

Stage	Definition	Valve anatomy	Valve Hemodynamics	Hemodynamic Consequence	Symptoms
A	At risk of MS	Mild valve doming during diastole	Normal transmitral flow velocity	None	None
B	Progressive MS	Rheumatic valve changes with commissural fusion and diastolic doming of the mitral valve leaflets Planimetered mitral valve area $>1.5 \text{ cm}^2$	Increased transmitral flow velocities Mitral valve area $>1.5 \text{ cm}^2$ Diastolic pressure half-time $<150 \text{ ms}$	Mild to moderate LA enlargement Normal pulmonary pressure at rest	None
C	Asymptomatic Severe MS	Rheumatic valve changes with commissural fusion and diastolic doming of the mitral valve leaflets Planimetered mitral valve area $\leq 1.5 \text{ cm}^2$	Mitral valve area $\leq 1.5 \text{ cm}^2$ Diastolic pressure half-time $\geq 150 \text{ ms}$	Severe LA enlargement Elevated PASP $>50 \text{ mm Hg}$	None
D	Symptomatic Severe MS	Rheumatic valve changes with commissural fusion and diastolic doming of the mitral valve leaflets Planimetered mitral valve area $\leq 1.5 \text{ cm}^2$	Mitral valve area $\leq 1.5 \text{ cm}^2$ Diastolic pressure half-time $\geq 150 \text{ ms}$	Severe LA enlargement Elevated PASP $>50 \text{ mm Hg}$	Decreased exercise tolerance Exertional dyspnea