

**Figure S1** Study flowchart. TR, tricuspid regurgitation; RV, right ventricle; PISA, proximal isovelocity surface area; VCA, vena contracta area; ICD, intracardiac device; TV, tricuspid valve; LHD, left-heart disease; PH pulmonary hypertension; AF, atrial fibrillation.

Etiology	$EROA_{Uc},  cm^2$ (sensitivity, specificity)	EROA <sub>0.7</sub> , cm <sup>2</sup> (sensitivity, specificity)	EROA <sub>vo-va</sub> , cm <sup>2</sup> (sensitivity, specificity)
All TR	0.26 (83.3%, 84.4%)	0.39 (72.2%, 93.5%)	0.29 (83.3%, 84.4%)
Primary TR	0.26 (91.7%, 92.3%)	0.33 (87.5%, 84.6%)	0.29 (91.7%, 92.3%)
Functional TR	0.23 (86.7%, 78.1%)	0.28 (83.9%, 78.1%)	0.24 (90.3%, 75.0%)

PISA, proximal isovelocity surface area; EROA, effective regurgitant orifice area; TR, tricuspid regurgitation; UC, uncorrected; Vo, peak regurgitant velocity; Va, color aliasing velocity.

Table S2 Intra- and interobserver measurement errors for standard 2D PISA EROA, volumetric EROA, and VCA

Error	2D PISA EROA	Volumetric EROA	VCA
Intraobserver measurement error ICC (95% CI)	0.95 (0.84 to 0.99)	0.83 (0.55 to 0.95)	0.93 (0.76 to 0.98)
Interobserver measurement error ICC (95% CI)	0.91 (0.69 to 0.98)	0.84 (0.46 to 0.95)	0.76 (0.30 to 0.94)

PISA, proximal isovelocity surface area; EROA, effective regurgitant orifice area; VCA, vena contracta area; ICC, intraclass coefficient; 95% CI, 95% confidence interval.