

Evolving Valve Management Strategies Roundtable 2016

**Is it time to formalize the
concept of an Advanced
Valve Center?**

Advanced Valve Center Multi-society writing committee (AATS,ACC,ASE,SCAI,STS)

Multi-society (AATS, ACC, ASE, SCAI and STS) Writing Committee: Advanced Valve Centers

WRITING COMMITTEE ROSTER

Writing Committee Chairs	Society	Title	Institution
Rick A. Nishimura, MD <i>Chair</i>	ACC	Judd and Mary Morris Leighton Professor of Medicine	Mayo Clinic
Writing Committee Members	Society	Title	Institution
Thoralf M. Sundt, MD	AATS	President, AATS Chief, Division of Cardiac Surgery	Massachusetts General Hospital
John D. Carroll, MD	ACC	Professor of Medicine	University of Colorado Denver
Michael J. Mack, MD	ACC	Medical Director, Cardiovascular Surgery	The Heart Hospital Baylor Plano
Laura Mauri, MD	ACC	Professor, Harvard Medical School	Brigham and Women's Hospital
William R. Miranda, MD	ACC	Fellow in Training	Mayo Clinic
Patrick O'Gara, MD	ACC	Director, Clinical Cardiology Professor, Harvard Medical School	Brigham and Women's Hospital
Stephen H. Little, MD	ASE	Associate Professor	Houston Methodist
Clifford J. Kavinsky, MD, PhD	SCAI	Professor of Medicine	Rush University Medical Center
Joseph E. Bavaria, MD	STS	President, STS Director, Thoracic Aortic Surgery	Hospital of the University of Pennsylvania

Why

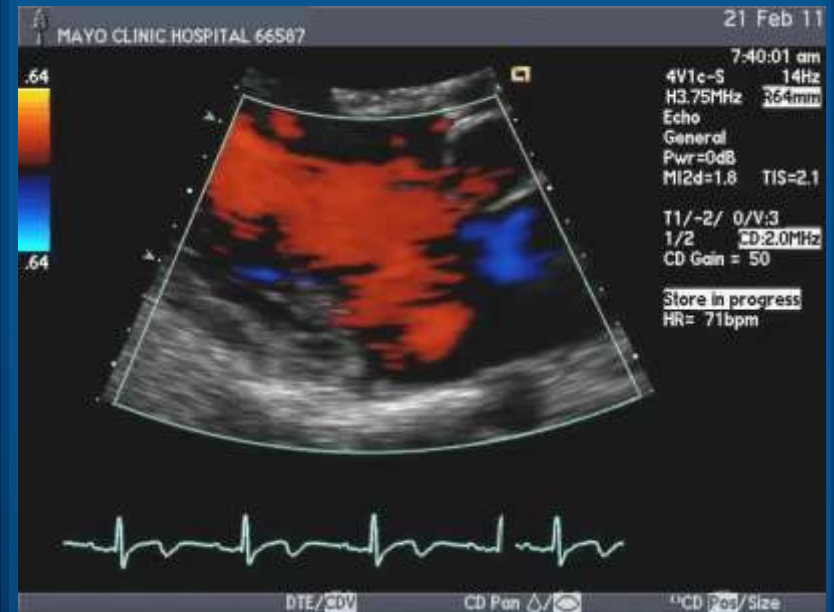
What

**Advanced
Valve Center**

Evaluate

Implications

44 y/o woman : asymptomatic



LVEDD 55
LVESD 35

Guidelines for the Management of Patients With Valvular Heart Disease: Executive Summary A Report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines (Committee on Management of Patients With Valvular Heart Disease)

Robert O. Bonow, Blase Carabello, Antonio C. de Leon, Jr, L. Henry Edmunds, Jr, Bradley J. Fedderly, Michael D. Freed, William H. Gaasch, Charles R. McKay, Rick A. Nishimura, Patrick T. O'Gara, Robert A. O'Rourke, Shahbudin H. Rahimtoola, James L. Ritchie, Melvin D. Cheitlin, Kim A. Eagle, Timothy J. Gardner, Arthur Garson, Jr, Raymond J. Gibbons, Richard O. Russell, Thomas J. Ryan and Sidney C. Smith, Jr

1998



3. Asymptomatic Patients With Normal Left Ventricular Function. Repair of a severely regurgitant valve may be contemplated in an asymptomatic patient with normal LV function to preserve LV size and function and prevent the sequelae of chronic MR. Although there are no data with which to recommend this approach to all patients, the committee recognizes that some experienced centers are moving in this direction when there is a high likelihood of successful repair. This approach is often recommended in

ACC/AHA PRACTICE GUIDELINES

ACC/AHA 2006 Guidelines for the Management of Patients With Valvular Heart Disease

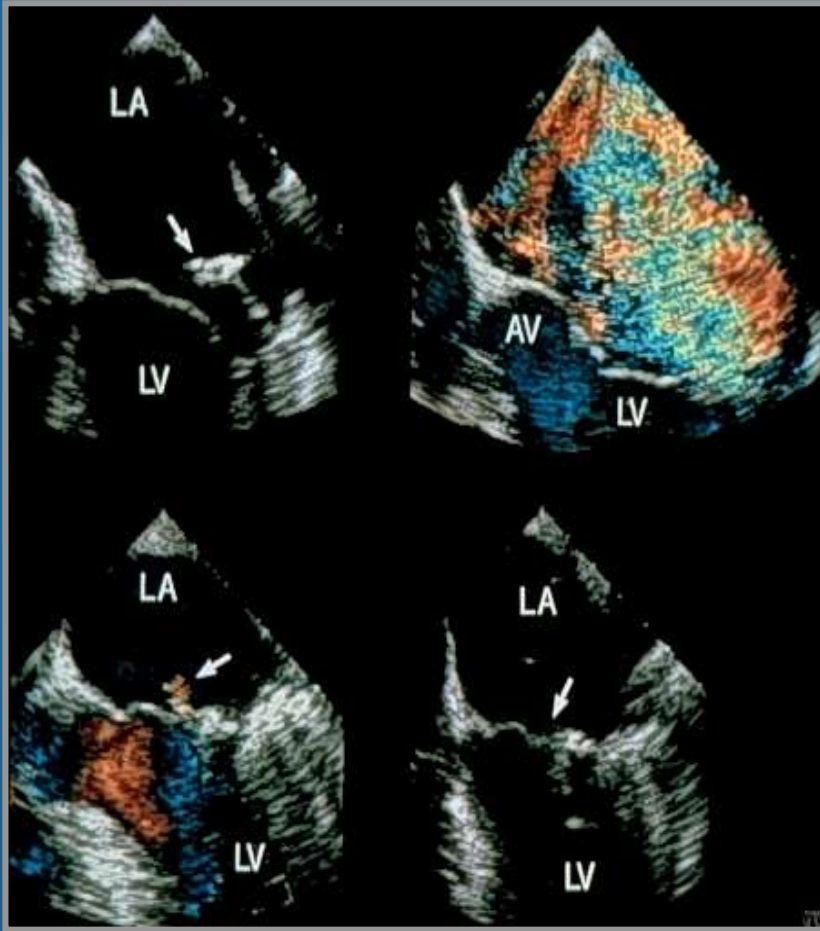
A Report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines (Writing Committee to Revise the 1998 Guidelines for the Management of Patients With Valvular Heart Disease)

*Developed in Collaboration With the Society of Cardiovascular Anesthesiologists
Endorsed by the Society for Cardiovascular Angiography and Interventions and
the Society of Thoracic Surgeons*

Class IIa

1. MV repair is reasonable in experienced surgical centers for asymptomatic patients with chronic severe MR* with preserved LV function (ejection fraction greater than 0.60 and end-systolic dimension less than 40 mm) in whom the likelihood of successful repair without residual MR is greater than 90%.
(Level of Evidence: B)

Mitral repair versus replacement



Lower operative risk

Fewer operative complications

Better long term outcome

Best for the patient

Early Surgical Intervention for Mitral Regurgitation Due to Flail Leaflets



Research

Original Investigation

Association Between Early Surgical Intervention vs Watchful Waiting and Outcomes for Mitral Regurgitation Due to Flail Mitral Valve Leaflets

Rakesh M. Suri, MD, DPhil; Jean-Louis Vanoverschelde, MD; Francesco Grigioni, MD, PhD; Hartzell V. Schaff, MD; Christophe Tribouilloy, MD; Jean-Francois Avierinos, MD; Andrea Barbieri, MD; Agnes Pasquet, MD; Marianne Huebner, PhD; Dan Rusinaru, MD; Antonio Russo, MD; Hector I. Michelena, MD; Maurice Enriquez-Sarano, MD

15 20

126 42
41 10

Suri: JAMA 310:609, 2013

2014 AHA/ACC Guideline for the Management of Patients With Valvular Heart Disease

A Report of the American College of Cardiology/American Heart Association Task



Class IIa

1. Mitral valve repair is reasonable in asymptomatic patients with chronic severe primary MR (stage C1) with preserved LV function (LVEF >60% and LVESD <40 mm) in whom the likelihood of a successful and durable repair without residual MR is greater than 95% with an expected mortality less than 1% when performed at a Heart Valve Center of Excellence (39, 8)



**Went home
Had mechanical
MVR**

**Returns with
thrombosed valve**



Surgical Repair of Posterior Mitral Valve Prolapse: Implications for Guidelines and Percutaneous Repair

Johnston DR et al. *Ann Thorac Surg* 2010;89:1385–94)

Douglas R. Johnston, MD, A. Marc Gillinov, MD, Eugene H. Blackstone, MD, Brian Griffin, MD, William Stewart, MD, Joseph F. Sabik III, MD, Tomislav Mihaljevic, MD, Lars G. Svensson, MD, PhD, Penny L. Houghtaling, MS, and Bruce W. Lytle, MD

Department of

3,383 patients with primary MR between 1985 and 2008

Repair rate 97%

Operative Mortality 0.07%

Background

mitral regurgitation (MR) with degenerative disease are not referred for surgery or undergo replacement rather than repair. Data document-

ing early posterior to broad direction vides dat repair of Method isolated

in 97%; 3,874 underwent standard quadrangul with annuloplasty. Follow-up for survival at 4.5 years and for reoperation, 4.0 ± 3.9 years. 4,913 echocardiograms for recurrent MR was in a subgroup of 2,575 patients.

mitral reoperation was 97%, and 77% had no or 1+ MR; 11% had 3+ or 4+ MR. Repair durability was jeopard-

ing early posterior to broad direction vides dat repair of Method isolated

in 97%; 3,874 underwent standard quadrangul with annuloplasty. Follow-up for survival at 4.5 years and for reoperation, 4.0 ± 3.9 years. 4,913 echocardiograms for recurrent MR was in a subgroup of 2,575 patients.

in 97%; 3,874 underwent standard quadrangul with annuloplasty. Follow-up for survival at 4.5 years and for reoperation, 4.0 ± 3.9 years. 4,913 echocardiograms for recurrent MR was in a subgroup of 2,575 patients.

A near 100% repair rate for a reference center: Implications

Javier G. Castillo, MD, Anelechi C. Anyi, MD, and Jose L. Castillo et al. *J Thorac Cardiovasc Surg* 2013;146:751-7

Background: Although mitral valve repair is recommended for degenerative etiology, valve replacement is still the standard of care.

744 patients

MR between 2002 and 2010

Repair rate 99.9%

leaflet or chordal calcification was present in 27% of cases.

Results: All patients underwent mitral valve repair and received a concomitant annuloplasty with a median ring

0.6%. The estimate of patients with <3+ mitral regurgitation at 4 and 7 years was 98% and 96%, respectively, and 95% and 91%, respectively, for <2+ mitral regurgitation.

Conclusions: A systematic strategy of mitral valve repair that uses a variety of techniques allows repair of all degenerative valves in a reference center, with good short-term outcomes and mid-term durability. Further study is required to document the long-term efficacy of an “all comers” mitral valve repair strategy in degenerative subgroups with very complex valve morphology. (*J Thorac Cardiovasc Surg* 2012;144:308-12)

A “Repair-All” Strategy for Degenerative Mitral Valve Disease Safely Minimizes Unnecessary Replacement

Goldstone AB et al. *Ann Thorac Surg* 2015;99:1983–91)

Andrew B. Goldstone, MD, Jeffrey E. Cohen, MD, Jessica L. Howard, BS, Bryan B. Edwards, BE, Alexandra L. Acker, BS, William Hiesinger, MD, John W. MacArthur, Jr, MD, Pavan Atluri, MD, and Y. Joseph Woo, MD

Department of Cardiothoracic Surgery, Stanford University School of Medicine, Stanford, California; and Division of Cardiovascular Surgery, Department of Surgery, Perelman School of Medicine, University of Pennsylvania, Philadelphia, Pennsylvania

Background

of a “repair-all” strategy for degenerative mitral valve disease

Method

derwent mitral operations at our institution. Analysis was limited to 525 consecutive patients with mitral regurgitation due to leaflet prolapse (posterior, 75%; anterior, 5%;

bilaminar, 1%; and a right m

525 consecutive patients with MR between 2002 and 2011

Repair rate 99%

After discharge, the survival trend did not differ between patients who did and did not require intra-

bilaminar, 1%; and a right m

bilaminar, 1%; and a right m

prolapse, need for repair revision, or surgical approach.

After discharge, the survival trend did not differ between patients who did and did not require intra-

bilaminar, 1%; and a right m

bilaminar, 1%; and a right m

bilaminar, 1%; and a right m

bilaminar, 1%; and a right m

bilaminar, 1%; and a right m

bilaminar, 1%; and a right m

bilaminar, 1%; and a right m

bilaminar, 1%; and a right m

bilaminar, 1%; and a right m

bilaminar, 1%; and a right m

bilaminar, 1%; and a right m

bilaminar, 1%; and a right m

bilaminar, 1%; and a right m

bilaminar, 1%; and a right m

bilaminar, 1%; and a right m

bilaminar, 1%; and a right m

bilaminar, 1%; and a right m

bilaminar, 1%; and a right m

bilaminar, 1%; and a right m

bilaminar, 1%; and a right m

bilaminar, 1%; and a right m

bilaminar, 1%; and a right m

bilaminar, 1%; and a right m

bilaminar, 1%; and a right m

bilaminar, 1%; and a right m

642 patients with degenerative MR between 2006 and 2012

and bilaminar (n=72, 8.6%) prolapses were operated on using a minimally invasive approach.

Results: 836 patients had a valve repair (99.3%) and received a concomitant ring annuloplasty (mean size,

short-term outcomes in a tertiary referral center, where using proven and efficient surgical techniques.

Keywords: Heart valve, mitral valve repair, mitral valve, valve disease, surgery, minimally invasive.

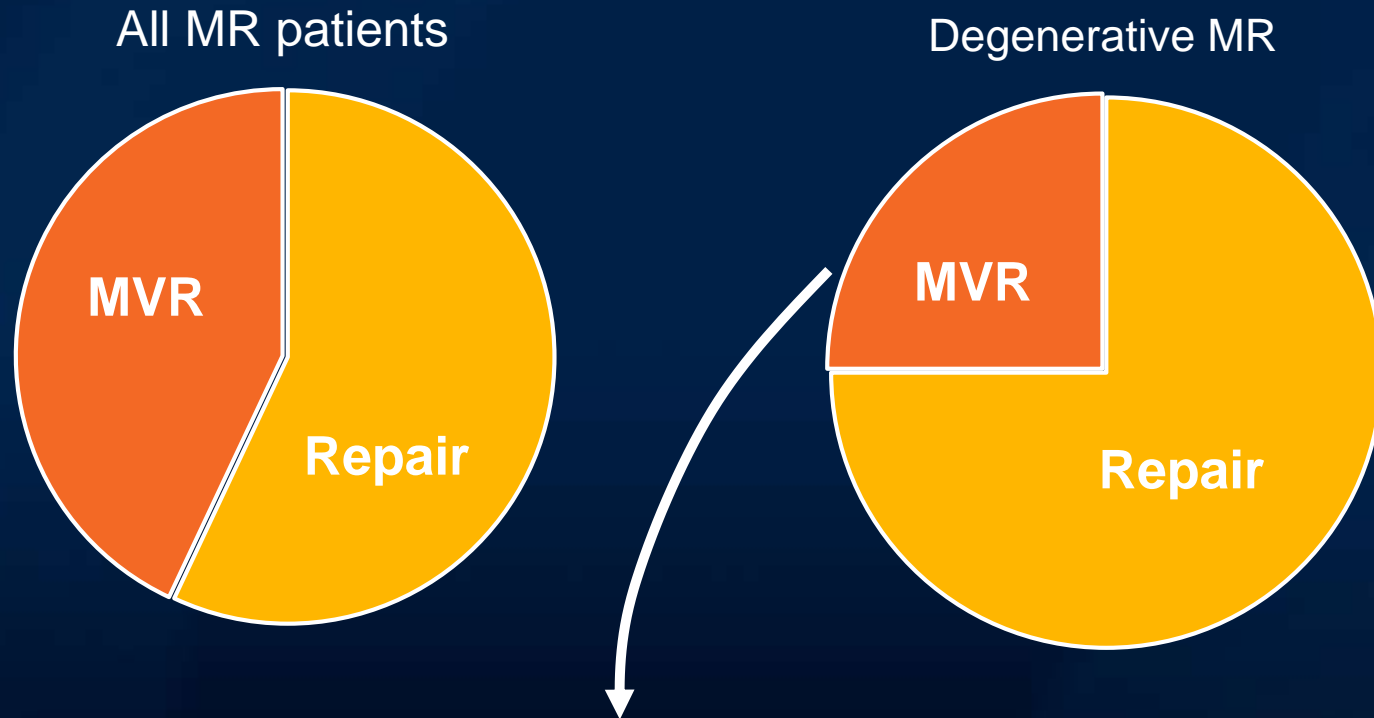


Submitted Oct 04, 2013; Accepted for publication Oct 25, 2013

doi:10.1097/AT.1000000000000000

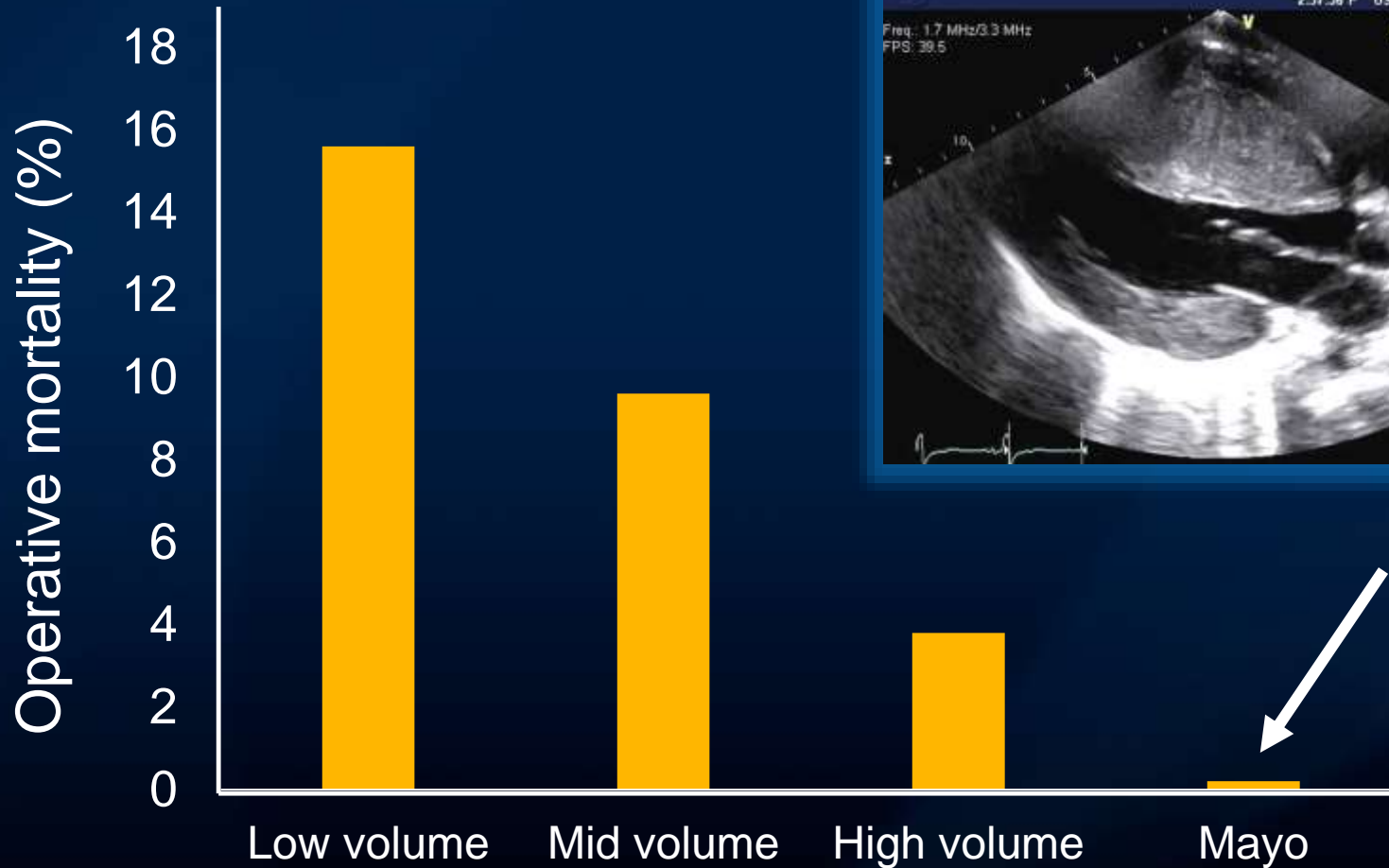
Scan to your mobile device or view this article at: <http://www.annals.org/abstract/2014/01/01>

2011-2014: STS database



8000 patients with degenerative MR had mitral valve replacement

Septal Myectomy for HCM



**Aging
population**

**Increased
awareness**

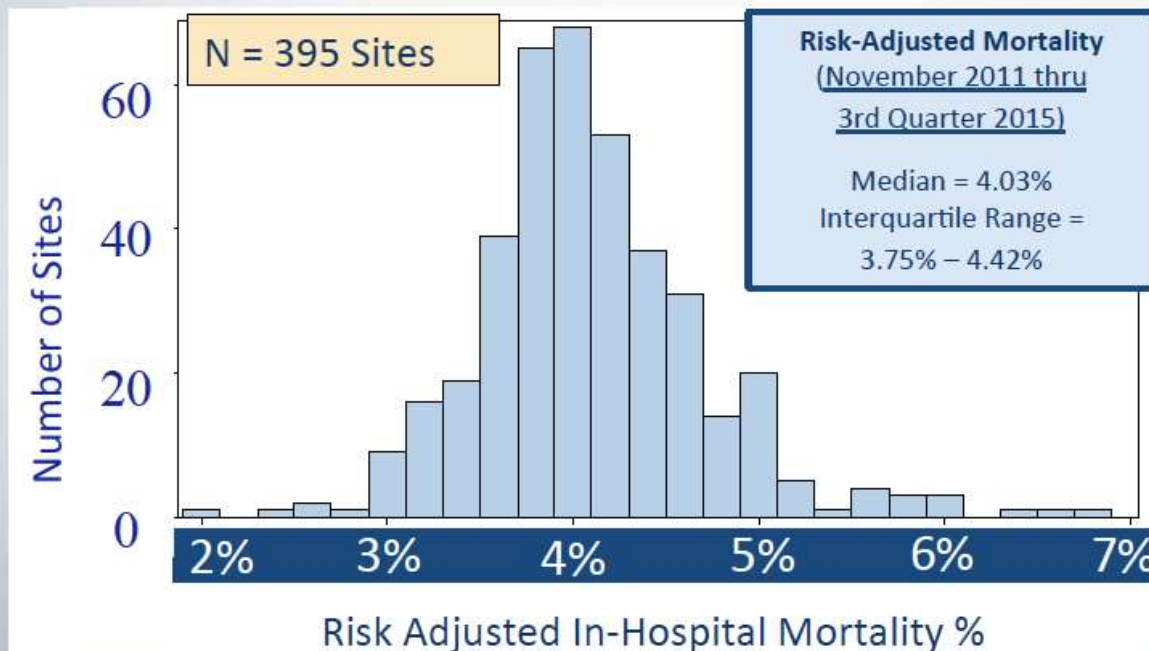
**Structural Heart Disease
Growing Volumes**

**Better outcomes
surgery**

**Catheter based
interventions**

Dr. Carroll will be discussing the wide range of expertise for all procedures

There is a Range of TAVR Mortality in US Practice



John Carroll
ACC LBCT 2016

Risk Adjustment:

Using variables from the
previously developed TAVT
in-hospital mortality
model.

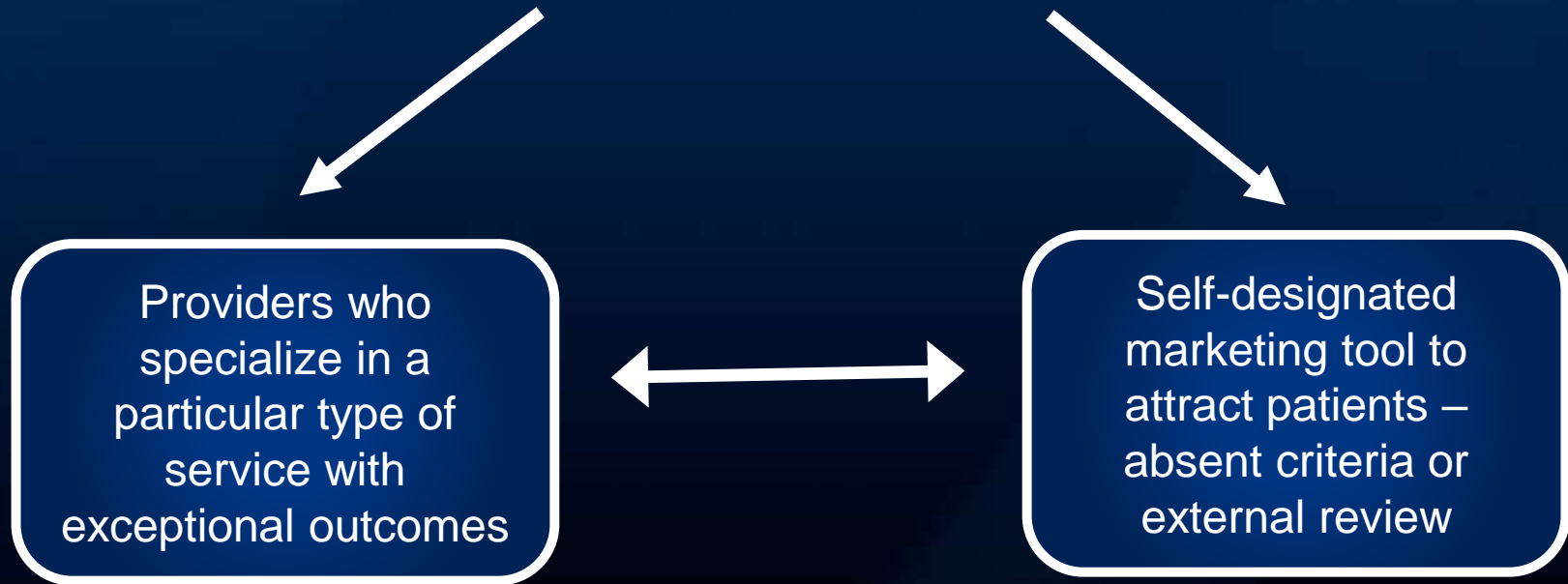
Edwards et al. JAMA
Cardiology 2016.

“Center of Excellence”

1991

**CMS Medicare Participating Heart Bypass Center
Demonstration Project**

Team with CMS to negotiate a package price



“Center of Excellence”

Acute Care
Stroke Centers – Dr. Alberts
Trauma Centers
STEMI systems of care

Service Line Care
Cancer centers
Bariatric surgery

“directed at the facility to maximize patient safety”
“overall was a good thing to do because it made many places who should not be doing it impossible to do and strengthened other centers who met the criteria for center of excellence”

2014 AHA/ACC Guideline for the Management of Patients With Valvular Heart Disease

A Report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines

**You guys can't
do that – think of
the political and
financial
ramifications...**

**The needs of
the patient
come first**



Evolving Valve Management Strategies Roundtable 2016

**Is it time to formalize the
concept of an Advanced
Valve Center?**

