Royal North Shore Hospital

Health
Northern Sydney
Local Health District

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Stress Echocardiography

Procedure date/time:	15/07/2025 3:00 PM	**Accession no:**	RNS-ECHO-25-4224
Patient name:	RIGGS Kevin Ronald	**Patient ID:**	2357855
Date of birth:	14/07/1945	**Age:**	80 year(s)
Height:	185 cm	**Gender:**	Male
Weight:	96 kg	**BSA:**	2.2 m²

Procedure Staff

Interpreting Physician:	Dr Malcolm Anastasius	**Sonographer:**	Justine Moss
Advanced Trainee:	Dr Mark Ishak	**EST Technician:**	Daniel Wong

Proc. sub type: Stress procedure: Dobutamine Stress Echo - Aortic Stenosis.

Indications

Aortic stenosis.
MBS Code: 55145 - Pharmacological SE (initial, only assign once/24 months)

Additional Indications

Hx of AVR, Aortic stenosis. For TAVI workup.

Procedure Information

HR:	100 bpm	**Source:**	Outpatient
Rhythm:	Atrial fibrillation	**Study location:**	Stress lab
Image quality:	Adequate visualization	**Specialty:**	Outpatient
Procedure consent:	Yes, written consent given		

Measurements

Dimensions

Septal Thickness:	1.1 cm	Post LV Wall Thickness:	1.2 cm
LV Internal Dimension (ED):	5.4 cm		
LV Internal Dimension (ES):	4.6 cm		

Mitral Valve

Aortic Valve

		LVOT diameter:	2.2 cm

Tricuspid Valve

TR velocity:	2.3 m/s

Procedure Summary

Summary:

Low dose dobutamine stress echocardiogram; at peak dose, true severe aortic bioprosthetic valve stenosis (AVA 0.89cm2, PG/MG 67/36mmHg, DVI 0.23), with evidence of contractile reserve

Findings (Rest)

Left Ventricle: Moderately dilated left ventricle, mild concentric wall thickening and moderate-severe systolic dysfunction (LVEF 30%); dyssynchronous septal motion due to conduction defect.

Right Ventricle: Normal right ventricle size and systolic function.

Left Atrium: Moderate-severely dilated left atrium

Right Atrium: Normal right atrial size

Aortic Valve: Aortic bioprosthetic valve (25mm Perimount); thickened and calcified leaflets with markedly restricted motion; low flow low gradient prosthetic valve stenosis (AVA 0.4cm2, PG/MG 55/31mmHg, DVI 0.13, AT 110ms); no transvalvular or paravalvular regurgitation.

Mitral Valve: Moderate posterior mitral annular calcification; leaflet thickening and calcification; mild mitral regurgitation

Tricuspid Valve: Mild tricuspid regurgitation; insufficient TR jet to estimate pulmonary artery systolic pressure.

Rest

Resting ECG:	Atrial fibrillation with LBBB.		
Resting HR:	107 bpm	Resting BP:	147 / 74 mmHg

Stress

Stress protocol:	Pharmacologic - Dobutamine	Max infusion:	20 mcg/kg/min

Stage #	Duration	Dosage	Other Medication	Dosage	Heart Rate	Systolic BP	Diastolic BP
1	05:33	5		5	103	131	83
2	04:26	10		10	111	115	65
3	05:32	20		20	125	147	74
4	02:38	0		0	130	123	78

Peak HR:	130 bpm	HR response:	Normal
Peak BP:	147 / 74 mmHg	BP response:	Normal
Predicted HR:	140 bpm	HR/BP product:	19,110
% of predicted HR:	93	Perceived exertion:	4
Test duration:	18:09 min	Exercise effort:	Good

Stress Interpretation

True severe aortic bioprosthetic valve stenosis

Results

ECG: Atrial fibrillation and LBBB; occasional PVCs

Stress Valve - Rest/Baseline

HR:	107 bpm	BP:	118 / 77 mmHg
AV vmax:	3.7 m/s	AV peak gradient:	54.8 mmHg
AV mean gradient:	31 mmHg	AV VTI:	69 cm
LVOT vmax:	0.5 m/s	AVA:	0.44 cm²
LVOT mean gradient:	0.4 mmHg	LVOT peak gradient:	1 mmHg
LVOT diameter:	2.2 cm	LVOT VTI:	8 cm
LV ejection time:	214 ms	LVOT stroke volume:	30.4 ml
		Q mean:	142.1 ml/s

Stress Valve - Peak Stress

HR:	130 bpm	BP:	147 / 74 mmHg
AV vmax:	4.1 m/s	AV peak gradient:	67.2 mmHg
AV mean gradient:	36 mmHg	AV VTI:	64 cm
LVOT vmax:	1 m/s	AVA:	0.89 cm²
LVOT mean gradient:	2 mmHg	LVOT peak gradient:	4 mmHg
LVOT diameter:	2.2 cm	LVOT VTI:	15 cm
LV ejection time:	206 ms	LVOT stroke volume:	57 ml
		Q mean:	276.8 ml/s

Stress Valve Results

% change in stroke volume:	47 %
Change in AVA:	0.45 cm²
AVA (proj):	0.8 cm²
Change in mean AV gradient:	5 mmHg

Electronically signed by Dr Malcolm Anastasius (Interpreting Physician) on 15/07/2025 at 7:47 PM