Minimal Incision Valve Surgery (MIVS) offers your patients

- Less pain
- Shorter hospital stay
- Faster recovery and return to normal activity
- Less risk of complications
- Better cosmetic results
- Greater satisfaction
The PROBLEMS are serious.

An estimated 81.1 million people suffer from cardiovascular disease in the United States.\[1\]

Every year, approximately 5 million patients in the U.S. are diagnosed with some form of heart valve disease.\[2\] Yet, in 2010 only 175,244 valve surgeries will be performed.\[2\] Statistics also show that patients left untreated had greater incidence of morbidity and mortality.\[3\]

- Only 1 in 40 patients with moderate or severe mitral regurgitation are surgically treated.\[4, 5, 6\]
- “Only 59% of the patients who should have had aortic valve replacement, according to the practice guidelines, were actually offered surgical treatment.” \[7\]

Mitral valve disease is under-diagnosed and undertreated in the United States.

In a studied population, 66% asymptomatic and 47% stable left ventricle (LV) patients had at least one indication for surgery.

- Only 9% were referred to a cardiothoracic surgeon for evaluation
- Of the remaining 91%, 23% experienced cardiac-related death within less than 2-1/2 years.\[8\]
Earlier mitral valve repair surgery has better short- and long-term outcomes, with better functional status over time. Even when LV function is normal, symptomatic patients should undergo mitral valve surgery. [9]

2008 ACC/AHA Guidelines
Timing of Mitral Valve Surgery

- Patients should usually not undergo surgery unless the MR is severe.
- In patients with MR who develop symptoms but have preserved LV function, surgery is the most appropriate therapy.
- Surgery in asymptomatic patients is a Class I indication when mild or moderate LV dysfunction is present and/or ejection fraction of LV size reach cutoff values.
- MV repair should be contemplated for patients showing primary MR with secondary myocardial dysfunction when the repair seems likely.

"Even though LV dysfunction may persist after surgical intervention, symptoms are likely to improve and further deterioration of LV function will likely be prevented." [10]
Aortic valve disease often goes untreated

No medical treatments have been proven to prevent or delay the disease process in aortic valve leaflets\textsuperscript{[10]}, and severe aortic valve disease often goes untreated. Currently, both symptomatic and asymptomatic patients who meet ACC/AHA guidelines are untreated. Only 40 – 57% are being treated surgically today.\textsuperscript{[1, 3]}

In a study of 622 patients with isolated severe aortic valve disease who did NOT have surgery*:

- Only 43% of asymptomatic patients survived
- Only 16% of symptomatic patients survived\textsuperscript{[3]}

*Patients were followed for an average of >5 years

2008 ACC/AHA Guidelines — Highlights

- In the absence of serious comorbid conditions, aortic valve replacement (AVR) is indicated in virtually all symptomatic patients with severe AS.
- Because of the risk of sudden death, AVR should be performed promptly after the onset of symptoms.
- Age is not a contraindication to surgery.\textsuperscript{[10]}

REFER EARLY to a qualified minimal incision valve surgeon to offer your mitral and aortic valve disease patients the MIVS option when indicated.
Your patients have surgical options

<table>
<thead>
<tr>
<th>Surgical Approach</th>
<th>Incision Size</th>
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</thead>
<tbody>
<tr>
<td>Sternotomy</td>
<td>12+ cm</td>
</tr>
<tr>
<td>Hemi-or Mini-Sternotomy</td>
<td>5-8 cm</td>
</tr>
<tr>
<td>Thoracotomy</td>
<td>6-8 cm</td>
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<tr>
<td>Mini-Thoracotomy</td>
<td>4-6 cm</td>
</tr>
<tr>
<td>Mini-Thoracotomy (Robot-assisted)</td>
<td>2-4 cm</td>
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</tbody>
</table>

What is Minimal Incision Valve Surgery?

Minimal incision valve surgery enables cardiac surgeons to perform a wide range of minimally invasive procedures through small openings ("ports") in the spaces between the ribs, eliminating the need for a full sternotomy.

Minimal incision valve surgery is also indicated for:
- PFO/ASD
- Atrial myxoma resection
- Atrial fibrillation ablation
Your patients may be candidates for Minimal Incision Valve Surgery

INDICATIONS

**Mitral Valve Disease**
- Isolated mitral valve procedures
- The patient is seeking a minimally invasive option

**Aortic Valve Disease**
- Isolated aortic valve procedures
- The patient is seeking a minimally invasive option

CONTRAINdications

**Mitral Valve Disease**
- Ascending aortic dilation > 4 cm
- Severe aortic regurgitation
- Aneurysm of ascending aorta
- Aortic stent
- Grade II-IV aortic atheroma
- Otherwise contraindicated by CPB

**Aortic Valve Disease**
- Porcelain aorta
- Otherwise contraindicated for CPB
- Aorta-iliac vascular disease if femoral perfusion is planned

Minimal Incision
Mitral Valve Repair or Replacement

- Right Thoracotomy

Minimal Incision
Aortic Valve Replacement

- Right Anterior Thoracotomy
- Hemi-sternotomy
The benefits of Minimal Incision Valve Surgery

Since MIVS became available, a growing body of evidence has shown the significant advantages of MIVS compared to sternotomy.

- The technique is safe and reproducible.\textsuperscript{[13]}
- Patients experience significantly improved clinical outcomes in their immediate postoperative course.\textsuperscript{[14]}

“We believe that with the proper clinical training, monitoring, and preoperative assessment of the patient, the port access (minimal incision) mitral valve procedure is safe and reproducible, as evidenced by our experience.”\textsuperscript{[13]}

Less pain means faster return to normal activity

- Patients generally experience less pain (from the third post-operative day onward)\textsuperscript{[15, 16]}
- Earlier mobilization due to better stability of the bony thorax.\textsuperscript{[16]}
- Significantly reduced length of hospital stay\textsuperscript{[17]}
- Many patients return to work within 4 weeks.\textsuperscript{[14]}

A smaller incision means fewer complications

- Patients spend less time in the ICU and have better preserved ventilatory mechanics.\textsuperscript{[16]}
- Reduced incidence of sepsis and wound complications.\textsuperscript{[17]}
- A significantly lower requirement for blood plasma transfusion.\textsuperscript{[17]}
- Reduced incidence of perioperative renal injury.\textsuperscript{[19]}

Most patients would choose the same procedure again.\textsuperscript{[14]}
...and better cosmetic results

- Most patients are extremely pleased with the cosmetic result of the procedure. Patients often report later that the small scar in the right inframammary groove is hardly visible.\textsuperscript{[14]}
- Most patients report that they would choose the same procedure if they were to face the same situation again.\textsuperscript{[14]}

The evidence is clear

"Minimally invasive (minimal incision) heart valve surgery should be an option for any patient undergoing heart valve surgery today." \textsuperscript{[20]}

REFER EARLY to a qualified minimal incision surgeon to offer your mitral and aortic valve disease patients a minimal incision option when indicated.

The minimal incision alternative should be an option for any patient facing heart valve surgery.\textsuperscript{[20]}

For more information on the minimal incision approach, please visit www.edwards.com.
References


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Minimal Incision Valve Surgery

The Evidence is Clear