Mitral Valve Reference Center

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www.eurovalvecongress.com

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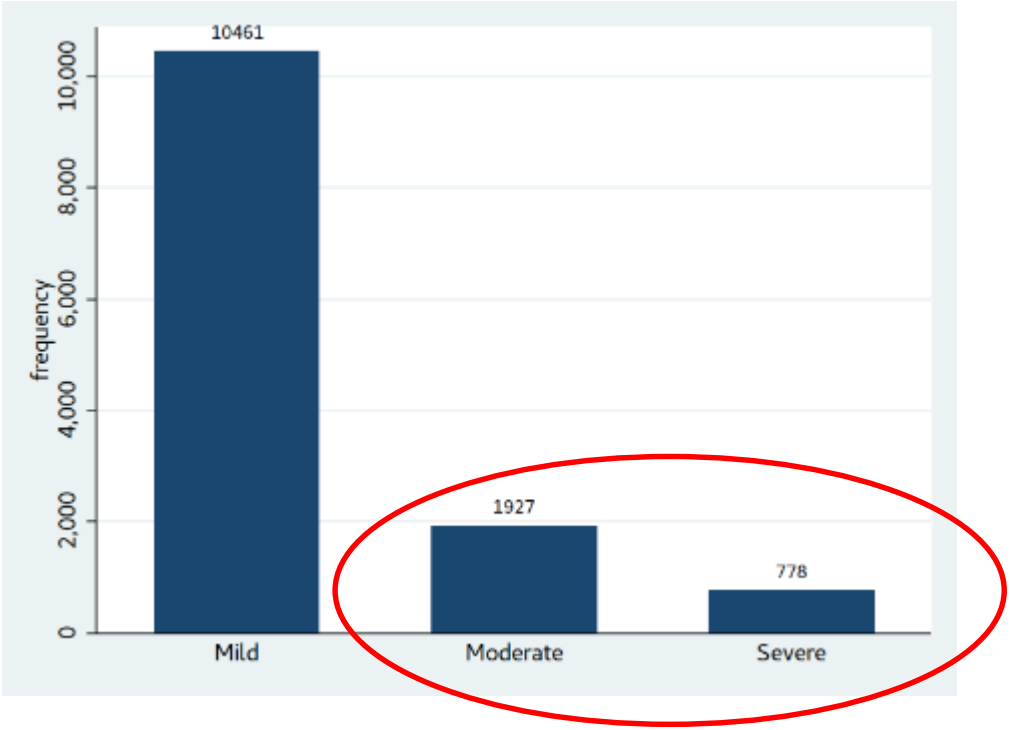
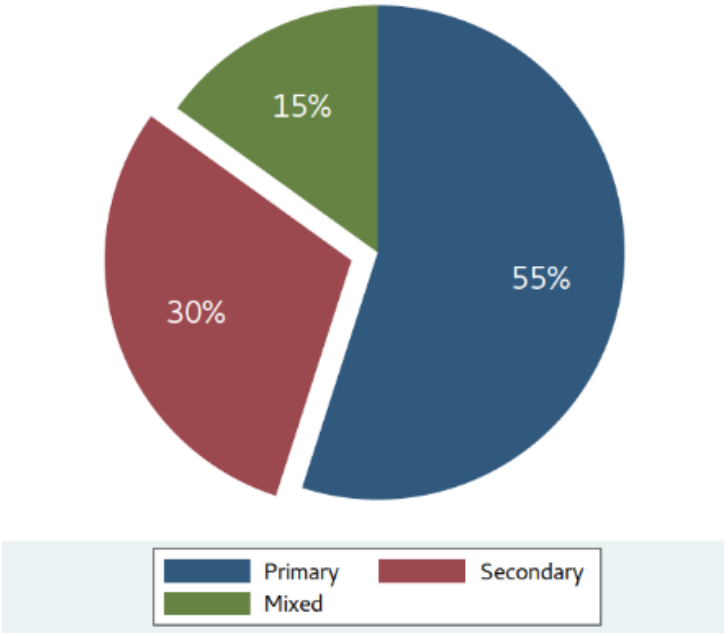
Introduction

MICLIP STUDY

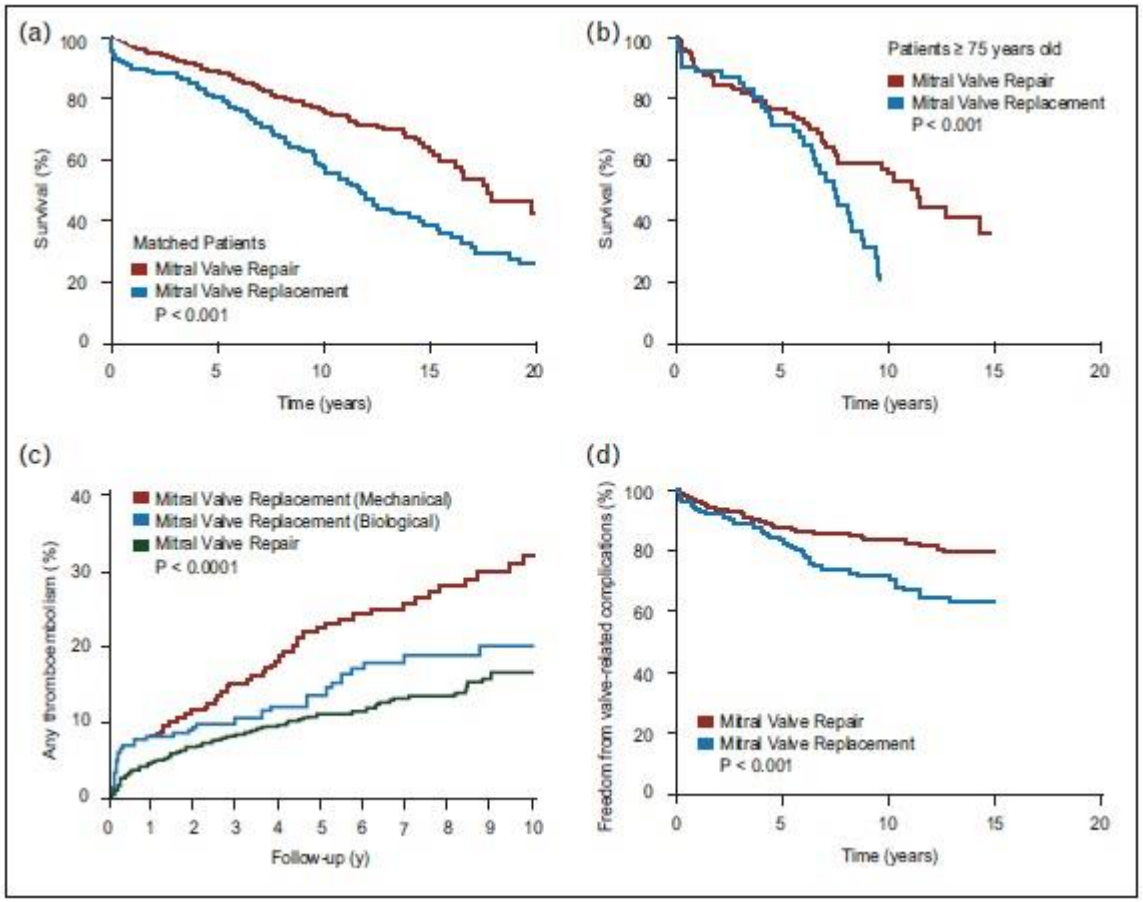
Prevalence of MR in patients undergoing clinically indicated echocardiography.





Introduction

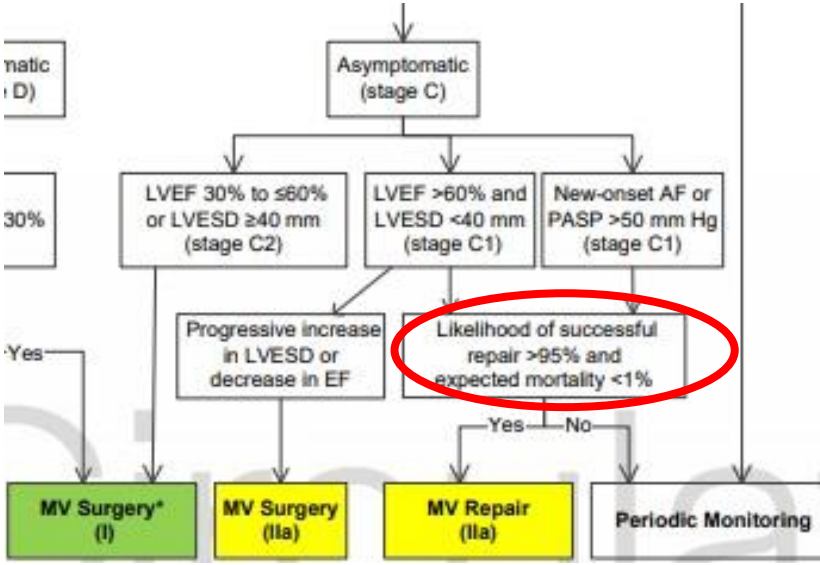
Superiority of MV repair over replacement, particularly for degenerative mitral disease



Circulation 2017;135:410-422
J Am Coll Cardiol 2008;51:1203-1211

Guidelines

Surgery is indicated in asymptomatic patients with LV dysfunction (LVESD ≥45 mm[c] and/or LVEF ≤60%).[122,131]	I	B
Surgery should be considered in asymptomatic patients with preserved LV function (LVESD <45 mm and LVEF >60%) and atrial fibrillation secondary to mitral regurgitation or pulmonary hypertension[d] (systolic pulmonary pressure at rest >50 mmHg).[123,124]	IIa	B
Surgery should be considered in asymptomatic patients with preserved LVEF (>60%) and LVESD 40–44 mm[c] when a durable repair is likely, surgical risk is low, the repair is performed in a heart valve centre and at least one of the following findings is present: • flail leaflet or • presence of significant LA dilatation (volume index ≥60 mL/m^2 BSA) in sinus rhythm.	IIa	C



Nishimura, et al.
2017 AHA/ACC Focused Update on VHD

2017 ESC/EACTS Guidelines for the management of valvular heart disease. Helmut Baumgartner; Volkmar Falk et al. European Heart Journal (2017) 00, 1–53
doi:10.1093/eurheartj/ehx391

The time has come for surgery..

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CHALLENGE

¿¿How to ensure high standards of mitral reconstructive surgery as the field moves toward earlier intervention??

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1. Targets

2. How can we achive them?
   Structure and function

3. What are the advantages?

Targets

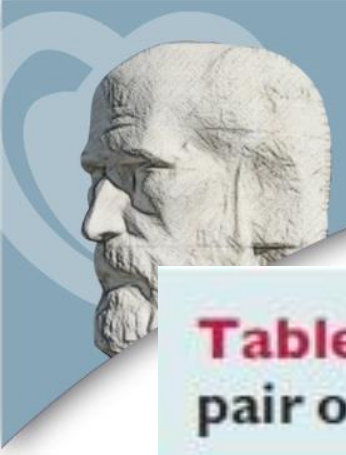


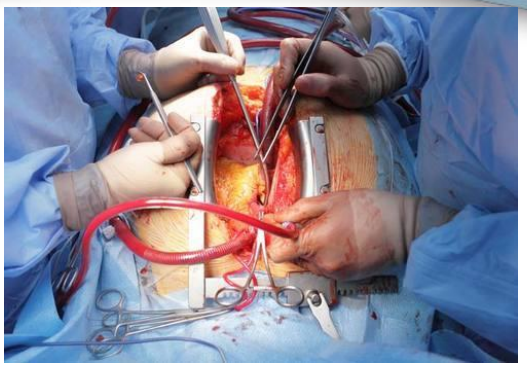
Table 3 Example targets for surgical outcomes in repair of mitral valve prolapse

	Rate
Mortality	<1%[25,29]
Major complication	<2%[29]
Repair rate for when judged 'likely' repairable by an MDT	>90% (95% for P2 prolapse)
Significant residual mitral regurgitation	≤5% at 5 years[25]
Reoperation rate	
Posterior leaflet repair	<1% per year[30]
Anterior leaflet repair	<2% per year[30,31]

EHJ 2017 ; 38: 2177-2183

Structure and function

Structure and function



CADIAC SURGEONS

- Advanced training in mitral surgery, specific training in MV repair

- Volume (controversial)

- > 20-40 MV procedures for individual surgeons
- > 50 procedures/year, hospital mitral surgeries
- “Co-surgery”

EHJCVI 2017;18:489-498
Curr Opinion in Cardiol 2018, 33:155-161

Structure and function

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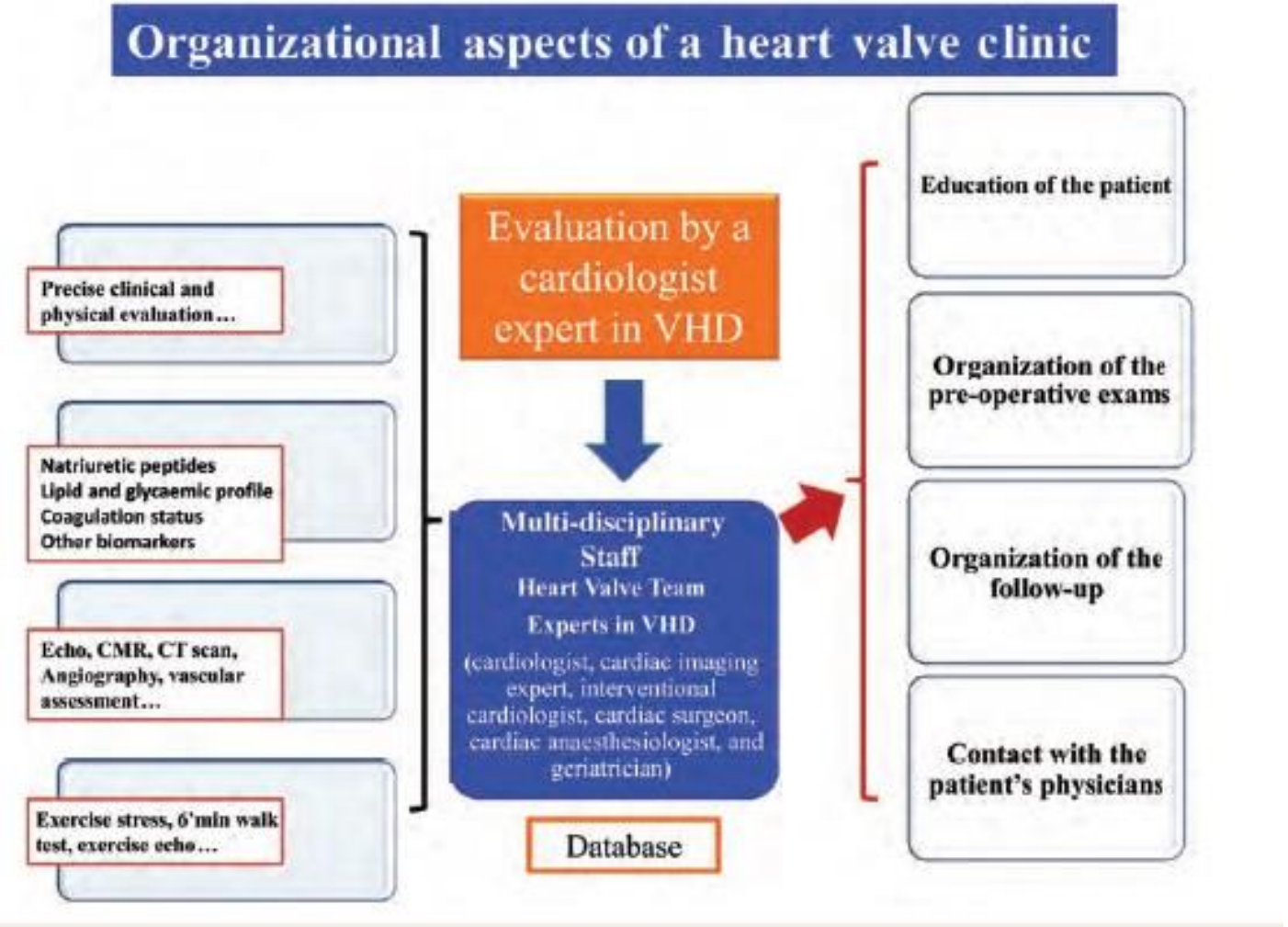
HEART VALVE CLINIC



EHJ 2013;34:1579-1606

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ADVANCED CARDIAC IMAGING

- Essential in a MV reference center
- Echocardiography is the cornerstone for the detection and assessment of valve disease
- 3D transthoracic and transoesophageal echocardiography and stress echocardiography are mandatory
- Departments and individual imagers should be accredited by recognized national or international systems

Structure and function

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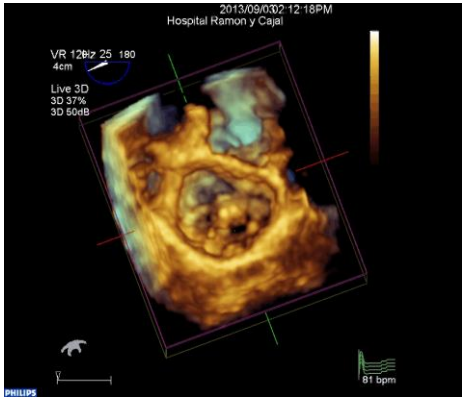
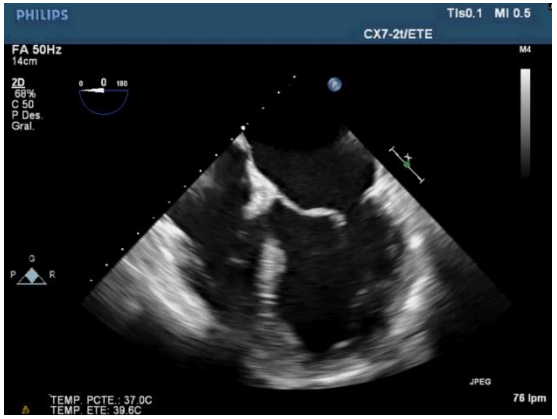
ADVANCED CARDIAC IMAGING

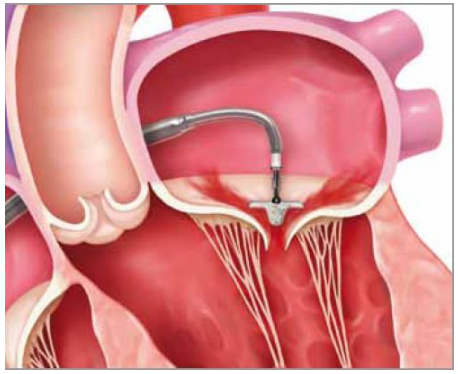




Structure and function

INTERVENTIONAL CARDIOLOGY

- Important member of the team
- Structural heart interventional cardiologist
- Role particularly important in high-risk patients
- Transcatheter mitral repair procedures
- Rescue of perioperative complications such as acute coronary ischemia



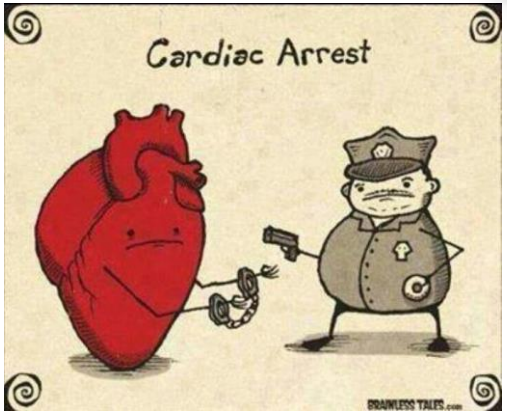
Structure and function

COLLABORATIVE SERVICES

- Electrophysiology
- Heart Failure
- Extracardiac specialities: vascular surgery, neurology, elderly care, renal..

Structure and function

COLLABORATIVE SERVICES



- **Anesthesia**
  - Expertise in 2 and 3D TEE.
  - Management of intraoperative complications: residual MR, SAM, RV or LV failures, coronary complications..
  - Attention to quality markers: fast-track anesthesia protocols, blood conservation strategies, early extubation protocols, pain management…
  - Experienced intensive care team

Structure and function

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Multidisciplinary heart valve team meetings

TRAINING

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DATA MANAGEMENT AND QUALITY ASSESSMENT

Table 2 Data for collection in repair and replacement for primary mitral or aortic valve disease

Preoperative
- Demographic data, comorbidities
- Grading of valve lesi
- Preoperative risk ass

Early clinical results
- Operative mortality
- Repair rates based o
- Time on Intensive Th

In hospital haemodynar
- Transvalve velocity a
- Presence and grade
- Residual regurgitatio

Follow-up
- Complications: infec
- Mortality: At 1 and 5 years
- Durability of repairs based on routine annual echocardiography (more frequent if significant regurgitation present). Proportion per year developing moderate or worse regurgitation
- Incidence and timing of structural valve degeneration and non-structural valve degeneration
- Rates of redo procedure per year

- Robust internal audit proccess
- Results available for review internally and externally
- Participation in national or European quality database

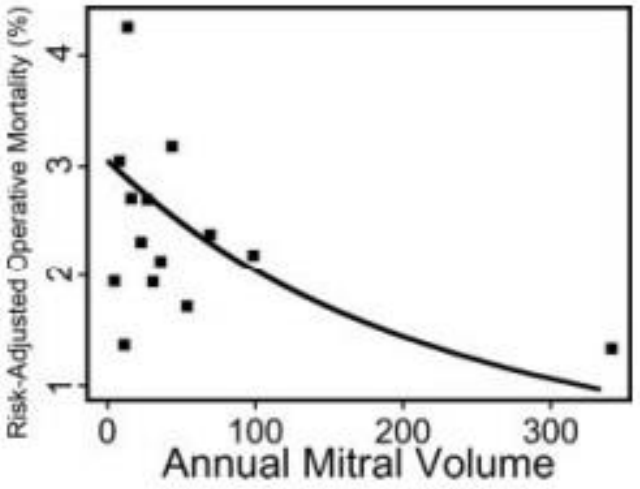
EHJ 2017 ; 38: 2177-2183

Advantages

Lower surgical mortality

- Lower mortality rates demonstrated in higher volume centers

- This reduced mortality in high-volume centers is shown in both high and low risk patient groups.



Circulation 2007;115:881-887
MEJM 2002;346:1128-1137
Jheart Valve Dis 2012:21:41-47

Advantages

Higher repair rates with lower risks of reoperation

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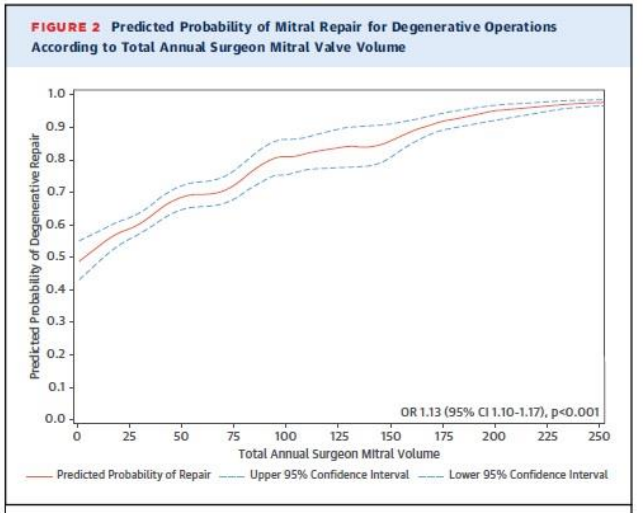
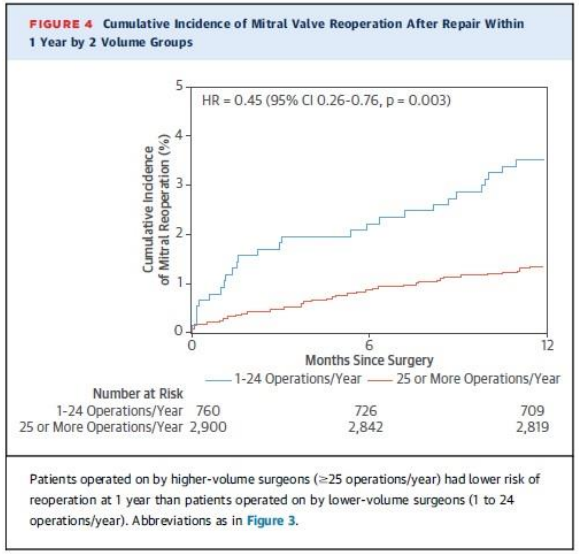
ISSN 0735-1097
http://dx.doi.org/10.1016/j.jacc.2017.02.026

Relation of Mitral Valve Surgery Volume to Repair Rate, Durability, and Survival

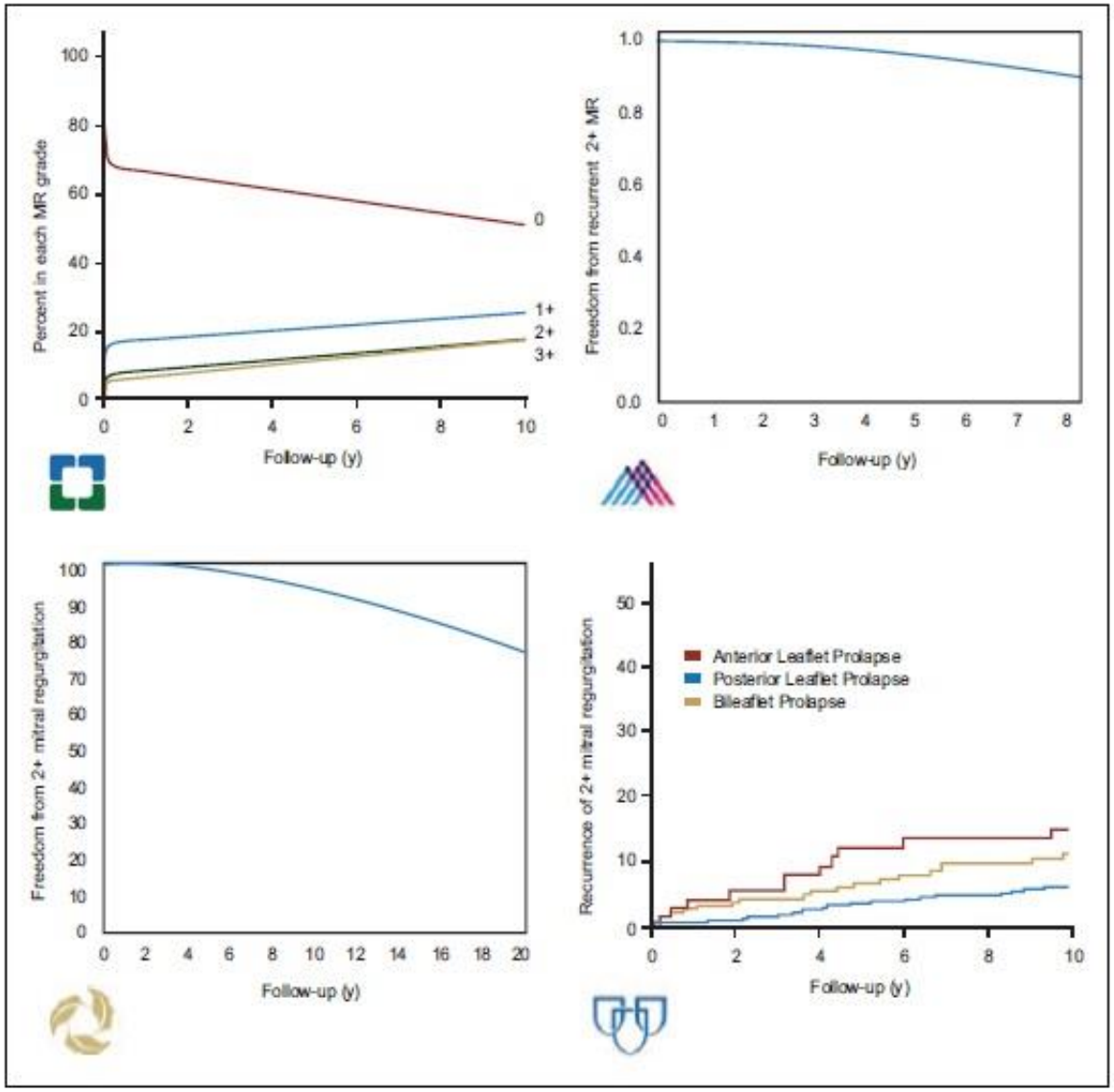


- 5475 patients with degenerative MV disease undergoing MV surgery
- Individual surgeon volume is a determinant of mitral repair rates, freedom from reoperation and improved survival.
- Supports the concept of MV reference center



Advantages

Freedom from moderate MR in heart valve centers of excellence.



Curr Opinion in Cardiol 2018, 33:155-161

Take home messages

- Guidelines recommend referral of patients with MV disease to centers with surgeons that can achieve a very high likelihood of a durable valve repair and low mortality.

- The structure of mitral valve center of excellence consists of a multidisciplinary heart team including specialized surgeons and interventionalists, robust imaging services, heart valve clinic, expert anesthesia and critical care services, and a data management center.

- This will allow high rates of MV repair with excellent mid-term outcomes.

Confidence