



## MITRAL VALVE REPLACEMENT (MVR) AND ATRIAL VALVE REPLACEMENT (AVR)

### WHAT IS MVR/AVR?

Mitral valve replacement is a cardiac surgical procedure in which a patient's diseased mitral/atrial valve is replaced by either a mechanical or bioprosthetic valve.

### INDICATION FOR MVR

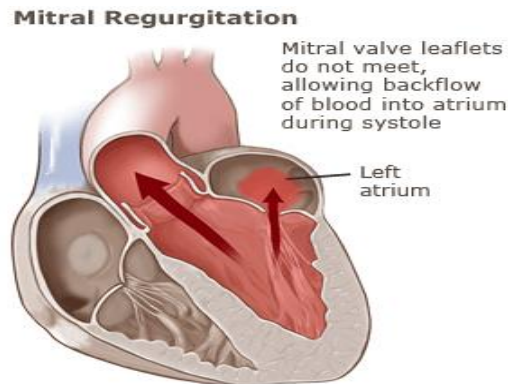
1. Mitral regurgitation(MR)
2. Mitral stenosis(MS)
3. Mitral valve prolapse(MVP)

### INDICATION FOR AVR

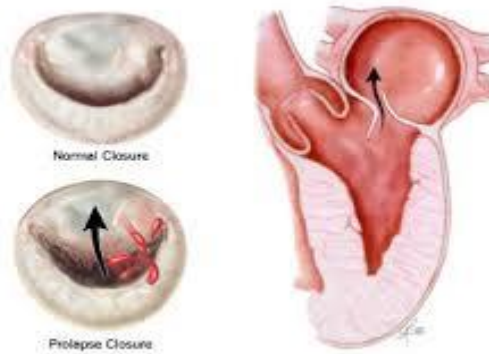
1. Aortic stenosis(AS)
2. Chronic aortic regurgitation(AR)
3. Left ventricle systolic dysfunction (LVSD)



**NORMAL VALVE      STENOSIS VALVE**  
**VALVE STENOSIS**



**VALVE REGURGITATION**



**VALVE PROLAPSE**

## TYPE OF ARTIFICIAL VALVE

### MECHANICAL

-INERT SYNTHETIC MATERIAL DURABLE

### BIOPROSTHETIC

-ANIMAL TISSUE

## COMPARISON OF ARTIFICIAL VALVE

Types of Prosthetic Heart Valves	
Mechanical	Bioprosthetic
<b>Caged-Ball</b> <ul style="list-style-type: none"> <li>• Starr-Edwards</li> </ul> <b>Tilting-Disc</b> <ul style="list-style-type: none"> <li>• Single-Tilting <ul style="list-style-type: none"> <li>• Medtronic-Hall</li> <li>• Omniscience</li> <li>• Bjork-Shiley</li> </ul> </li> <li>• Bileaflet-Tilting <ul style="list-style-type: none"> <li>• St. Jude</li> <li>• Carbomedics</li> </ul> </li> </ul>	<b>Heterograft (porcine or bovine)</b> <ul style="list-style-type: none"> <li>• Porcine Aortic Valve <ul style="list-style-type: none"> <li>• Carpentier-Edwards</li> <li>• Hancock</li> </ul> </li> <li>• Bovine Pericardial <ul style="list-style-type: none"> <li>• Carpentier-Edwards</li> </ul> </li> <li>• Stented Valves (porcine) <ul style="list-style-type: none"> <li>• Carpentier-Edwards</li> <li>• Hancock</li> </ul> </li> <li>• Stentless Valves (porcine) <ul style="list-style-type: none"> <li>• Toronto SPV</li> <li>• Freestyle</li> <li>• CryoLife-O-Brian</li> </ul> </li> </ul> <b>Homograft</b> <ul style="list-style-type: none"> <li>• Human Cadaveric Aortic Valve</li> </ul>

## SYMPTOMS OF VULVULAR DISEASE

- FATIGUE
- WEAKNESS
- DYSPNEA WITH OR WITHOUT EXERTION, STRESS OR PREGNANCY
- PULMONARY OEDEMA
- 1<sup>o</sup> CAUSE RHEUMATIC FEVER
- MAY GO FROM MILD TO TATAL DISSABILITY IN 5-10 YEARS
- MAY BE ASYMPTOMATIC 10-20 YEARS AFTER INITIAL DAMAGE TO VALVE



## LATE COMPLICATION OF VALVE REPLACEMENT

Thromboemboli

Bleeding due to anticoagulants

Mechanical valve thrombosis

Pannus ingrowth

Paravulvular leak

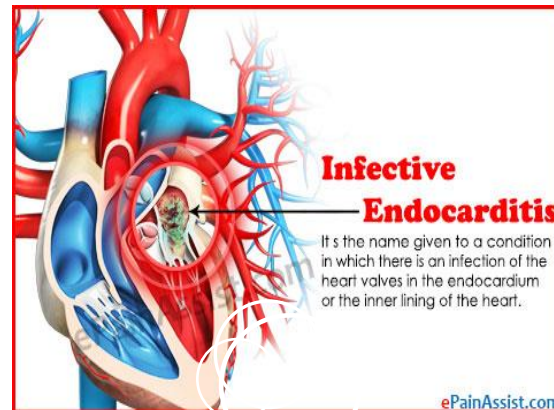
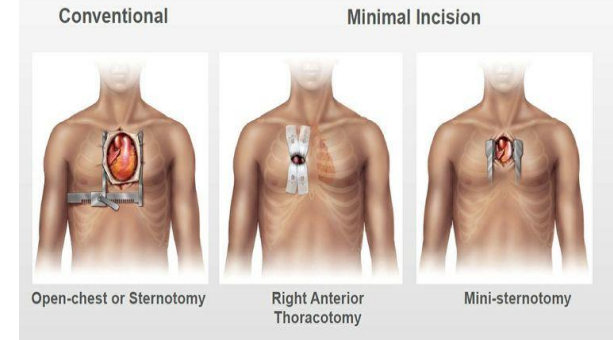
Hemolysis

Deterioration

Infective endocarditis

Prosthesis -patient mismatch

## Aortic Valve Replacement Surgical Options



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