Mitral valve reconstruction:
- Involves resection of redundant areas of leaflets, chordal shortening, and ring annuloplasty (this corrects annular dilatation and stabilizes the repair).
- Preferable to MVR in degenerative disease; MVR better in advanced deformity not amenable to reconstruction (e.g., due to rheumatic disease).

PROGNOSIS
- Better late survival in nonrheumatic patients undergoing reconstruction vs. replacement
- Opposite in rheumatic patients

Aortic Stenosis

ETIOLOGY
- Degenerative calcific disease (idiopathic, older population)
- Congenital stenosis
- Bicuspid aortic valve
- Rheumatic heart disease

PATHOPHYSIOLOGY
Obstruction of flow leads to left ventricular hypertrophy (LVH) (concentric type) and decreased LV compliance, then to LV dilation and congestion.

SIGNS AND SYMPTOMS
Usually asymptomatic early in course, then:
- Dyspnea
- Angina and syncope—particularly during exercise. Peripheral resistance falls; LV pressure remains the same due to stenotic valve; CO cannot maintain BP, causing syncope; low BP to coronary arteries causes angina.
- Heart failure
- Hypertension (consider associated aortic coarctation)

DIAGNOSIS
- Forceful apex beat with normally located point of maximal impulse (PMI).
- Loud systolic ejection murmur, crescendo–decrescendo, medium pitched, loudest at second R interspace, radiates to carotids.
- S4 (presystolic gallop) frequently present secondary to reduced LV compliance.
- Paradoxical splitting of S2.
- Narrow pulse pressure.
- ECG may show left ventricular strain pattern.
- Echocardiography demonstrates diseased valve and quantifies severity
- Calcification of aortic valve may be seen on CXR.

TREATMENT
Medical
- Avoid strenuous activity.
- Avoid afterload reduction.