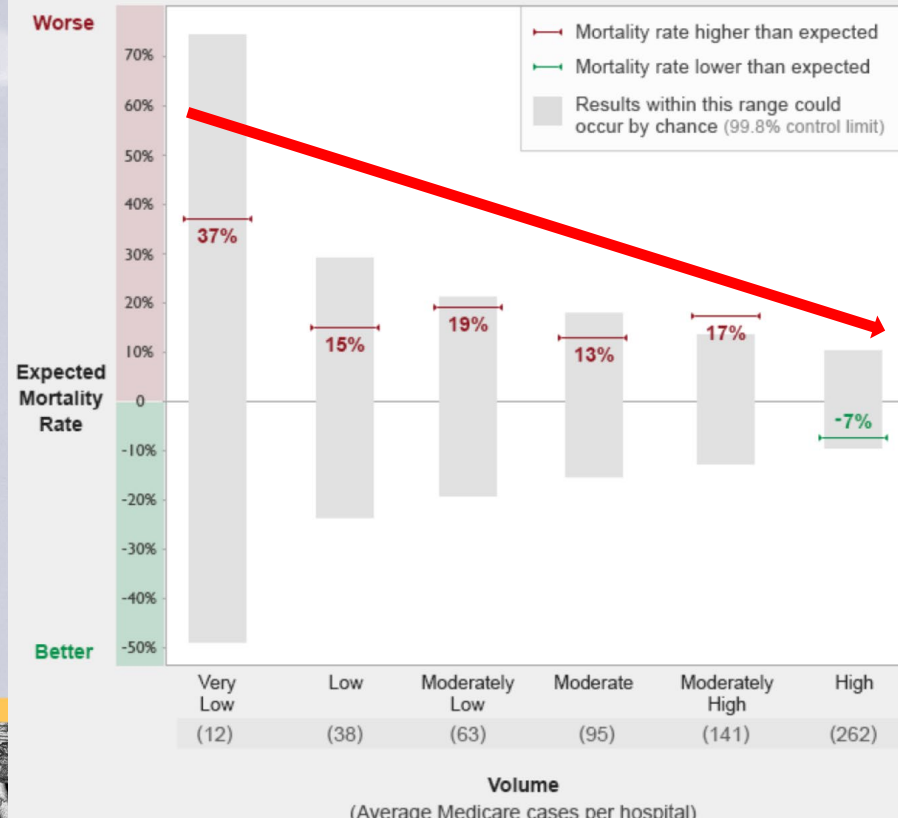
- Aviation industry
- Amazon, Target
- Other medical specialties



What about a low volume center

- 11000 hospital deaths could be prevented between 2010-2012 if patients from the lowest 5th volume center were treated at the highest 5th centers

More Cases, Fewer Deaths: Heart Bypass Surgery



Home / News

Risks Are High at Low-Volume Hospitals

Patients at thousands of hospitals face greater risks from common operations, simply because the surgical teams don't have enough practice.

By [Steve Sternberg](#) and [Geoff Dougherty](#) | May 18, 2015, at 12:01 a.m.

Why regionalize/MDC?

Improved outcomes (mortality, length of stay, hospital complications)

Decreased cost of care

Improved efficiency

Enhancing team skill (MDs, RNs, other staff)

Better healthcare coverage?

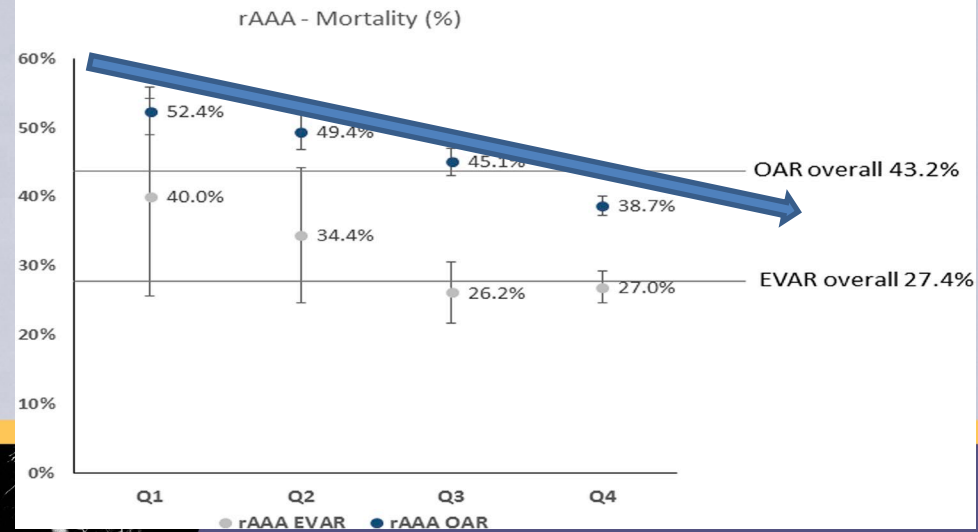
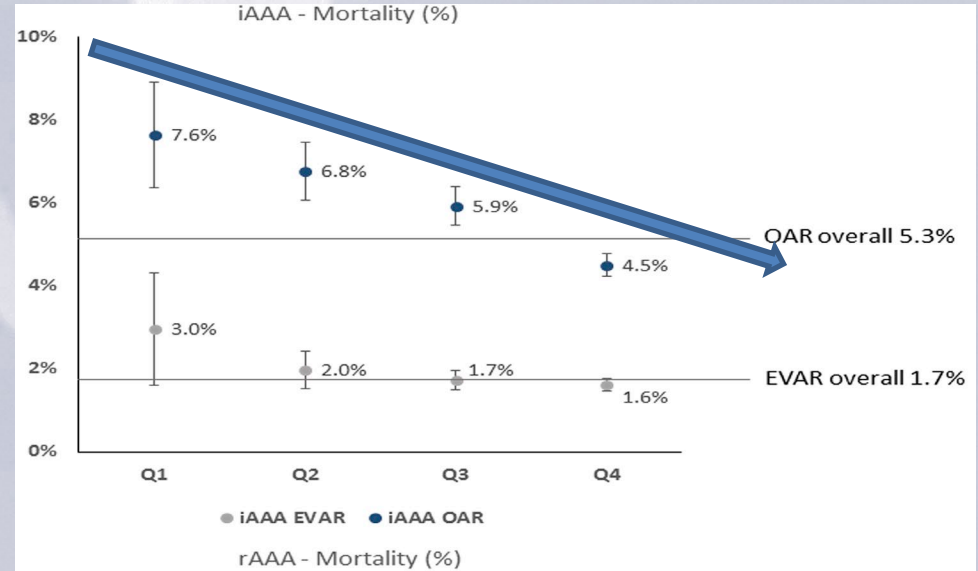
Education and research



Why regionalize/MDC?

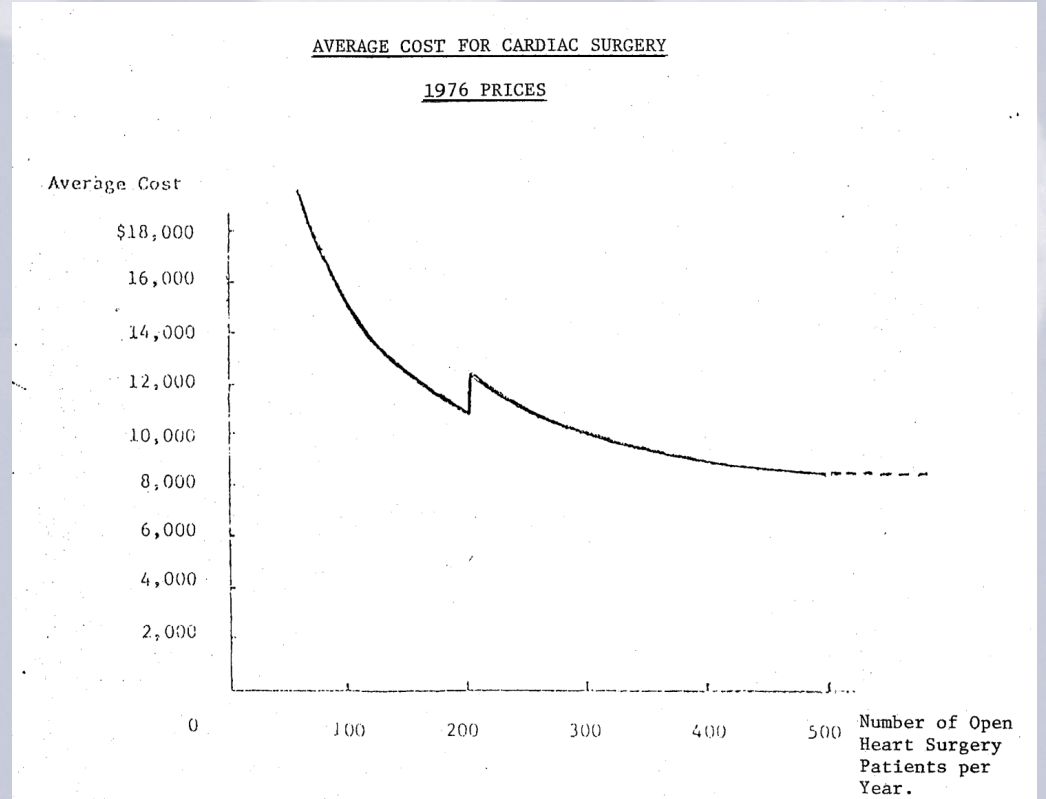
Mortality: rAAA and iAAA mortality (HR 1.73, 1.61) Q1 vs Q4

Secondary outcomes: ICU stay, amputation, blood transfusion, bowel resection
Q1 <5, Q4 > 30



Why regionalize/MDC?

Cost of care: decreased construction, training, equipment



Why regionalize/MDC?

- Resident/Fellow training for open aortic surgery

Number of Trainees



>20

Figure 1.—Example of a failed aortic anastomosis.

Why regionalize

- Quality of care
- Training and research

Comparative Study > J Vasc Surg. 2021 Mar;73(3):889-895. doi: 10.1016/j.jvs.2020.06.125. Epub 2020 Jul 23.

Declining institutional mortality for juxtarenal aortic aneurysm repair

Anna Kinio¹, Tim Ramsay², Prasad J

Affiliations + expand

PMID: 32712346 DOI: 10.1016/j.j

Abstract

Objective: Since its introduction, the treatment of abdominal aortic aneurysms (AAA) has evolved. The objective of this study was to evaluate the impact of endovascular repair (EVAR) on mortality. We hypothesized that the widespread use of EVAR led to a reduction in perioperative mortality.

Methods: A retrospective cohort study comparing 100 consecutive juxtarenal AAA (<1-cm neck) open repair (OR) patients and 53 consecutive juxtarenal AAA controls (2005-2007) at The Ohio State University. We hypothesized that there would be a change in

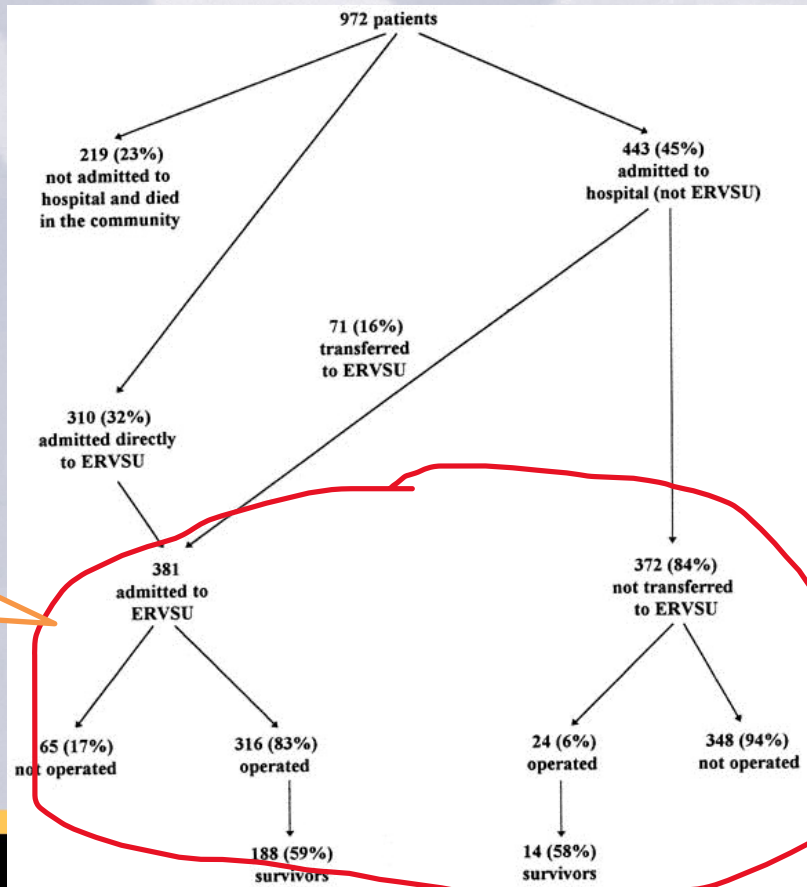
Compared open juxtarenal AAA repair outcomes from 2005-2007 to 2014-2017

- 61% less surgeries
- Higher OR time, anesthesia time
- Higher complications/death

But wait!

Only regional patients make it to regional hospital

No survival advantage to transfer with rAAA to a high volume center



[Community and hospital outcome from ruptured abdominal aortic aneurysm within the catchment area of a regional vascular surgical service - Journal of Vascular Surgery \(ivasc.org\)](http://ivasc.org)

Not without its own price!

Patient preference for local hospital

“Distance decay”

Knowledge and technology gap
among hospitals

Income loss for smaller community
hospitals/practices

Pandemic lessons!



How to get it right?

- Repair and transfer?
- Bidirectional hub and spoke
- Enhanced outreach and community education



MDC @ Sentara

Aortic alert process

Treatment protocols

Multidisciplinary conference and clinic

Advanced tech

Dedicated team (MDs, RNs, Techs, ICU)

Education, research, outreach



Conclusions

Aortic disease include a wide spectrum of conditions

Management is complex and involves multiple players

Multidisciplinary team approach is imperative for complex aortic disease management

High volume centers have better overall outcomes, but a bidirectional flow of skills and knowledge is likely the predictor for success

Overview of MDC at Sentara





Questions?

