Table 9 Recommendations for classification of mitral stenosis severity

	Mild	Moderate	Severe
Specific findings			
Valve area (cm^2)	>1.5	1.0–1.5	<1.0
Supportive findings			
Mean gradient (mmHg)[a]	<5	5–10	>10
Pulmonary artery pressure (mmHg)	<30	30–50	>50

[a]At heart rates between 60 and 80 bpm and in sinus rhythm.

B.1.5. Proximal isovelocity surface area method (Level 2 Recommendation). The proximal isovelocity surface area method is based on the hemispherical shape of the convergence of diastolic mitral flow on the atrial side of the mitral valve, as shown by colour Doppler. It enables mitral volume flow to be assessed and, thus, to determine MVA by dividing mitral volume flow by the maximum velocity of diastolic mitral flow as assessed by CWD.

$$MVA = \pi(r^2)(V_{aliasing})/\text{Peak } V_{mitral} \cdot \alpha/180^0$$

where r is the radius of the convergence hemisphere (in cm), $V_{aliasing}$ is the aliasing velocity (in cm/s), peak V_{Mitral} the peak CWD velocity of mitral inflow (in cm/s), and a is the opening angle of mitral leaflets relative to flow direction.[62]

This method can be used in the presence of significant MR. However, it is technically demanding and requires multiple measurements. Its accuracy is impacted upon by uncertainties in the measurement of the radius of the convergence hemisphere, and the opening angle.

The use of colour M-mode improves its accuracy, enabling simultaneous measurement of flow and velocity.[62]