Aortic Dimensions				
	Female		Male	
	Absolute Values (cm)	Indexed Values (cm/m^2)	Absolute Values (cm)	Indexed Values (cm/m^2)
Annulus	2.3 ± 0.2	1.3 ± 0.1	2.6 ± 0.3	1.3 ± 0.1
Sinuses of Valsalva	3.0 ± 0.3	1.8 ± 0.2	3.4 ± 0.3	1.7 ± 0.2
Sinotubular junction	2.6 ± 0.3	1.5 ± 0.2	2.9 ± 0.3	1.5 ± 0.2
Proximal ascending aorta	2.7 ± 0.4	1.6 ± 0.3	3.0 ± 0.4	1.5 ± 0.2
Aortic arch	2.2 - 3.6		2.2 - 3.6	
Descending aorta	2.0 - 3 .0		2.0 - 3.0	

Aortic regurgitation - Qualitative			
	Mild	Moderate	Severe
CW- intensity of AR	Incomplete or faint	Dense	Dense
Desc Ao - flow reversal	Incomplete or faint	Intermediate	Pan - diastolic
Abd Ao - flow reversal	-	-	Pan - diastolic
AR pressure half time	> 500	500 - 200	< 200
LVOT - jet width %	< 25	Intermediate	⩾ 65
VC - width (cm)	< 0. 30	Intermediate	⩾ 0.6

Aortic Regurgitation - Quantitative				
	Mild	Moderate		Severe
RV (mls)	< 30	30 - 44	45 - 59	⩾ 60
RF (%)	< 30	30 - 39	40 - 49	⩾ 50
EROA (cm^2)	< 0.10	0.10 - 0.19	0.20 - 0.29	⩾ 0.30

Aortic Stenosis			
	Mild	Moderate	Severe
Peak velocity (m/s)	2.6 - 2.9	3.0 - 4.0	> 4.0
Mean gradient	< 3 0	30 - 50	> 50
AVA (cm^2)	> 1.5	1.5 - 1.0	< 1.0
AVA indexed	> 0.85	0.85 - 0.6	< 0.6
DSI	> 0.5	0.50 - 0.25	< 0.25

AVR			
	Normal	Possible stenosis	Suggestive of significant stenosis
Peak velocity (m/s)	< 3	3 - 4	> 4
Mean gradient	< 20	20-35	> 35
AVA	> 1.2	1.2 - 0.8	< 0.8
DPI	⩾ 0.30	0.29- 0.25	< 0.25
CW - AVR velocity	Triangular	Triangular to intermediate	Round
Acceleration time	< 80	80- 100	⩾ 100

Patient -AVR mismatch			
	Normal	Moderate	Severe
AVA indexed	> 0.85	0.85 - 0.65	< 0.65

Left Atrial Dimensions				
LA diameter	**Female**: 2.7-3.8 cm	Indexed 1.5-2.3cm/m^2	**Male:** 3.0-4.0cm Indexed	Indexed 1.5-2.3cm/m^2
LAVI (ml/m^2)	**Normal**: 16-34	**Mild**: 35-41	**Moderate**: 42-48	**Severe:** > 48

Right Atrial Dimensions				
LA diameter	Female		Male	
	Indexed RA minor (cm/m^2)	Indexed RA major (cm/m^2)	Indexed RA minor (cm/m^2)	Indexed RA major (cm/m^2)
	1.9 +/- 0.3	2.4+/-0.3	1.9 +/- 0.3	2.5+/-0.3
RAVI (ml/m^2)	21+/-6		25+/-7	

Left Ventricular Dimensions

	Female				Male			
	Normal	Mild	Moderate	Severe	Normal	Mild	Moderate	Severe
LVEDD (cm)	3.8 - 5.2	5.3 - 5.6	5.7 - 6.1	> 6.1	4.2 - 5.8	5.9 - 6.3	6.4 - 6.8	> 6.8
LVEDD/ BSA(cm/m^2)	2.3 - 3.1	3.2 - 3.4	3.5 - 3.7	> 3.7	2.2 - 3.0	3.1 - 3.3	3.4 - 3.6	> 3.6

Left Ventricular Mass

	Female				Male			
	Normal	Mild	Moderate	Severe	Normal	Mild	Moderate	Severe
IVS (cm)	0.6 - 0.9	1.0 - 1.2	1.3 -1.5	> 1.5	0.6 - 1.0	1.1 - 1.3	1.4 -1.6	> 1.6
PW (cm)	0.6 - 0.9	1.0 - 1.2	1.3 - 1.5	> 1.5	0.6 - 1.0	1.1 - 1.3	1.4 - 1.6	> 1.6
LV mass 2D (cm/g^2)	44 - 88	89 - 100	101 - 112	> 112	50 - 102	103 - 116	117- 130	> 130
LV mass linear (cmg^2)	43 - 95	96 - 108	109 -121	> 121	49 - 115	116 - 131	132 - 148	> 148

Left Ventricular Volumes

	Female				Male			
	Normal	Insert	Insert	Insert	Insert	Insert	Insert	Insert
LVEDV (ml/m^2)	29 - 61	62 -70	71 - 80	> 80	34 -74	75 - 89	90 - 100	>100
LVESV (ml/m^2)	8-24	25 - 32	33 - 40	> 40	11- 31	32 - 38	39 - 45	> 45

Left Ventricular Ejection Fraction*

Female				Male			
Normal	Mild	Moderate	Severe	Normal	Insert	Insert	Insert
54-74	41- 53	30 - 40	< 30	52 - 72	41- 51	30 - 40	< 3 0

Mitral regurgitation - Qualitative			
	MIld	Moderate	Severe
PW - transmitral inflow	A wave dominant - age dependent	Variable	E wave dominant (> 1.5 m/s)
PW - Pulmonary vein	Systolic dominance	Systolic blunting	Systolic reversal
CW - MR signal	Incomplete or faint	Dense	Dense
MR Jet Contour CW	Parabolic	Parabolic	Early peaking or triangular
Jet area ratio (%)	Small jet	Variable	Large jet
VC-W (cm)	0.30	0.30 - 0.69	⩾ 0.7
PISA radius (cm)	Nil to minimal flow convergence < 0.4	Variable	Large flow convergence ⩾ 0.9

Mitral regurgitation - Quantitative				
	Mild	Moderate		Severe
RV (mls)	< 30	30 - 44	45 - 59	⩾ 60
RF (%)	< 30	30 - 39	40-49	⩾ 50
EROA (cm^2)	< 0.20	0.20 - 0.29	0.30 - 0.39	⩾ 0.40

Mitral Stenosis			
	Mild	Moderate	Severe
Mean gradient (mmHg)	< 5	5 - 10	> 10
MVA (cm^2)	> 1.5	1.0 - 1.5	< 1.0
RV Systolic Pressure (mmHg)	< 30	30 - 50	> 50

MVR			
	Normal	Possible stenosis	Suggestive of significant stenosis
Peak velocity (m/s)	< 1.9	1.9 - 2.5	>2.5
Mean gradient (mmHg)	⩽ 5	6 -10	> 10
MVR index	< 2.2	2.2 -2.5	> 2.5
MVA (cm^2)	⩾ 2.0	2 -1	< 1
Pressure half time (ms)	< 130	130 - 200	> 200

Pulmonary Hypertension	
Mild	40 - 54mmHg
Moderate	55 - 64mmHg
Severe	> 65mmHg

Pulmonary Regurgitation - Qualitative			
	Mild	Moderate	Severe
Intensity	Incomplete or faint	Dense	Dense
Flow reversal - pulmonary artery branch		Pan - diastolic reversal	
Pressure half time (ms)		< 100 haemodynamically significant PR	
Jet width	Thin < 10mm	Intermediate	Large at base
Jet width / RVOT annulus (%)		> 40 indicates moderate or more PR	

Right Atrial Pressure Estimation				
	Normal	Intermediate		High
IVC Size	⩽ 2.1cm	>2.1cm	⩽ 2.1cm	>2.1
Collapse with sniff	>50%	>50%	<50%	<50%

Right Ventricular Dimensions		
RV Basal (mm)	25 - 41	
RV Mid (mm)	19 - 35	
RV longitudinal (mm)	59 - 83	
RVOT PLAX (mm)	20 - 30	
RVOT proximal (mm)	21 - 35	
RVOT distal (mm)	17 - 27	
RV wall thickness (mm)	1 - 5	
	Female	Male
RV EDA indexed (cm^2/m^2)	4.5 - 11.5	5 - 12.6
RV ESA indexed (cm^2/m^2)	3 - 11	3 - 1

Right Ventricular Systolic Function - Normal Values	
RV FAC (%)	⩾ 35
TAPSE	⩾ 17
PW DTI S' (cm/s)	⩾ 9.5
RV free wall strain	29+ / -4.5

Tricuspid Stenosis			
	Mild	Moderate	Severe
Mean Gradient (mmHg)	< 2	2 - 4	⩾ 5
TVA (cm^2)	-	-	⩽ 1.0

Pulmonary Stenosis			
	Mild	Moderate	Severe
Peak velocity (m/s)	< 3	3 - 4	> 4
Maximum pressure gradient (mmHg)	< 36	36 - 64	> 64

Tricuspid Regurgitation - Qualitative			
	Mild	Moderate	Severe
Forward flow velocity	-	-	E ⩾ 65cm/s
Intensity	Incomplete or faint	Dense	Dense
Shape	Parabolic	Usually parabolic	Early peaking (V appearance)
Hepatic vein flow reversal	Systolic dominance	Systolic blunting	Systolic flow reversal
Jet Area (cm^2)	< 5	5 -10	> 10
Flow convergence radius (cm)	⩽ 0.5	0.6 - 09	> 0.9
Vena contracta width	-	-	⩾ 0.7

TVR	
	Suggestive of significant stenosis
Peak velocity (m/s)	> 1.7
Mean gradient (mmHg)	⩾ 6
Pressure half - time	⩾ 230
TVA (cm^2)	No data available