

Four stages based on symptoms, leaflet anatomy, valve hemodynamics, and LVEF

Stage A At risk of developing AS with normal leaflet opening (bicuspid aortic valve, aortic sclerosis)

Stage B Progressive leaflet calcification and thickening with mild to moderate valve obstruction

Stage C

C1: Asymptomatic patients with reduced systolic opening of aortic valve and antegrade velocity across the valve ≥ 4.0 m/s equivalent to a **mean** transaortic gradient of 40 mm Hg or higher and LVEF $\geq 50\%$

C2: C1 with LVEF $\leq 50\%$

Stage D

D1: Symptomatic severe AS, high gradient

D2: Symptomatic severe with low flow/low gradient

D3: Symptomatic severe low gradient AS with normal LVEF