

Appendix 3: World Heart Federation Criteria for the Echocardiographic Diagnosis of RHD in Individuals Aged ≤20 Years

Echocardiographic Criteria for RHD*	
Definite RHD (A, B, C, or D) A) Pathologic MR and at least 2 morphologic features of RHD of the MV B) MS mean gradient ≥ 4 mm Hg C) Pathological AR and at least 2 morphological features of RHD of the AV D) Borderline disease of both the AV and MV	
Borderline RHD (A, B, or C) A) At least 2 morphologic features of RHD of the MV without pathologic MR or MS B) Pathologic MR C) Pathologic AR	
Echocardiographic criteria for pathologic regurgitation (all 4 Doppler criteria must be met)	
Pathologic MR 1. Seen in 2 views	Pathologic AR 1. Seen in 2 views
2. In at least 1 view jet length ≥ 2 cm [†]	2. In at least 1 view jet length ≥ 1 cm [†]
3. Peak velocity ≥ 3 m/s for 1 complete envelope	3. Peak velocity ≥ 3 m/s in early diastole
4. Pansystolic jet in at least 1 envelope	4. Pandiastolic jet in at least 1 envelope
Morphologic features of RHD	
Features in the MV 1. AMVL thickening ≥ 3 mm [‡]	Features in the AV 1. Irregular or focal thickening
2. Chordal thickening	2. Coaptation defect
3. Restricted leaflet motion	3. Restricted leaflet motion
4. Excessive leaflet tip motion during systole	4. Prolapse

Abbreviations: AMVL, anterior mitral valve leaflet; AR, aortic regurgitation; AV, aortic valve; MR, mitral regurgitation; MS, mitral stenosis; MV, mitral valve; and RHD indicates rheumatic heart disease.

* Congenital anomalies must be excluded.

[†] A regurgitant jet length should be measured from the vena contracta to the last pixel of regurgitant color (blue or red) on nonmagnified (nonzoomed) images.

[‡] AMVL thickness should be measured during diastole at full excursion. Measurement should be taken at the thickest portion of the leaflet and should be performed on a frame with maximal separation of chordae from the leaflet tissue.