

Valve Area and the Risk of Overestimating Aortic Stenosis

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SUPPLEMENTAL MATERIAL

SUPPLEMENTAL TABLE 1. Reproducibility of Indices of AS. Inter- (two blinded level-III experts in echocardiography) and intra-observer (re-measurements > 3 weeks apart) variability was assessed in 191 randomly selected studies without ventricular outflow obstruction

Index	Interobserver		Intraobserver	
	R _{ic} (95% CI)	Relative Error	R _{ic} (95% CI)	Relative Error
Vmax	0.89 (0.85-0.91)	2 ± 10%	0.91 (0.88-0.93)	1 ± 11%
AVA	0.60 (0.57-0.62)	13 ± 22%	0.76 (0.70-0.82)	0 ± 24%
Velocity Ratio	0.76 (0.69-0.81)	2 ± 17 %	0.77 (0.70-0.82)	1 ± 15 %

Vmax: peak transaortic jet velocity; AVA: effective aortic valve area; R_{ic}: intraclass correlation coefficient.

SUPPLEMENTAL TABLE 2. Multivariate Predictors of an $AVA \leq 1.5 \text{ cm}^2$, $AVA_i \leq 0.85 \text{ cm}^2/\text{m}^2$ and $V_{ratio} < 0.5$ in Patients Without Valvular Outflow Obstruction.

	Odds Ratio	95% Confidence Interval	P value
$AVA \leq 1.5 \text{ cm}^2$			
LV Ejection Fraction (per 5% lower)	1.15	1.09 - 1.22	< 0.001
Stroke Volume (per 5 mL lower)	1.19	1.18 – 1.21	< 0.001
Aortic Time-Velocity Integral (per cm)	1.33	1.31 – 1.37	< 0.001
Aortic Valve Sclerosis vs. Normal	1.73	1.33 – 2.24	< 0.001
Female vs. Male	2.01	1.52 – 2.64	< 0.001
$AVA_i \leq 0.85 \text{ cm}^2/\text{m}^2$			
Age (per 15 years older)	1.08	1.01 - 1.17	0.04
LV Ejection Fraction (per 5% lower)	1.24	1.20 - 1.29	< 0.001
Mitral Regurgitation (per degree of severity)	1.14	1.07 - 1.23	< 0.001
Aortic Valve Sclerosis vs. Normal	1.94	1.60 - 2.35	< 0.001
Female vs. Male	2.68	2.25 – 3.19	< 0.001
$V_{ratio} \leq 0.5$			
Body Surface Area (per 0.1 m^2 smaller)	0.99	0.96 - 1.03	0.80
Age (per 15 years older)	1.25	1.15 - 1.35	< 0.001
LV Ejection Fraction (per 5% lower)	1.27	1.23 - 1.31	< 0.001
Mitral Regurgitation (per degree of severity)	1.17	1.10 - 1.25	< 0.001
Aortic Valve Sclerosis vs. Normal	2.84	2.36 – 3.42	< 0.001
Female vs. Male	1.28	1.09 - 1.51	0.002