



INTERNATIONAL
CENTRE FOR
CIRCULATORY
HEALTH

Interpreting Echo Reports

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ASSESSMENT OF SYSTOLIC VENTRICULAR FUNCTION

Transthoracic Echocardiography Report (TTE)

Gender	Female	Race	Unknown
Procedure			
Referring Physician	Sonographer	Annabel Oraa	
Investigator	Nurse / Assistant		
Technical Quality	Adequate visualization	Investigation Date	09/12/2010
Comments	She was informed years ago that she has a congenital heart defect(? PFO/ASD) Experiencing migraines		

Conclusions

Good LV & RV systolic function.
Trivial/mild TR.

Patient refused to have a bubble study therefore PFO could not be excluded.

Signature

Electronically signed by Annabel Oraa(Reviewer) on 09/12/2010 04:32

Valves

Mitral Valve

Peak E-Wave:	0.6 m/s	Peak Gradient:	1.44 mmHg
Peak A-Wave:	0.46 m/s	E/A Ratio:	1.3
Deceleration Time:	239 msec		

Mitral Valve Summary

Structure: Normal

Aortic Valve

AV Vmax:	1.35 m/s	Peak Gradient:	7.29 mmHg
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Aortic Valve Summary

Structure: Normal

Tricuspid Valve

TR Velocity:	2.36 m/s	TR Gradient:	22 mmHg
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Tricuspid Valve Summary

Trivial/mild TR.

Pulmonic Valve

Pulmonic Valve Summary

Structure: Normal

Structures

Left Atrium

LA Dimension:	3.3 cm
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Left Atrium Summary

LA size: Normal

Left Ventricle

Diastolic Dimension:	4.1 cm	Septum:	0.9 cm
Systolic Dimension:	2.9 cm	Post Wall:	0.9 cm

Left Ventricle Summary

LV normal in size and thickness with good systolic function.
Diastolic filling: Normal

Right Atrium

Right Atrium Summary

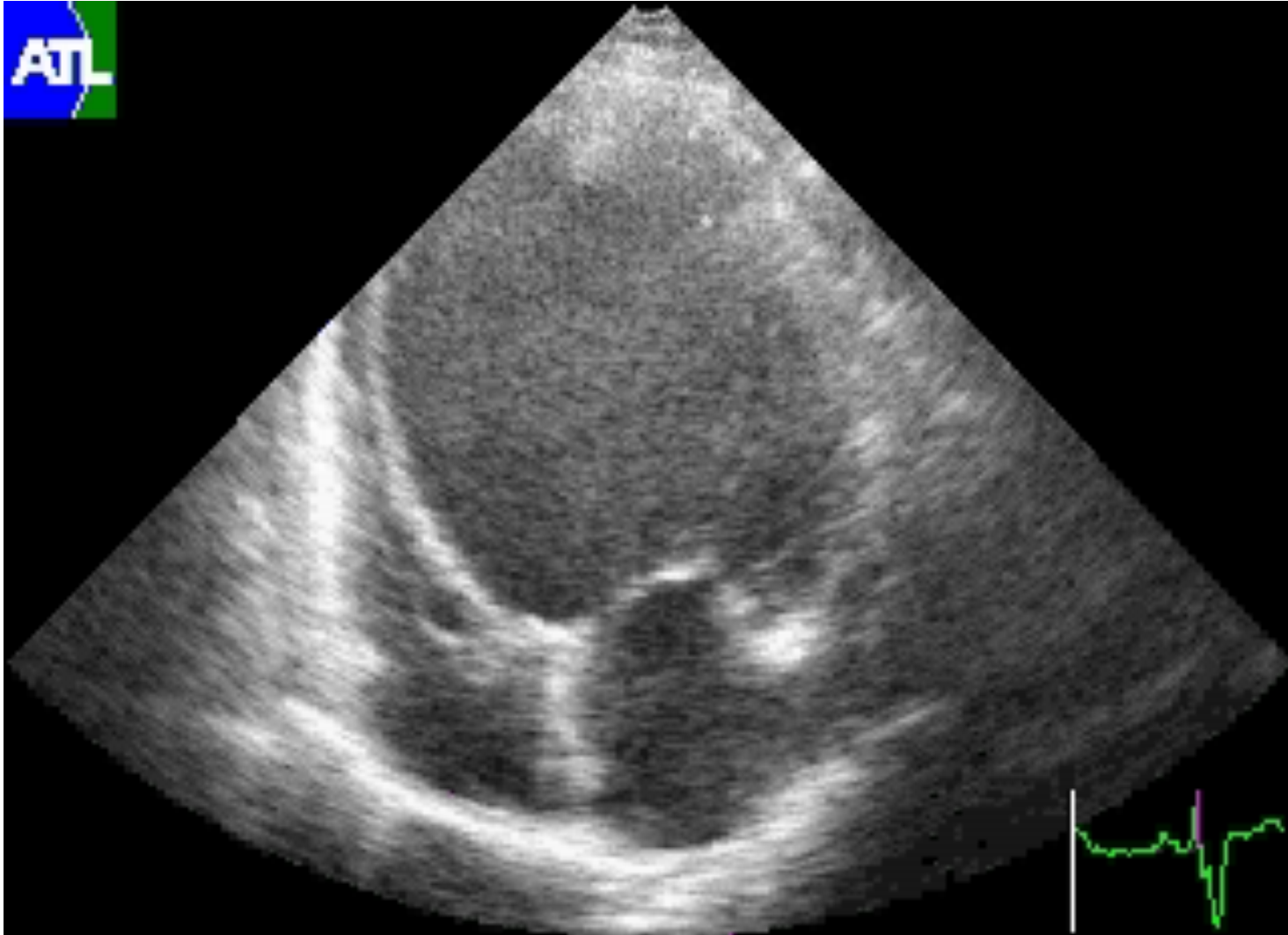
Normal right atrium size.

Right Ventricle

Right Ventricle Summary

Normal right ventricle size and function.

Left ventricular assessment



Transthoracic Echocardiography Report (TTE)

gender	female	RACE	CAUCASIAN
Procedure			
Referring Physician	Sonographer		Wynn Jo
Technical Quality	Good visualization	Investigation Date	26/08/2010
Reason for Request	Congestive heart failure		

Conclusions

Mild/moderate bi-ventricular impairment
Mild MR
Mildly dilated LA

Ventricular function appears similar to that of previous scan.

Signature

Electronically signed by Wynn Jo(Reviewer) on 26/08/2010 05:12

Valves

Mitral Valve

Peak E-Wave:	0.61 m/s	Peak Gradient:	1.49 mmHg
Peak A-Wave:	0.65 m/s	E/A Ratio:	0.94

Mitral Valve Summary

Minor thickening at leaflet tips, good excursion
Mild MR

Aortic Valve

AV Vmax:	1.4 m/s	Peak Gradient:	7.84 mmHg
LVOT Peak Velocity:	0.85 m/s	DI Vmax:	0.61

Aortic Valve Summary

Normal aortic valve structure and function.

Tricuspid Valve

TR Velocity:	2.43 m/s	TR Gradient:	23.6196 mmHg
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Tricuspid Valve Summary

PPM in situ. Triv/mild TR

Pulmonic Valve

Pulmonic Valve Summary

Normal pulmonic valve structure and function.

Structures

Left Atrium

LA Dimension:	4.2 cm	LA/Aorta:	1.91
LA area:	25 cm ²		

Left Atrium Summary

Mildly dilated

Left Ventricle

Diastolic Dimension:	4.3 cm	Septum:	1.2 cm
Systolic Dimension:	3.3 cm	Post Wall:	1.1 cm
LV EDV/LV EDV Index:	87 ml	Simpsons EF:	54.02%
LV ESV/LV ESV Index:	40 ml	TDI Lat E':	8.5 cm/s
FS:	23.26 %		
TDI Med E':	7 cm/s		
EE':	7.18		

Left Ventricle Summary

Anterior septum is moderately hypokinetic, all other regions are mildly hypokinetic
overall function is mild/moderately impaired
EF by Simpsons 4 chamber without contrast = 54%

Right Atrium

Right Atrium Summary

PPM in situ

Right Ventricle

TAPSE:	1.34 cm
RV S Velocity:	11 cm/s

Right Ventricle Summary

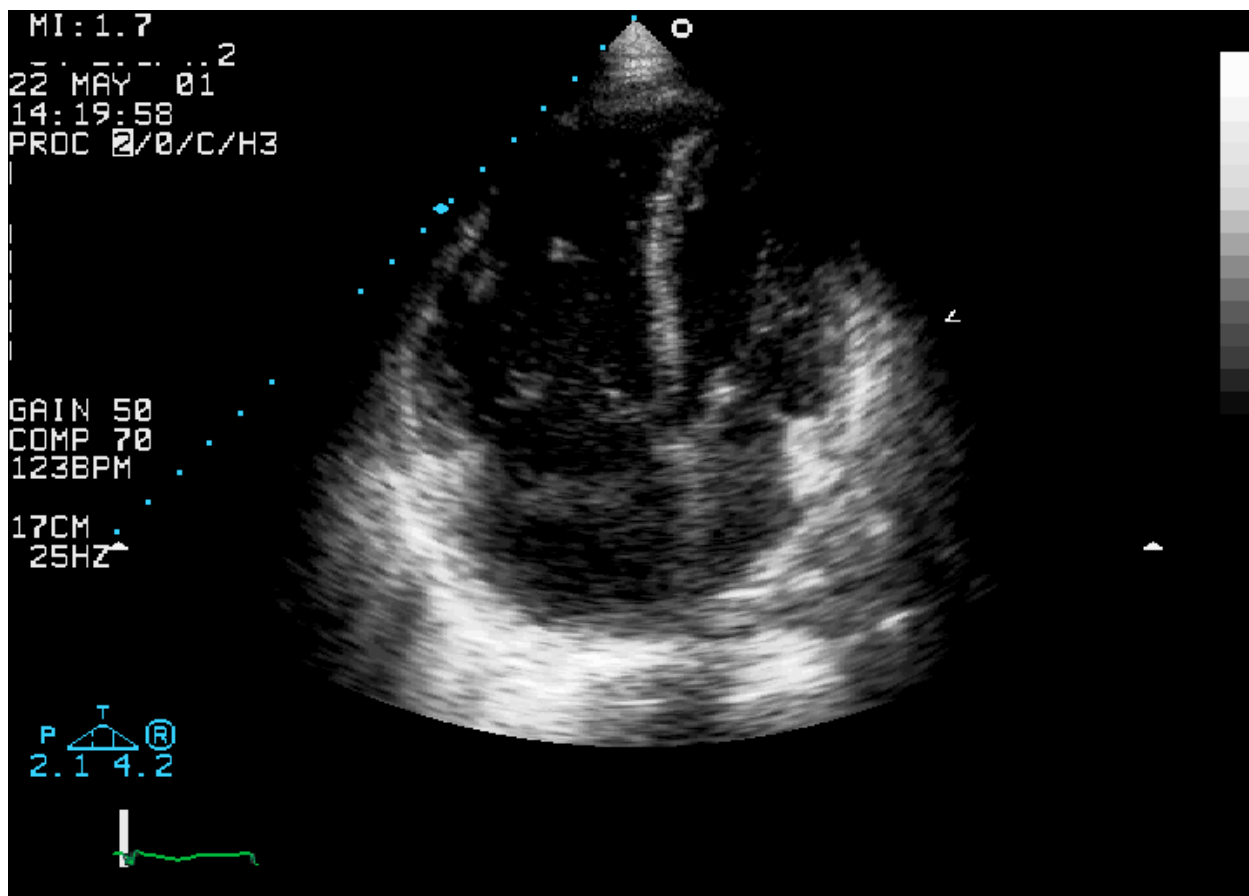
PPM in situ.
2D shows moderate systolic impairment
TDI shows mild impairment

Vessels

Aorta

Aortic Annulus:	2.2 cm
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Right ventricular systolic function



Any queries please contact:
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Transthoracic Echocardiography Report (TTE)

Gender	Male	Race	Unknown
Procedure			
Referring Physician	Sonographer		Srinivasan Sudha
Investigator	Nurse / Assistant		
Technical Quality	Adequate visualization	Investigation Date	04/10/2011
ECG	Faulty Cable		
Comments	Renal Artery Stenosis Recent Hx of SOB		

Conclusions

Good biventricular function
 Moderate concentric LVH
 Calcified aortic valve but no significant obstruction to flow. Mild AR.
 Moderate pulmonary hypertension with estimated pulmonary artery systolic pressure of approx 50mmHg. There is Doppler evidence for severe diastolic LV dysfunction with raised left atrial pressures and this is the likely cause of the moderately raised pulmonary pressures. I would advise a trial of furosemide to see if this helps the symptoms.

Signature

Electronically signed by Dr Jamil Mayet(Reviewer) on 04/10/2011 11:40

Valves

Mitral Valve

Peak E-Wave:	1.09 m/s	Peak Gradient:	4.75 mmHg
Peak A-Wave:	0.85 m/s	E/A Ratio:	1.28
Deceleration Time:	229 msec		

Mitral Valve Summary

Minimally thickened with mildly calcified PML base
 Opens well
 Mild MR

Aortic Valve

AV Vmax:	1.84 m/s	Peak Gradient:	13.54 mmHg
LVOT Peak Velocity:	1.16 m/s	DI Vmax:	0.63

Aortic Valve Summary

Sclerotic aortic valve
 Opens well
 Grade I AR

Tricuspid Valve

TR Velocity:	3.16 m/s	TR Gradient:	39 mmHg
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Tricuspid Valve Summary

Structurally Normal
 Mild TR
 Estimated RVSP ~ 40mmHg + JVP

Pulmonic Valve

Peak Velocity:	0.72 m/s	Peak Gradient:	2.07 mmHg
		Acceleration Time:	88 msec

Pulmonic valve summary

Structurally Normal
 No PS / PR

Structures

Left Atrium

LA Dimension:	3.8 cm	LA/Aorta:	1.56
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Left Atrium Summary

LA size: Normal

Left Ventricle

Diastolic Dimension:	4.5 cm	Septum:	1.9 cm
Systolic Dimension:	2.6 cm	Post Wall:	1.48 cm
FS:	42.22 %	TDI Lat E' :	5.5 cm/s
TDI Med E' :	6 cm/s		
E/E' :	19.82		

Left Ventricle Summary

Good LV Systolic function EF ~ 70%
 Diastolic dysfunction
 Normal cavity size
 Moderate concentric LVH
 Sigmoid basal septum
 No midcavity obstruction

Right Atrium

Right Atrium Summary

Normal right atrium size.

Right Ventricle

TAPSE:	3.6 cm
RV S Velocity:	23 cm/s

Right Ventricle Summary

Normal right ventricle size and function.

Vessels

Aorta

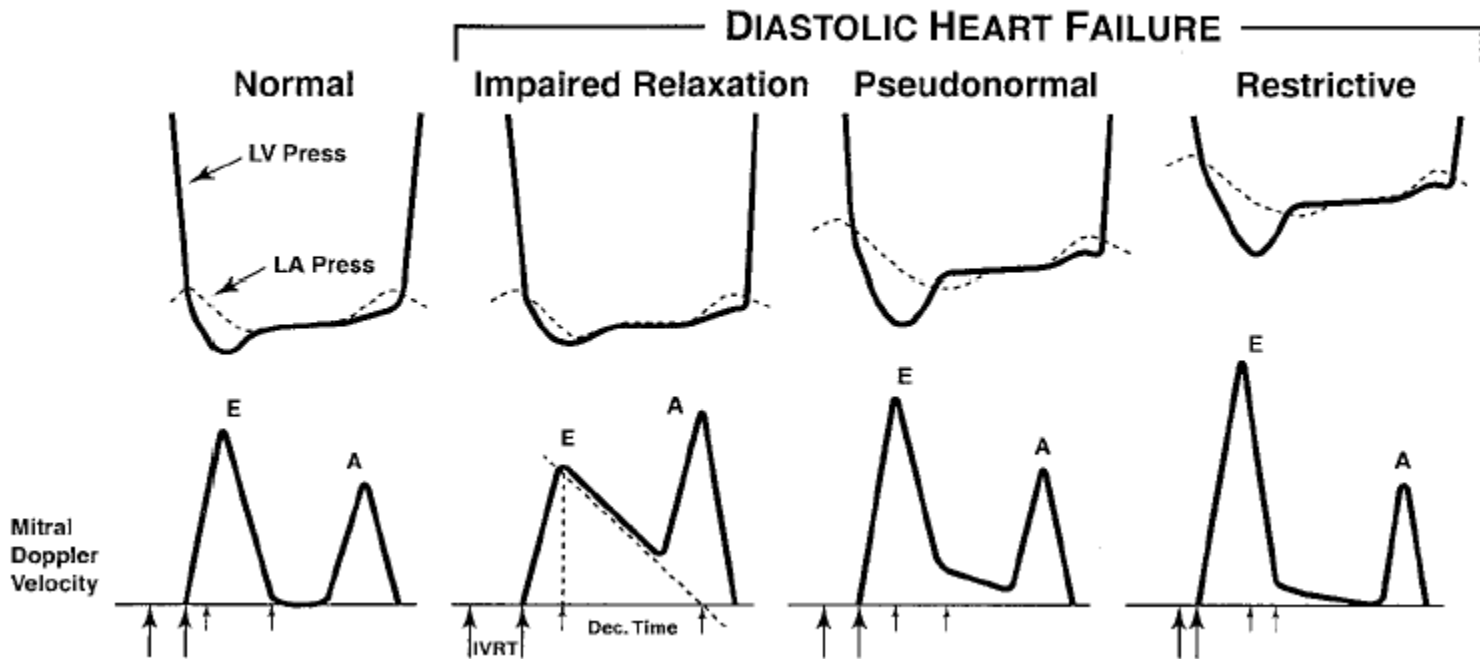
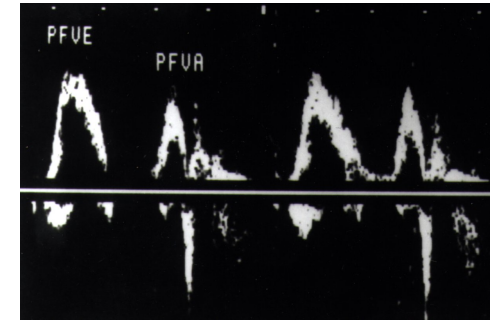
Aortic Annulus:	2.43 cm
Sinus of Valsalva:	2.9 cm

ASSESSMENT OF LV DIASTOLIC FUNCTION

Diastolic heart failure

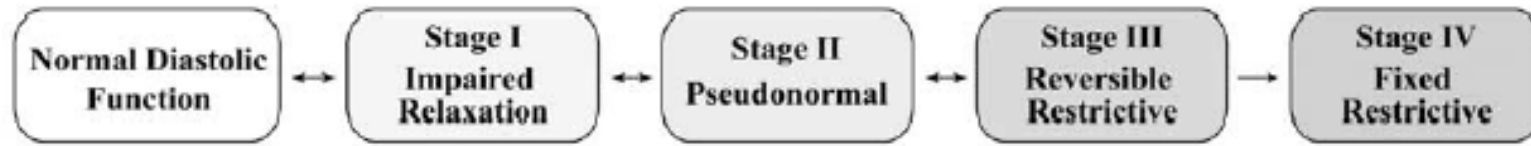
- Up to a third of patients have clinical heart failure with normal LV systolic function
- Underlying pathophysiology relates to diastolic dysfunction
- Commonest underlying pathologies
 - Normal ageing, Hypertension, Myocardial ischaemia

Left Ventricular Diastolic Dysfunction

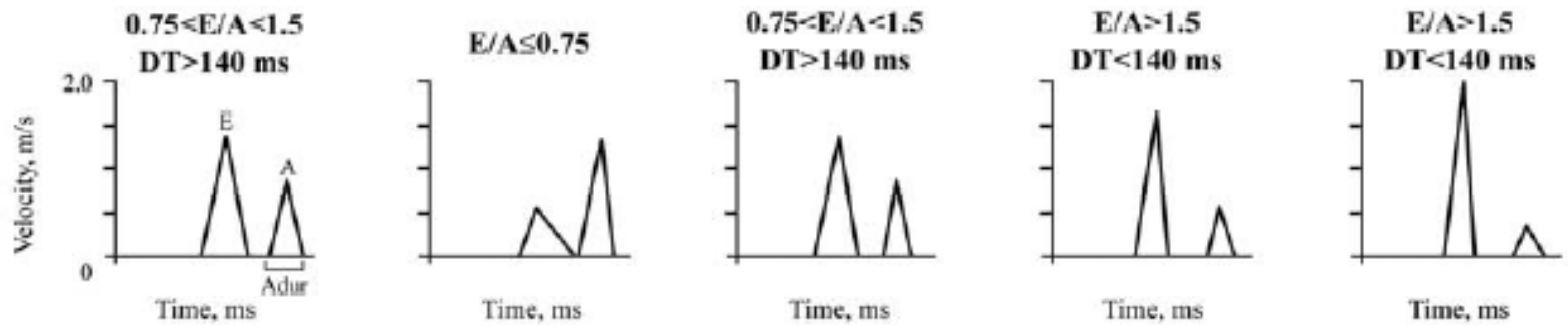


	Normal	Impaired Relaxation	Pseudonormal	Restrictive
LV RELAXATION	NORMAL	IMPAIRED	IMPAIRED	IMPAIRED
LV COMPLIANCE	NORMAL	NORMAL / ↓	↓↓	↓↓↓
ATRIAL PRESSURE	NORMAL	NORMAL	↑↑	↑↑↑

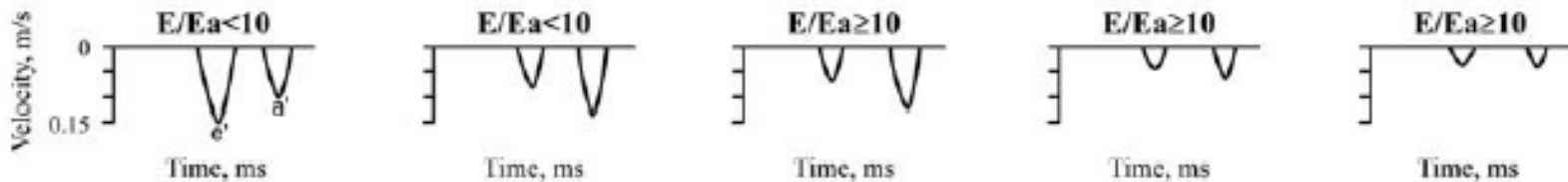
Echocardiographic Classification of Diastolic Dysfunction



Mitral Inflow



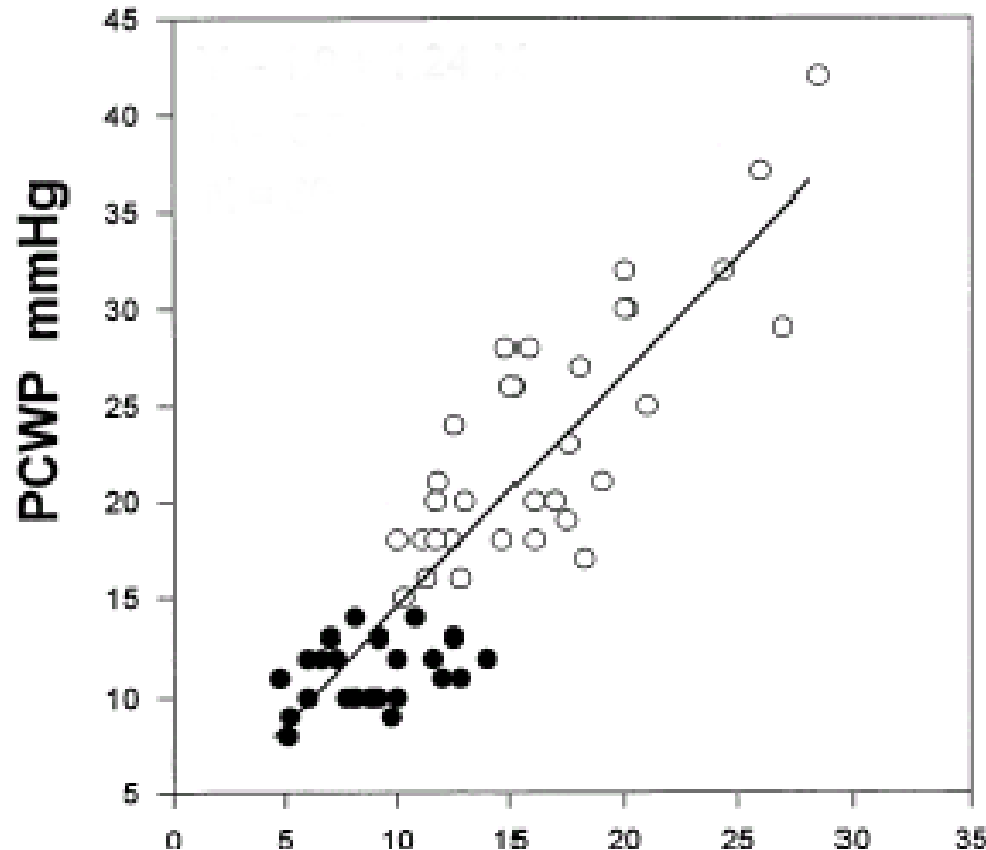
Doppler Tissue Imaging of Mitral Annular Motion



LV Relaxation
 LV Compliance
 Atrial Pressure

Normal Diastolic Function	Stage I Impaired Relaxation	Stage II Pseudonormal	Stage III Reversible Restrictive	Stage IV Fixed Restrictive
Normal	Impaired	Impaired	Impaired	Impaired
Normal	Normal to ↓	↓↓	↓↓↓	↓↓↓↓
Normal	Normal	↑↑	↑↑↑	↑↑↑↑

Relationship of Pulmonary Capillary Wedge Pressure to E/E'



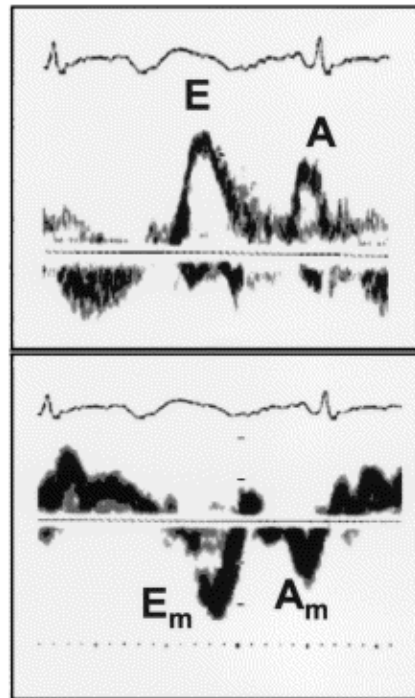
Closed circles: Patients with impaired relaxation on echocardiography.
Open circles: Patients with pseudonormalization on echocardiography.
(Adapted from Nagueh et al. JACC 2003).

Relationship between baseline E/E' and cardiovascular outcome in the ASCOT study

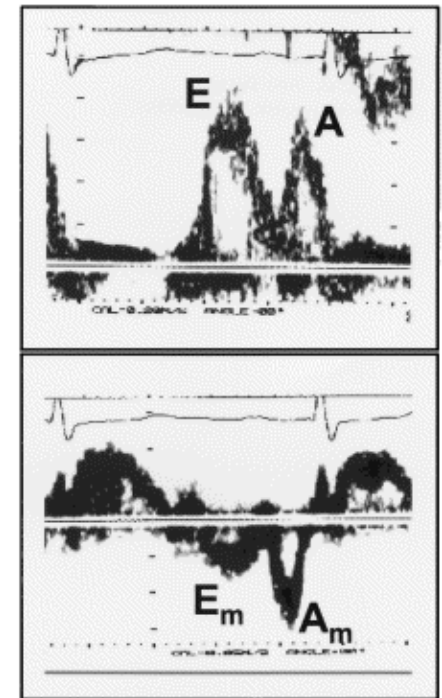
	<i>E/E' < 8</i>	<i>E/E' 8-11</i>	<i>E/E' 11-14</i>	<i>E/E' >14</i>
Number of patients	168	182	69	20
Number of events	15	14	10	10
% patients who had events	8.8	7.7	14.5	50

Echo Assessment of Left Ventricular Diastolic Function

- E/A ratio and DT
- E'
- Calculate E/E'
- If doubt
 - Clinical characteristics of patient
 - LA size
 - LV mass
 - Valsalva
 - PV flow
 - Colour M-mode



Normal



Pseudonormal

Transthoracic Echocardiography Report (TTE)

Gender	Female	Race	Caucasian
Procedure			
Referring Physician		Sonographer	Arvitt Homol
Technical Quality			
Comments	Adequate visualization Murmur	Investigation Date	22/07/2010

Conclusions

Normal LV and RV systolic function.
E-A reversal LV diastolic filling.
Mild concentric LVH.
No significant valvular abnormalities
Prominent fat pad noted.

Signature

Electronically signed by Arvitt Homol(Reviewer) on 22/07/2010 12:12

Valves

Mitral Valve

Peak E-Wave:	0.4 m/s	Peak Gradient:	0.64 mmHg
Peak A-Wave:	0.5 m/s	E/A Ratio:	0.8

Mitral Valve Summary

Normal mitral valve structure and function.

Aortic Valve

AV Vmax:	1.2 m/s	Peak Gradient:	5.76 mmHg
LVOT Peak Velocity:	0.8 m/s	DI Vmax:	0.67

Aortic Valve Summary

Normal aortic valve structure and function.

Tricuspid Valve

Tricuspid Valve Summary

Normal tricuspid valve structure and function.

Structures

Left Atrium

LA area: 14 cm²

Left Atrium Summary

Normal left atrium.

Left Ventricle

Diastolic Dimension:	5 cm	Septum:	1.2 cm
Systolic Dimension:	3.5 cm	Post Wall:	1.2 cm
F8:	30 %		

Left Ventricle Summary

Normal LV cavity size with mild concentric LVH.
Diastolic filling: Abnormal filling pattern - Impaired relaxation

Right Atrium

RA Area: 15.6 ml

Right Atrium Summary

Normal right atrium.

Right Ventricle

TAPSE: 2.5 cm
RV S Velocity: 19 cm/s

Right Ventricle Summary

Normal right ventricle structure and function.

Any queries please contact:
 Tel: 020 32195401
 Fax: 020 32195400
 Email: cardiologyadvice@nhs.net

Transthoracic Echocardiography Report (TTE)

VENUES	TECHNIQUE	NAME	DATE/TIME
Procedure			
Referring Physician		Sonographer	Srinivasan Sudha
Investigator		Nurse / Assistant	
Technical Quality	Good visualization	Consent	Verbally obtained
ECG	Sinus	Investigation Date	31/05/2012
Comments	Palpitations and Chest Pain		

Conclusions

Good biventricular systolic function
 Structurally normal valves
 No significant valvular abnormalities noted
 No chamber enlargement / hypertrophy

Signature

Electronically signed by Srinivasan Sudha(Reviewer) on 31/05/2012 02:47

Valves

Mitral Valve

Peak E-Wave:	0.95 m/s	Peak Gradient:	3.61 mmHg
Peak A-Wave:	0.49 m/s	E/A Ratio:	1.94
Deceleration Time:	194 msec		

Mitral Valve Summary

Normal mitral valve structure and function.

Aortic Valve

AV Vmax:	1.19 m/s	Peak Gradient:	5.66 mmHg
LVOT Peak Velocity:	1.04 m/s	LVOT Peak Gradient:	4 mmHg
LVOT Diameter:	2.1 cm	DI Vmax:	0.87

Aortic Valve Summary

Normal aortic valve structure and function.

Tricuspid Valve

Tricuspid Valve Summary

Normal tricuspid valve structure and function.

Pulmonic Valve

Peak Velocity:	0.68 m/s	Peak Gradient:	1.85 mmHg
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Pulmonic Valve Summary

Normal pulmonic valve structure and function.

Structures

Left Atrium

LA Dimension:	3.2 cm	LA/Aorta:	1.52
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Left Atrium Summary

Normal left atrium.

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 Tel: 020 32195401
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Left Ventricle

Diastolic Dimension:	5 cm	Septum:	0.7 cm
Systolic Dimension:	3.4 cm	Post Wall:	0.7 cm
LV EDV/LV EDV Index:	109 ml	Simpsons EF:	63%
LV ESV/LV ESV Index:	40 ml	TDI Lat E':	21.3 cm/s
FS:	32%		
TDI Med E' :	12.8 cm/s		
E/E' :	4.46		

Left Ventricle Summary

Normal left ventricle structure and function.
 LVEF ~ 64% by simpsons biplane method

Right Atrium

Right Atrium Summary

Normal right atrium.

Right Ventricle

TAPSE:	2.36 cm
RV S Velocity:	12.3 cm/s

Right Ventricle Summary

Normal right ventricle structure and function.

Vessels

Aorta

Aortic Annulus:	2.1 cm	LVOT Diameter:	2.1 cm
Sinus of Valsalva:	2.74 cm		

Vessels Summary

Lt arch - No anomalies
 Normal IVC

Effusions

Effusions Summary

Normal Pericardium

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Transthoracic Echocardiography Report (TTE)

Gender	Male	Race	Unknown
Procedure			
Referring Physician	Sonographer		Srinivasan Sudha
Investigator	Nurse / Assistant		
Technical Quality	Adequate visualization	Investigation Date	04/10/2011
ECG	Faulty Cable		
Comments	Renal Artery Stenosis Recent Hx of SOB		

Conclusions

Good biventricular function
 Moderate concentric LVH
 Calcified aortic valve but no significant obstruction to flow. Mild AR.
 Moderate pulmonary hypertension with estimated pulmonary artery systolic pressure of approx 50mmHg. There is Doppler evidence for severe diastolic LV dysfunction with raised left atrial pressures and this is the likely cause of the moderately raised pulmonary pressures. I would advise a trial of furosemide to see if this helps the symptoms.

Signature

Electronically signed by Dr Jamil Mayet(Reviewer) on 04/10/2011 11:40

Valves

Mitral Valve

Peak E-Wave:	1.09 m/s	Peak Gradient:	4.75 mmHg
Peak A-Wave:	0.85 m/s	E/A Ratio:	1.28
Deceleration Time:	229 msec		

Mitral Valve Summary

Minimally thickened with mildly calcified PML base
 Opens well
 Mild MR

Aortic Valve

AV Vmax:	1.84 m/s	Peak Gradient:	13.54 mmHg
LVOT Peak Velocity:	1.16 m/s	DI Vmax:	0.63

Aortic Valve Summary

Sclerotic aortic valve
 Opens well
 Grade I AR

Tricuspid Valve

TR Velocity:	3.16 m/s	TR Gradient:	39 mmHg
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Tricuspid Valve Summary

Structurally Normal
 Mild TR
 Estimated RVSP ~ 40mmHg + JVP

Pulmonic Valve

Peak Velocity:	0.72 m/s	Peak Gradient:	2.07 mmHg
		Acceleration Time:	88 msec

Pulmonic valve summary

Structurally Normal
 No PS / PR

Structures

Left Atrium

LA Dimension:	3.8 cm	LA/Aorta:	1.56
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Left Atrium Summary

LA size: Normal

Left Ventricle

Diastolic Dimension:	4.5 cm	Septum:	1.9 cm
Systolic Dimension:	2.6 cm	Post Wall:	1.48 cm
FS:	42.22 %	TDI Lat E':	5.5 cm/s
TDI Med E':	6 cm/s		
E/E':	19.82		

Left Ventricle Summary

Good LV Systolic function EF ~ 70%
 Diastolic dysfunction
 Normal cavity size
 Moderate concentric LVH
 Sigmoid basal septum
 No midcavity obstruction

Right Atrium

Right Atrium Summary

Normal right atrium size.

Right Ventricle

TAPSE:	3.6 cm
RV S Velocity:	23 cm/s

Right Ventricle Summary


Normal right ventricle size and function.

Vessels


Aorta

Aortic Annulus:	2.43 cm
Sinus of Valsalva:	2.9 cm

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Imperial College Healthcare 
NHS Trust
Westminster Community Cardiac Team

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Imperial College Healthcare 
NHS Trust
Westminster Community Cardiac Team

Transthoracic Echocardiography Report (TTE)

Procedure

Referring Physician	Sonographer	Srinivasan Sudha	
Investigator	Nurse / Assistant		
Technical Quality	Good visualization	Consent	Verbally obtained
ECG	Sinus	Investigation Date	29/05/2012
Comments	Palpitations		

Conclusions

Good biventricular systolic function
Structurally normal valves
Trace mitral regurgitation
Moderate tricuspid regurgitation
Elevated PA pressure ~ 46mmHg + JVP
No chamber enlargement / hypertrophy

Signature

Electronically signed by Srinivasan Sudha(Reviewer) on 29/05/2012 11:33

Valves

Mitral Valve

Peak E-Wave:	0.86 m/s	Peak Gradient:	3.1 mmHg
Peak A-Wave:	0.59 m/s	E/A Ratio:	1.49
Deceleration Time:	180 msec		

Mitral Valve Summary

Structurally Normal
Trace MR - eccentric jet

Aortic Valve

AV Vmax:	1.25 m/s	Peak Gradient:	6.25 mmHg
LVOT Peak Velocity:	1.12 m/s	LVOT Peak Gradient:	5 mmHg
LVOT Diameter:	2 cm	DI Vmax:	0.9

Aortic Valve Summary

Structurally normal tricuspid aortic valve
No AS / AR

Tricuspid Valve

TR Velocity:	3.38 m/s	TR Gradient:	45 mmHg
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Tricuspid Valve Summary

Structurally Normal
Moderate TR
Estimated RVSP ~ 46mmHg + JVP

Pulmonic Valve

Peak Velocity:	0.95 m/s	Peak Gradient:	3.61 mmHg
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Pulmonic Valve Summary

Normal pulmonic valve structure
Trivial PR

Structures

Left Atrium

LA Dimension:	3 cm	LAA/Aorta:	1.43
LA area:	12.8 cm ²		

Left Atrium Summary

Normal left atrium.
Intact atrial septum

Left Ventricle

Diastolic Dimension:	4.6 cm	Septum:	0.9 cm
Systolic Dimension:	2.4 cm	Post Wall:	0.8 cm
FS:	47.83 %	TDI Lat E':	14.1 cm/s
TDI Med E':	10.2 cm/s		
E/E':	6.24		

Left Ventricle Summary

Good LV systolic function EF > 70%
Normal diastolic function
Normal cavity size and wall thickness

Right Atrium

RA Area:	17.2 ml
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Right Atrium Summary

Normal right atrium.

Right Ventricle

TAPSE:	2.8 cm	Dimension (Base):	3.23 cm
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Right Ventricle Summary

Normal right ventricle structure and function.

Vessels

Aorta

Aortic Annulus:	2.1 cm	LVOT Diameter:	2 cm
Sinus of Valsalva:	2.88 cm		

Vessels Summary

Lt arch - No anomalies
Normal IVC

Effusions

Effusions Summary

Normal Pericardium

Any queries please contact:
 Tel: 020 32195401
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 Email: cardiologypadvise@nhs.net

Transthoracic Echocardiography Report (TTE)

Gender Female Race Asian

Procedure

Referring Physician Sonographer Srinivasan Sudha

Investigator Nurse / Assistant

Technical Quality Adequate visualization Consent Verbally obtained
 ECG Sinus Investigation Date 31/05/2012

Comments SOB on minimal exertion , Known asthmatic

Conclusions

Suboptimal Echo Window

Good biventricular systolic function
 Structurally normal valves
 No significant valvular abnormalities noted
 Normal PAP
 No chamber enlargement / hypertrophy

Signature

Electronically signed by Srinivasan Sudha(Reviewer) on 31/05/2012 10:24

Valves

Mitral Valve

Peak E-Wave: 0.65 m/s Peak Gradient: 1.69 mmHg
 Peak A-Wave: 0.81 m/s E/A Ratio: 0.8
 Deceleration Time: 158 msec

Mitral Valve Summary

Normal mitral valve structure and function.

Aortic Valve

AV Vmax: 1.26 m/s Peak Gradient: 6.35 mmHg
 LVOT Peak Velocity: 0.94 m/s LVOT Peak Gradient: 4 mmHg
 LVOT Diameter: 1.9 cm DI Vmax: 0.75

Aortic Valve Summary

Normal aortic valve structure and function.

Tricuspid Valve

TR Velocity: 2.25 m/s TR Gradient: 20 mmHg

Tricuspid Valve Summary

Structurally Normal
 Trace TR
 Normal PAP
 Estimated RVSP ~ 20mmHg + JVP (~ 20-25mmHg)

Pulmonic Valve

Peak Velocity: 0.61 m/s Peak Gradient: 1.49 mmHg

Pulmonic Valve Summary

Normal pulmonic valve structure and function.

Structures

Any queries please contact:
 Tel: 020 32195401
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 Email: cardiologypadvise@nhs.net

Left Atrium

LA Dimension: 2.8 cm LA/Aorta: 1.47

Left Atrium Summary

Normal left atrium.

Left Ventricle

Diastolic Dimension: 4.2 cm Septum: 1.1 cm
 Systolic Dimension: 2.7 cm Post Wall: 1 cm
 F8: 35.71 % TDI Lat E': 8.58 cm/s
 TDI Med E': 7.41 cm/s
 E/E': 7.58

Left Ventricle Summary

Good LV systolic function EF ~ 65%
 E : A reversal noted
 Normal cavity size and wall thickness

Right Atrium

Right Atrium Summary

Normal right atrium.

Right Ventricle

TAPSE: 2.38 cm

Right Ventricle Summary

Normal right ventricle structure and function.

Vessels

Aorta

Aortic Annulus: 1.9 cm LVOT Diameter: 1.9 cm
 Sinus of Valsalva: 3.34 cm

Vessels Summary

L1 arch - No anomalies
 Normal IVC

Effusions

Effusions Summary

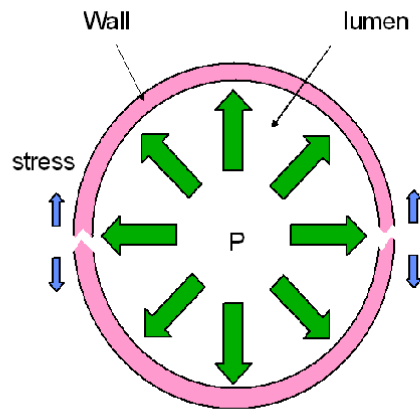
Normal Pericardium

Treatment of diastolic heart failure

- Treat underlying cause eg ischaemia
- Impaired relaxation
 - Theoretically rate-limiting agents effective
 - Beta-blockers, verapamil
 - Reduce HR and prolong diastole
 - Reduce myocardial oxygen demand
 - Lower BP and reduce LVH
- Restriction
 - Drugs which reduce fibrosis and lower LA pressure theoretically should be effective
 - ACEI, AII blockers, Diuretics
 - If LA pressure lowered too much cardiac output significantly worsened
 - Can cause significant morbidity

ASSESSMENT OF LV CARDIAC STRUCTURE

Hypertensive Heart Disease

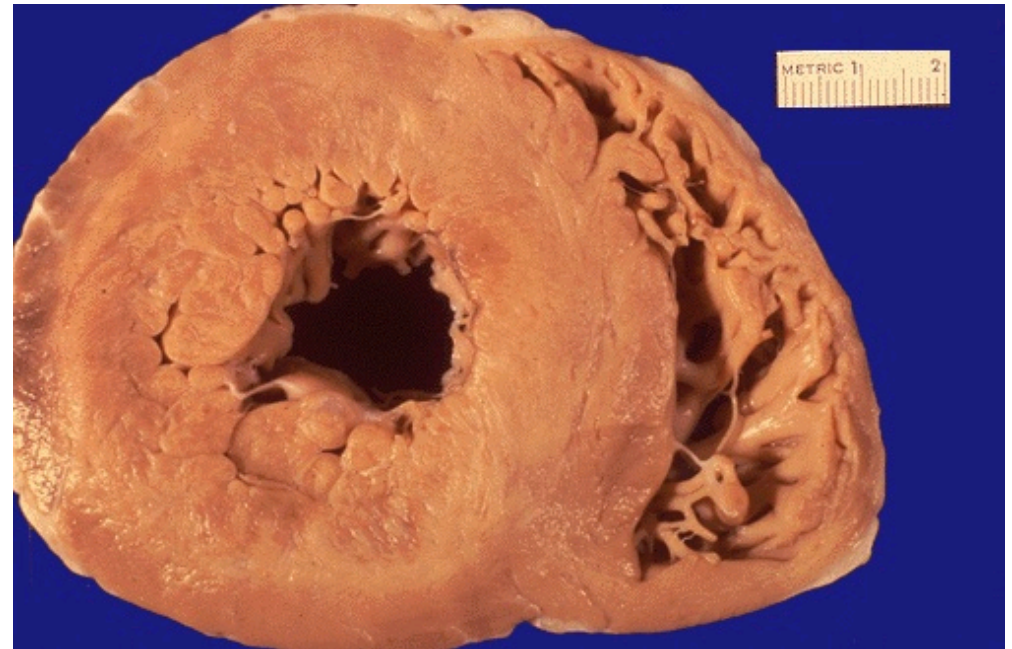


$$T = P \times R$$

(where T = tension, P = pressure, R = lumen radius)

$$\sigma = T/h$$

(where σ = stress, h = wall thickness)



Echo definition of LVH

- Healthy cohorts of subjects
- No high BP, diabetes, CV disease, obesity
- LVH defined as LVMI $>$ mean + 2SD
 - >116 g/m² males
 - >104 g/m² females
- Relative wall thickness = $2 \times \text{PWTd} / \text{LVIDd}$
 - Increased when 0.43 or more

Left ventricular geometry

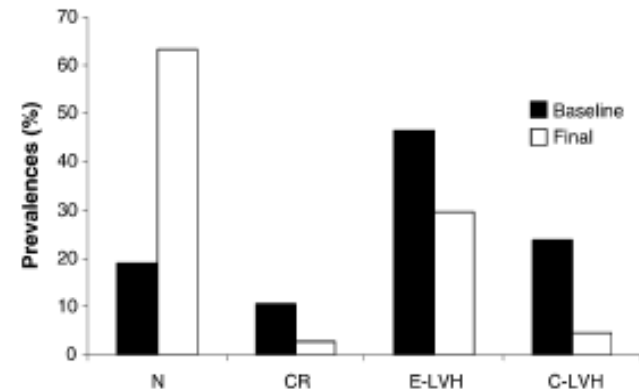
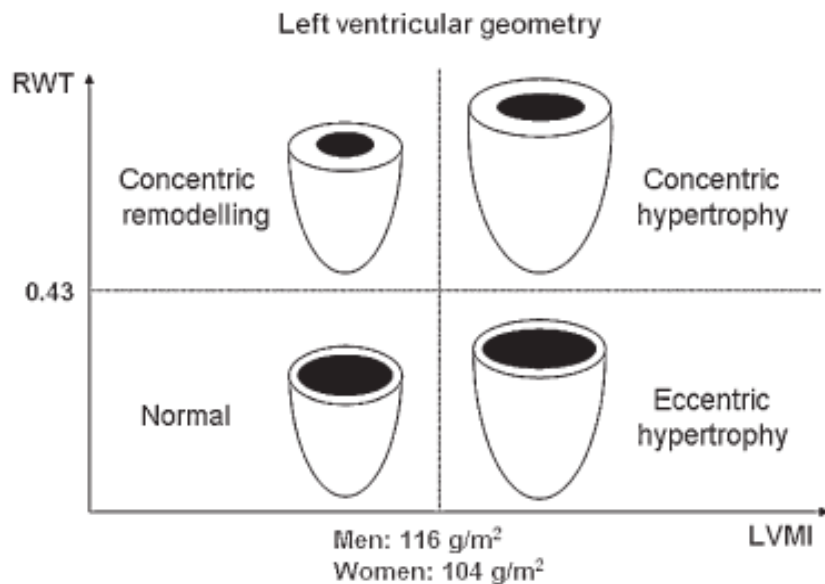
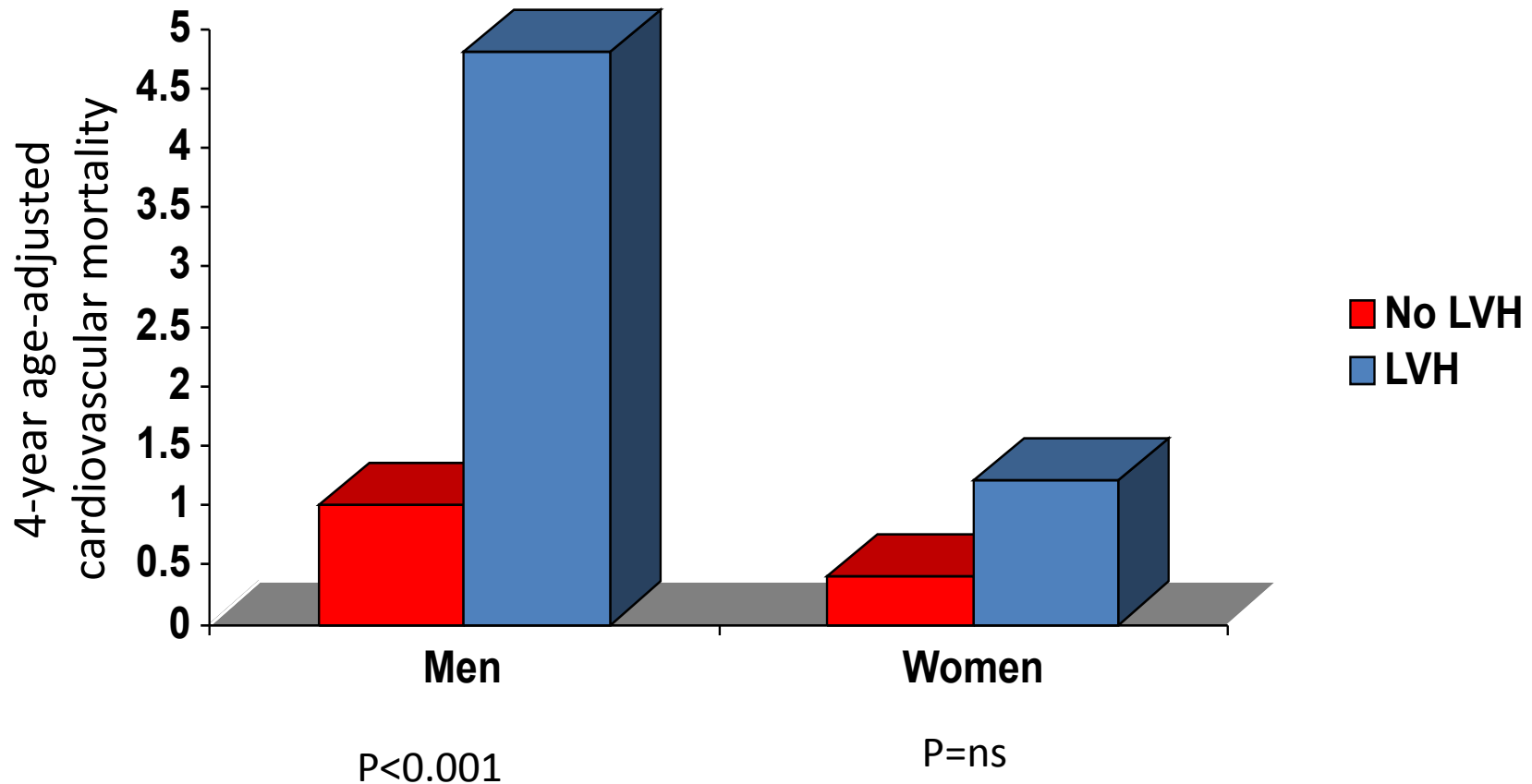


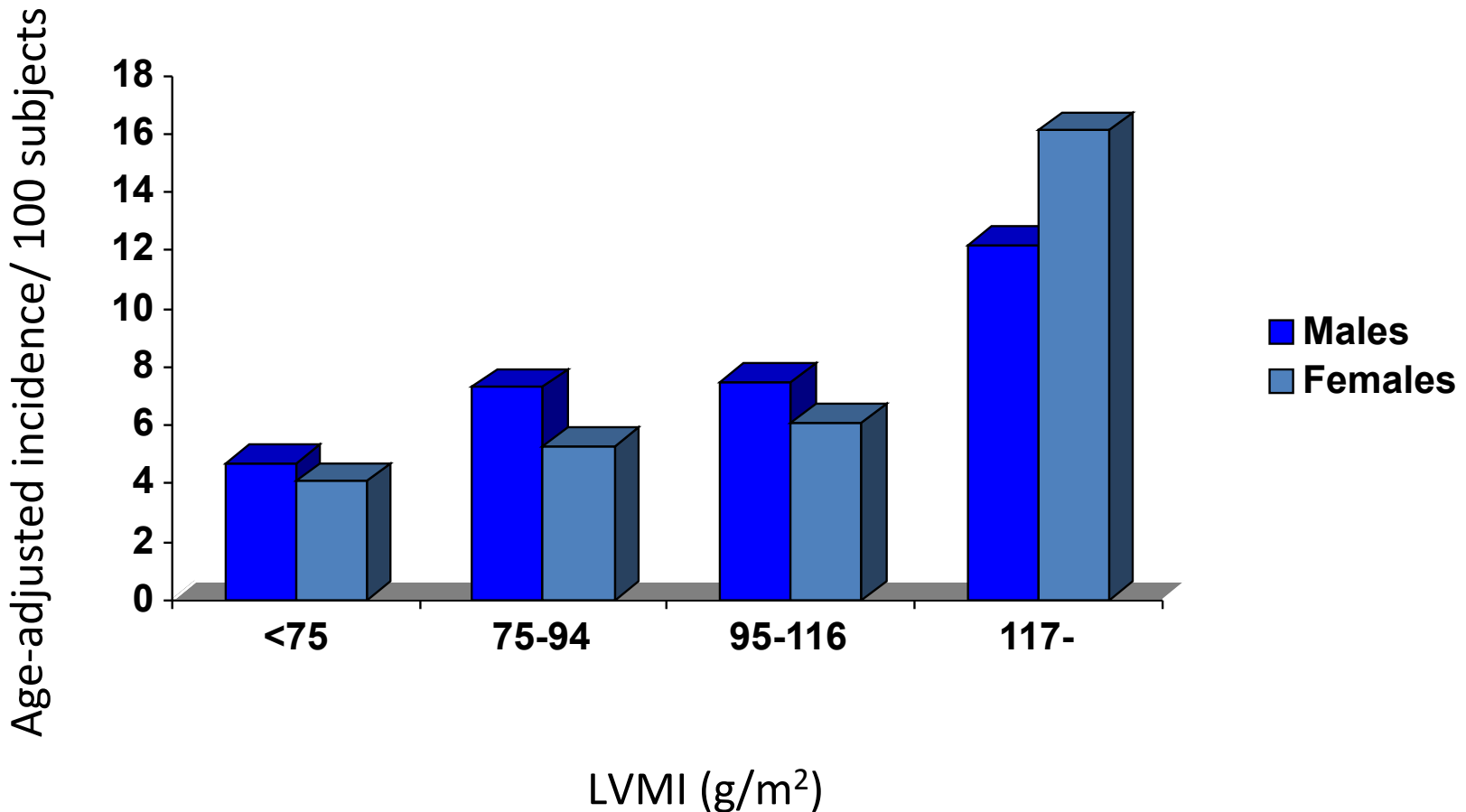
Figure 1 Left ventricular geometry at baseline and after 4.8 years antihypertensive treatment. CR, concentric remodelling; C-LVH, concentric LV hypertrophy; E-LVH, eccentric LV hypertrophy; N, normal geometry.

Incidence of cardiovascular mortality according to presence or absence of LVH



Redrawn from Levy et al, NEJM 1990; 322: 1561-6.

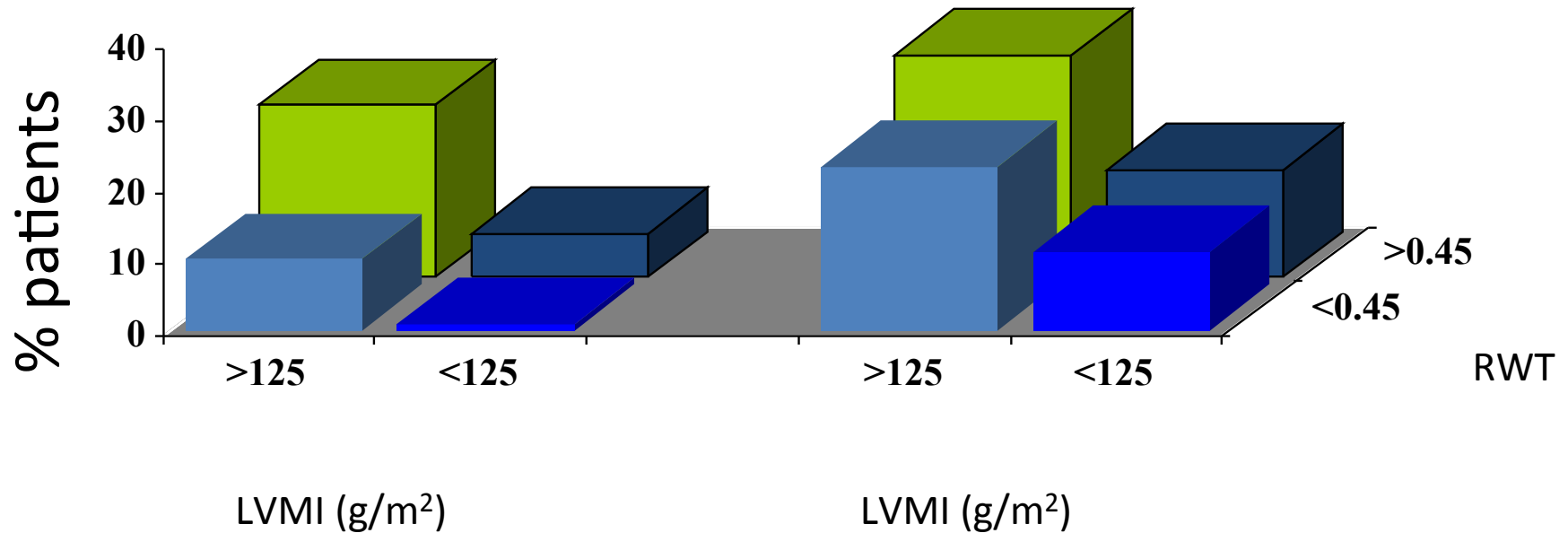
4-year age-adjusted incidence of cardiovascular disease according to LVMI



Redrawn from Levy et al; NEJM 1990; 322: 1561-6.

Risks associated with LVM and geometry

Total mortality* Cardiovascular events†



*P<0.001, †P=0.03

Koren et al. Ann Int Med 1991; 114: 345-352.

Transthoracic Echocardiography Report (TTE)

Gender	Female	Race	Caucasian
Procedure			
Referring Physician		Sonographer	Arvitt Homol
Technical Quality	Adequate visualization	Investigation Date	22/07/2010
Comments	Murmur		

Conclusions

Normal LV and RV systolic function.
 E-A reversal LV diastolic filling.
 Mild concentric LVH.
 No significant valvular abnormalities
 Prominent fat pad noted.

Signature

Electronically signed by Arvitt Homol(Reviewer) on 22/07/2010 12:12

Valves

Mitral Valve

Peak E-Wave:	0.4 m/s	Peak Gradient:	0.64 mmHg
Peak A-Wave:	0.5 m/s	E/A Ratio:	0.8

Mitral Valve Summary

Normal mitral valve structure and function.

Aortic Valve

AV Vmax:	1.2 m/s	Peak Gradient:	5.76 mmHg
LVOT Peak Velocity:	0.8 m/s	DI Vmax:	0.67

Aortic Valve Summary

Normal aortic valve structure and function.

Tricuspid Valve

Tricuspid Valve Summary

Normal tricuspid valve structure and function.

Structures

Left Atrium

LA area: 14 cm²

Left Atrium Summary

Normal left atrium.

Left Ventricle

Diastolic Dimension:	5 cm	Septum:	1.2 cm
Systolic Dimension:	3.5 cm	Post Wall:	1.2 cm
F8:	30 %		

Left Ventricle Summary

Normal LV cavity size with mild concentric LVH.
 Diastolic filling: Abnormal filling pattern - Impaired relaxation

Right Atrium

RA Area: 15.6 ml

Right Atrium Summary

Normal right atrium.

Right Ventricle

TAPSE: 2.5 cm
 RV S Velocity: 19 cm/s

Right Ventricle Summary

Normal right ventricle structure and function.

Transthoracic Echocardiography Report (TTE)

Gender	Male	Race	Black
Procedure			
Referring Physician		Sonographer	locum echo
Investigator		Nurse / Assistant	
Requesting Physician	Mr Franklin	Request Date	26/04/2011
Comments	Pre op assessment	Investigation Date	26/04/2011

Conclusions

Sub-optimal images obtained. Pt unable to turn on his side. Off-axis apical images, LV appears unillated with mild concentric LVH and good systolic function.

Normal atria size.

Degenerative aortic valve with no significant stenosis.

Normal right heart size and function.

IAS appears mildly mobile. No obvious shunt seen.

Signature

Electronically signed by buai nina(Reviewer) on 26/04/2011 12:38

Valves

Mitral Valve

Peak E-Wave:	0.4 m/s	Peak Gradient:	0.64 mmHg
Peak A-Wave:	0.65 m/s	E/A Ratio:	0.62

Mitral Valve Summary

Mild annular calcification. Leaflets appear thin and mobile

Aortic Valve

AV Vmax:	1.7 m/s	Peak Gradient:	11.56 mmHg
LVOT Diameter:	2.1 cm		

Aortic Valve Summary

Tri-leaflet. The tips of the leaflets are calcified with reasonable openings excursion. No significant aortic stenosis. No regurgitation.

Tricuspid Valve

Tricuspid Valve Summary

Leaflets appear thin and mobile. No significant regurgitation.

Pulmonic Valve

Pulmonic Valve Summary

Appears normal

Structures

Left Atrium

Left Atrium Summary

Appears normal in size.

Left Ventricle

Septum: 1.2 cm
Post Wall: 1.2 cm

Left Ventricle Summary

Normal LV size with good systolic function. Mild concentric LVH. No obvious regional wall motion abnormalities. E/A wave reversal on transmitral Doppler.

Right Atrium

Right Atrium Summary

Normal right atrium.

Right Ventricle

Right Ventricle Summary

Normal RV size and function

Vessels

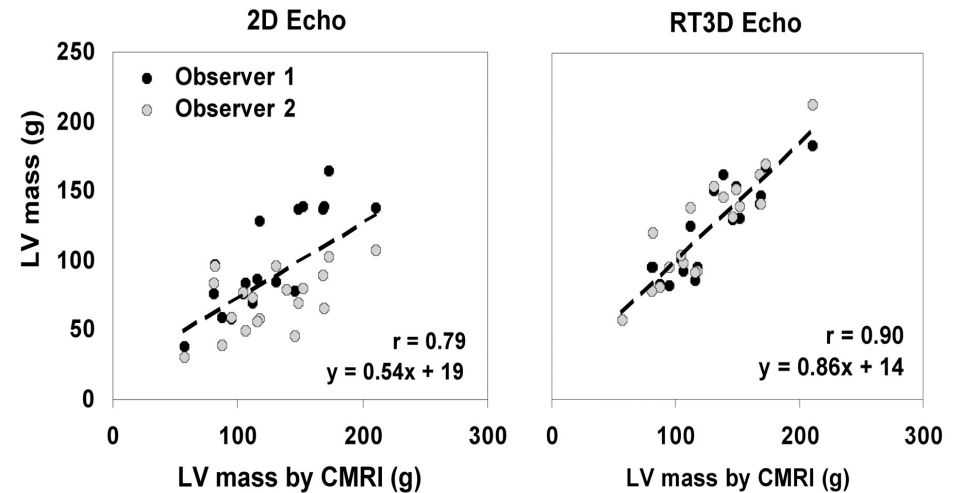
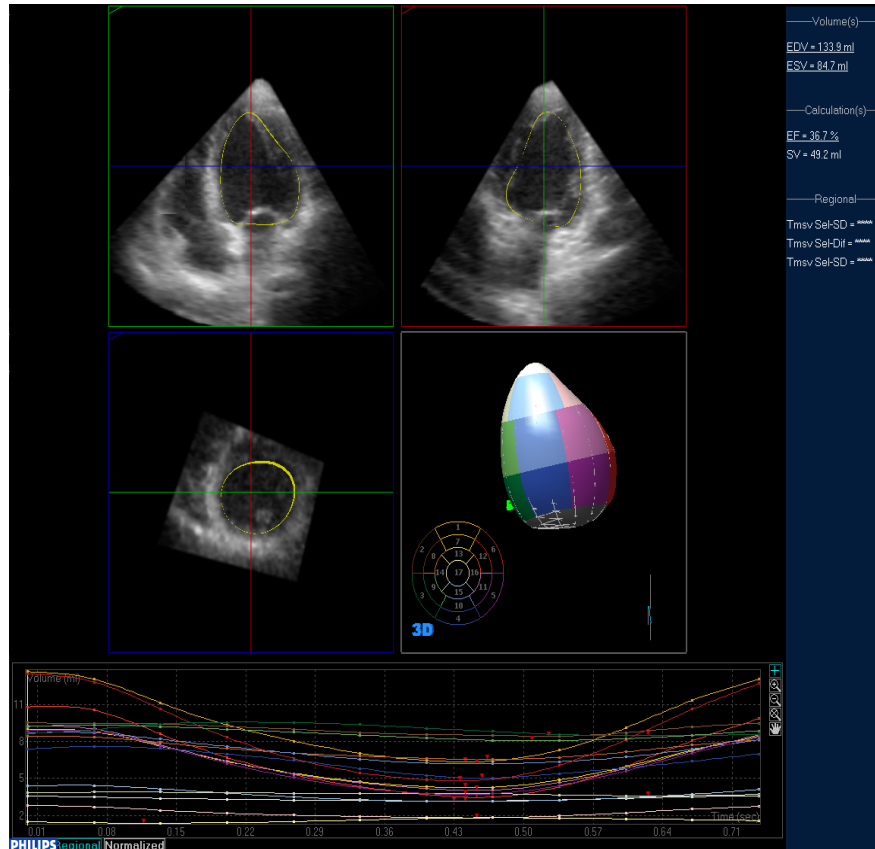
Aorta

Ascending Aorta: 3.2 cm LVOT Diameter: 2.1 cm

Vessels Summary

Normal aortic root, arch and descending aorta

3D echo assessment of LV volume and mass

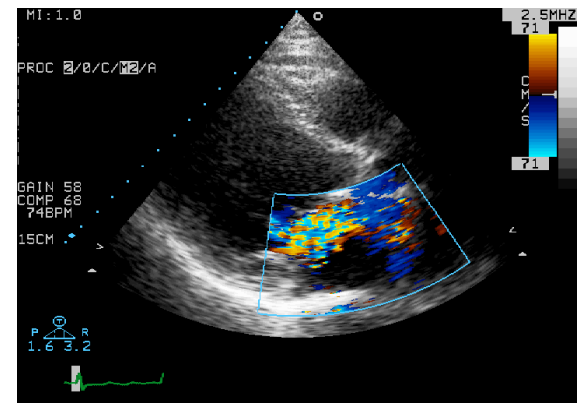
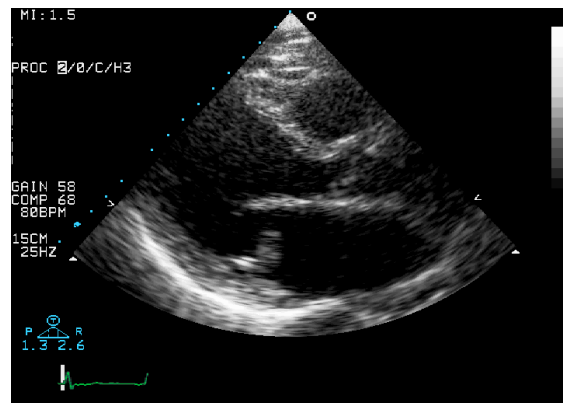
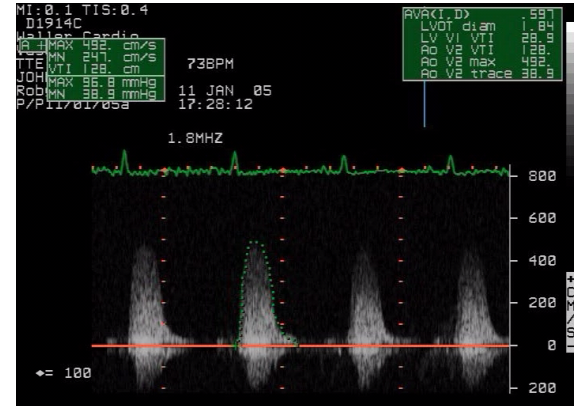
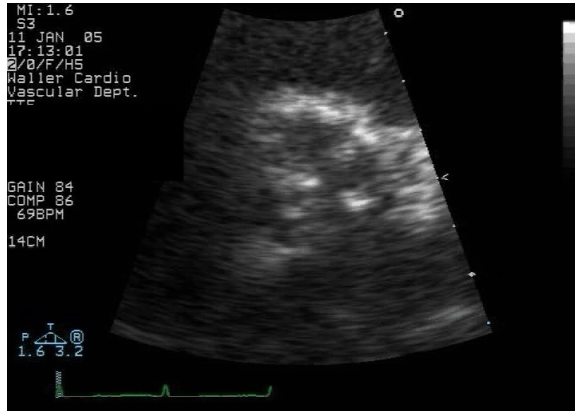


Intraobserver variability
2D echo 19% 3D echo 8%

Interobserver variability
2D echo 37% 3D echo 7%

ASSESSMENT OF THE VALVES

Valvular anatomy and function



Transthoracic Echocardiography Report (TTE)

Gender	Female	Race	Caucasian
Procedure			
Referring Physician	Sonographer		
Investigator	Nurse / Assistant		
HR	74 bpm	Consent	Verbally obtained
ECG	Sinus	Investigation Date	30/05/2012
Reason for Request	CVA		

Conclusions

Severe aortic stenosis
Non-dilated LV with concentric mild LVH . Good biventricular systolic function

Reported by Alejandro Rendon

Signature

Electronically signed by Cath Lab/Reviewer) on 30/05/2012 12:03

Valves

Mitral Valve

Peak E-Wave:	0.47 m/s	Peak Gradient:	0.88 mmHg
Peak A-Wave:	1.04 m/s	E/A Ratio:	0.45

Mitral Valve Summary

Mitral annular calcification. The anterior leaflet is mobile with some thickening at the base , the posterior leaflet is mobile and thin. Good overall excursion. Mild mitral regurgitation

Aortic Valve

AV Vmax:	5.46 m/s	Peak Gradient:	119.25 mmHg
AV VTI:	114 m	Mean Gradient:	69 mmHg
LVOT Peak Velocity:	60 m/s	LVOT Peak Gradient:	1 mmHg
LVOT VTI:	12.2 m	AV Area VTI:	0.32 cm ²
LVOT Diameter:	1.96 cm	DI Vmax:	10.99

Aortic Valve Summary

Severe aortic stenosis. Diffuse aortic thickening of the aortic cusp with reduction in excursion. Mild aortic regurgitation. Peak AV vel 5.4 m/s, PPG 119 mmHg, MPG 69 mmHg, AVA ~ 0.32 sqcm

Tricuspid Valve

Tricuspid Valve Summary

Normal tricuspid valve structure and function. Unable to trace regurgitation

Pulmonic Valve

Pulmonic Valve Summary

Normal pulmonic valve structure and function.

Structures

Left Atrium

LA Dimension:	3.69 cm	LA/Aorta:	1.08
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Left Atrium Summary

Normal left atrium.

Left Ventricle

Diastolic Dimension:	4.81 cm	Septum:	1.03 cm
Systolic Dimension:	3.44 cm	Post Wall:	1.09 cm
FS:	28.48 %	CO:	272.25 l/min

Left Ventricle Summary

Non-dilated left ventricle with mildly increases wall thickness. Good overall systolic function. Type I diastolic dysfunction.

Right Atrium

Right Atrium Summary

Normal right atrium. The IVC is normal in size with good inspiratory collapse

Right Ventricle

Right Ventricle Summary

Normal right ventricle structure with good overall systolic function.

Vessels

Aorta

Aortic Annulus:	3.42 cm	LVOT Diameter:	1.96 cm
Ascending Aorta:	4.2 cm		

Vessels Summary

Mildly dilated proximal ascending aorta (4.4 cm). Abdominal aorta 2.3 cm

Effusions

Effusions Summary

No evidence of pericardial effusion.

Any queries please contact:
 Tel: 020 32195401
 Fax: 020 32195400
 Email: cardiologyadvice@nhs.net

Transthoracic Echocardiography Report (TTE)

Gender	Female	Race	Unknown
Procedure			
Referring Physician		Sonographer	Sylvia Sadiq Nina Bual
Investigator		Nurse / Assistant	
Technical Quality	Adequate visualization	Consent	Verbally obtained
ECG	Sinus rhythm	Investigation Date	31/05/2012
Comments	RWMA		

Conclusions

Normal LV cavity size.
 Good LV systolic function.
 Mild aortic regurgitation.

Signature

Electronically signed by Sylvia Sadiq(Reviewer) on 01/06/2012 08:43

Valves

Mitral Valve

Peak E-Wave:	0.74 m/s	Peak Gradient:	2.19 mmHg
Peak A-Wave:	0.83 m/s	E/A Ratio:	0.89
Deceleration Time:	211 msec		

Mitral Valve Summary

Structurally normal MV with good excursion.

Aortic Valve

AV Vmax:	2.21 m/s	Peak Gradient:	19.54 mmHg
LVOT Peak Velocity:	1.13 m/s	Mean Gradient:	11 mmHg
LVOT VTI:	2.34 m	LVOT Peak Gradient:	5 mmHg
LVOT Diameter:	2 cm	DI Vmax:	0.51

Aortic Valve Summary

Tricuspid sclerotic AV with good excursion. Mild aortic regurgitation.

Tricuspid Valve

TR Velocity:	1.73 m/s	TR Gradient:	11 mmHg
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Tricuspid Valve Summary

Normal tricuspid valve structure and function.

Pulmonic Valve

Peak Velocity:	0.94 m/s	Peak Gradient:	3.53 mmHg
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Pulmonic Valve Summary

Normal pulmonic valve structure and function.

Structures

Left Atrium

LA Dimension:	3.4 cm	LA/Aorta:	1.48
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Any queries please contact:
 Tel: 020 32195401
 Fax: 020 32195400
 Email: cardiologyadvice@nhs.net

Left Atrium summary

Normal left atrium.

Left Ventricle

Diastolic Dimension:	3.7 cm	Septum:	1 cm
Systolic Dimension:	2.7 cm	Post Wall:	1.1 cm
FS:	27.03 %	TDI Lat E' :	5.29 cm/s
TDI Med E' :	3.69 cm/s		
E/E' :	13.99		

Left Ventricle Summary

Normal LV cavity size.
 Normal systolic function.
 Visually estimated EF = 50 - 55 %

Right Atrium

Right Atrium Summary

Normal right atrium.

Right Ventricle

TAPSE:	2.25 cm
RV S Velocity:	9.46 cm/s

Right Ventricle Summary

Normal right ventricle structure and function.

Vessels

Aorta

Aortic Annulus:	2.3 cm	LVOT Diameter:	2 cm
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Transthoracic Echocardiography Report (TTE)

Gender: Male Race: Caucasian

Procedure

Referring Physician: Sonographer
 Investigator: Nurse / Assistant
 Technical Quality: Adequate visualization
 Comments: Flip Moderate AS
 Investigation Date: 20/04/2012

Conclusions

Good LV & RV systolic function.
 Moderate AS with maximum PG=55mmHg, MO=20mmHg and dimensionless index of 3.3:1.0.
 Mild AR.

Signature

Electronically signed by Annabel Owa(Reviewed) on 20/04/2012 02:07

Valves

Mitral Valve

Peak E-Wave: 1 m/s Peak Gradient: 4 mmHg
 Peak A-Wave: 1.1 m/s E/A Ratio: 0.91
 Deceleration Time: 278 msec

Mitral Valve Summary

Normal mitral valve structure and function. Trace of MR.

Aortic Valve

AV Vmax: 3.72 m/s Peak Gradient: 55.35 mmHg
 AV VTI: 0.88 m Mean Gradient: 29 mmHg
 LVOT Peak Velocity: 1 m/s AV Area VTI: 1.23 cm²
 LVOT VTI: 0.26 m DI Vmax: 0.27
 LVOT Diameter: 2.3 cm

Aortic Valve Summary

AoV bicuspid, thickened and calcified with reduced excursion.
 Moderate AS with maximum PG=55mmHg, MO=20mmHg and dimensionless index of 3.3:1.0.
 Mild AR.

Tricuspid Valve

Tricuspid Valve Summary

Normal tricuspid valve structure and function.
 TRace of TR.

Pulmonic Valve

Pulmonic Valve Summary

Normal pulmonic valve structure and function.

Structures

Left Atrium

LA Dimension: 3.6 cm

Left Atrium Summary

LA size: Normal

Left Ventricle

Diastolic Dimension: 4.4 cm Septum: 1.3 cm
 Systolic Dimension: 3 cm Post Wall: 1.1 cm
 FS: 31.82 %

Left Ventricle Summary

LV normal in size with mild septal thickness, good systolic function.
 Diastolic filling: Normal

Right Atrium

Right Atrium Summary

Normal right atrium.

Right Ventricle

Right Ventricle Summary

Normal right ventricle structure and function.

Vessels

Aorta

LVOT Diameter: 2.3 cm

Transthoracic Echocardiography Report (TTE)

Gender	Female	Race	Oriental
Procedure			
Referring Physician	Sonographer		Dr Catherine Fletcher
Investigator	Nurse / Assistant		
ECG	Sinus rhythm	Investigation Date	01/06/2012
Requesting Physician	Valve clinic		
Reason for Request	Mitral stenosis and mitral regurgitation		

Conclusions

Thickened mitral valve especially at tips of leaflets. Restriction of posterior mitral valve leaflet.
Moderate mitral stenosis with mean gradient of 5.7mmHg, valve area 1.8cm² by planimetry.
Mild-to-moderate mitral regurgitation due to anterior mitral valve leaflet prolapse.

Good LV function.

Signature

Electronically signed by Dr Catherine Fletcher(Reviewer) on 01/06/2012 11:55

Valves

Mitral Valve

MR PISA Radius:	0.6 cm	Mean Gradient:	6 mmHg
MR Alias Velocity:	0.26 cm/s	Area 2D:	1.8 cm ²

Mitral Valve Summary

Anterior leaflet thickened at tips, posterior leaflet restricted and thickened. Mild anterior leaflet prolapse.
Moderate mitral stenosis with mean gradient of 5.8mmHg, valve area by planimetry 1.8cm².
Mild- to moderate posteriorly-directed MR due to anterior leaflet prolapse.

Aortic Valve

AV Vmax:	1.49 m/s	Peak Gradient:	8.88 mmHg
LVOT Peak Velocity:	0.8 m/s	DI Vmax:	0.54
LVOT Diameter:	1.9 cm		
AR PHT:	771 msec		

Aortic Valve Summary

Trileaflet valve opens well, no significant stenosis and mild regurgitation.

Tricuspid Valve

TR Velocity:	2.49 m/s	TR Gradient:	24 mmHg
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Tricuspid Valve Summary

Structurally normal valve with no significant stenosis and mild TR.

Pulmonic Valve

Pulmonic Valve Summary

Structurally normal valve. No significant stenosis or regurgitation.

Structures

Left Atrium

LA Dimension: 4.3 cm

Left Atrium Summary

Moderately dilated LA.

Left Ventricle

Diastolic Dimension: 4.9 cm

Systolic Dimension: 3.6 cm

FS: 26.53 %

TDI Med E': 3 cm/s

Septum: 0.6 cm

Post Wall: 0.6 cm

TDI Lat E': 2 cm/s

Left Ventricle Summary

Normal dimensions and good systolic function.

Right Atrium

Right Atrium Summary

Normal appearance

Right Ventricle

TAPSE: 2.7 cm

RV S Velocity: 12 cm/s

Right Ventricle Summary

Normal systolic function. Estimated RVSP 30mmHg.

Vessels

Aorta

LVOT Diameter: 1.9 cm

Vessels Summary

IVC collapses normally with inspiration.

Transthoracic Echocardiography Report (TTE)

Gender	Male	Race	Unknown
Procedure			
Referring Physician	Sonographer		Dr Catherine Fletcher
Investigator	Nurse / Assistant		
ECG	Sinus rhythm	Consent	Verbally obtained
Requesting Physician	Valve clinic	Investigation Date	01/06/2012
Reason for Request	Aortic stenosis		

Conclusions

Moderate aortic stenosis with moderate aortic regurgitation.
Good LV systolic function with no significant LVH.
Unchanged from previous echocardiogram.

Signature

Electronically signed by Dr Catherine Fletcher(Reviewer) on 01/06/2012 02:19

Valves

Mitral Valve

Peak E-Wave:	0.64 m/s	Peak Gradient:	1.64 mmHg
Peak A-Wave:	1.24 m/s	E/A Ratio:	0.52

Mitral Valve Summary

Structurally normal valve with no significant stenosis or regurgitation.

Aortic Valve

AV Vmax:	3.2 m/s	Peak Gradient:	40.96 mmHg
LVOT Peak Velocity:	1.08 m/s	DI Vmax:	0.34
LVOT Diameter:	1.9 cm		
AR PHT:	410 msec		

Aortic Valve Summary

Trileaflet valve with moderate restriction to opening.
Moderate AS with peak velocity 3.2m/sec.
Moderate AR with PHT 410msec.

Tricuspid Valve

TR Velocity:	2.1 m/s	TR Gradient:	17 mmHg
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Tricuspid Valve Summary

Structurally normal valve with trivial TR.

Pulmonic Valve

PR ED Velocity:	1.1 m/s
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Pulmonic Valve Summary

Structurally normal valve with trivial regurgitation.

Structures

Left Atrium

LA Dimension: 4.2 cm

Left Atrium Summary

Mildly enlarged LA

Left Ventricle

Diastolic Dimension:	4.3 cm	Septum:	1.1 cm
Systolic Dimension:	3.2 cm	Post Wall:	1 cm
FS:	25.58 %	TDI Lat E' :	6 cm/s
TDI Med E' :	5 cm/s		
E/E' :	10.67		

Left Ventricle Summary

Normal dimensions and no significant LVH.
Good systolic function.
Type I diastolic dysfunction.

Right Atrium

Right Atrium Summary

Normal appearance

Right Ventricle

TAPSE: 1.6 cm

Right Ventricle Summary

Normal dimensions and systolic function.

Vessels

Aorta

Sinus of Valsalva:	3.4 cm	LVOT Diameter:	1.9 cm
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Vessels Summary

IVC collapses normally on inspiration.

Transthoracic Echocardiography Report (TTE)

Gender	Female	Race	Black
Procedure			
Referring Physician	Sonographer		Arvitt Homol
Investigator	Nurse / Assistant		
Technical Quality Comments	Good visualization MR	Investigation Date	07/12/2011

Conclusions

Good LV and RV systolic function.
 Normal LV diastolic function.
 Mildly thickened MV with mild to moderate MR.
 No other valvular abnormalities noted.

Signatures

Electronically signed by Arvitt Homol(Reviewer) on 07/12/2011 03:32

Valves

Mitral Valve

Peak E-Wave:	1.3 m/s	Peak Gradient:	6.76 mmHg
Peak A-Wave:	0.9 m/s	E/A Ratio:	1.44
		MR VT:	1.5 m

Mitral Valve Summary

Mildly thickened MV with fixed posterior MV leaflets and tethered Anterior leaflet with mild restriction of leaflet mobility. Mild to moderate MR.

Aortic Valve

AV Vmax:	1.6 m/s	Peak Gradient:	10.24 mmHg
LVOT Peak Velocity:	0.8 m/s	DI Vmax:	0.5

Aortic Valve Summary

Tricuspid AV without restriction or regurgitation.

Tricuspid Valve

Tricuspid Valve Summary

Normal tricuspid valve structure and function.

Pulmonic Valve

Peak Velocity:	1 m/s	Peak Gradient:	4 mmHg
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Pulmonic Valve Summary

Normal pulmonic valve structure and function.

Structures

Left Atrium

LA Dimension:	3.1 cm	LA/Aorta:	1.55
LA area:	15.8 cm ²		

Left Atrium Summary

Normal left atrium.

Left Ventricle

Diastolic Dimension:	4.3 cm	Septum:	0.7 cm
Systolic Dimension:	2.9 cm	Post Wall:	0.6 cm
FS:	32.56 %		

Left Ventricle Summary

Normal left ventricle structure and function.
 Diastolic filling: Normal

Right Atrium

RA Area:	13.6 ml
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Right Atrium Summary

Normal right atrium.

Right Ventricle

TAPSE:	2.2 cm
RV S Velocity:	11 cm/s

Right Ventricle Summary

Normal right ventricle structure and function.

Vessels

Aorta

Aortic Annulus:	2 cm
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ABBREVIATIONS

Transthoracic Echocardiography Report (TTE)

Gender	Male	Race	Caucasian
Procedure			
Referring Physician	MOD	Sonographer	Andrew Porter
Investigator		Nurse / Assistant	
HR	87 bpm	BP	156/80 mmHg
ECG	SR	BSA	1.93 m ²
Height	179 cm	BMI	23.41 kg/m ²
Weight	75 kg	Request Date	16/05/2012
Requesting Physician	Dr Fox	Investigation Date	17/05/2012
Comments	Murmur		

Conclusions

Highly anxious and known white coat hypertensive.

Dimensions are WNL.
 Good LV and RV function.
 AoV is tricuspid and opens well. No AoR.
 MV leaflets are normal and open well. No MR.
 PA, PV are normal. Physiological PR.
 TV is normal. Physiological TR.
 IVC is normal and responds to respiration.
 RVSP is not raised.
 IAS and IVS are intact to colour Doppler.
 Asc., aroh and desc. aorta are normal.
 Normal study

Signature

Electronically signed by Andrew Porter(Reviewer) on 06/06/2012 10:10

Valves

Mitral Valve

Peak E-Wave:	1.06 m/s	Peak Gradient:	4.49 mmHg
Peak A-Wave:	0.489 m/s	E/A Ratio:	2.17

Aortic Valve

AV Vmax:	2 m/s	Peak Gradient:	16 mmHg
LVOT Peak Velocity:	1.57 m/s	LVOT Peak Gradient:	10 mmHg
LVOT VTI:	0.263 m	DI Vmax:	0.78

Tricuspid Valve

TR Velocity:	2.51 m/s	TR Gradient:	25 mmHg
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Pulmonic Valve

Peak Velocity:	1.53 m/s	Peak Gradient:	9.36 mmHg
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Structures

Left Atrium

LA Dimension:	3.3 cm	LAI/Aorta:	1.06
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Left Ventricle

Diastolic Dimension:	5.13 cm	Septum:	1.05 cm
Systolic Dimension:	2.9 cm	Post Wall:	0.937 cm
FS:	43.47 %		

Right Ventricle

TAPSE:	3.1 cm
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Vessels

Aorta

Aortic Annulus:	3.1 cm	Aortic Arch:	2.1 cm
		Descending Aorta:	1.4 cm

Vena Cava

IVC Inspirium:	1 cm	IVC Expirium:	1.6 cm
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Transthoracic Echocardiography Report (TTE)

Gender	Male	Race	Unknown
Procedure			
Referring Physician	Fox Rapid Access Cardiology	Sonographer	Judith Kling
Investigator		Nurse / Assistant	
Technical Quality	Adequate visualization	Consent	Verbally obtained
ECG	AF	Request Date	27/07/2011
Requesting Physician	Dr J. Grapsa	Investigation Date	27/07/2011
Comments	Metastatic carcinoid AF ? VALVES		

Conclusions

AF
 The LV measures WNL with good systolic function.

AoV is tricuspid, mildly thickened, opens well. There is no significant gradient across the valve.
 MV opens well with normal structure and function. Mild MR
 LA is mild to moderately dilated
 The atrial septum is intact to CFD.

RV measures WNL with good systolic function.
 RA measures WNL.
 PA, PV & TV are normal. Mild I TR.
 Normal RVSP.
 The IVC measure WNL with normal respiratory variation.

Conclusion
 TV opens well and coapts well, it is thin and mobile.
 Normal PV
 RV function is good
 Good LV function. Dilated LA

Signature

Electronically signed by Judith Kling(Reviewer) on 27/07/2011 10:54

Valves

Mitral Valve

Peak E-Wave: 0.686 m/s Peak Gradient: 1.88 mmHg

Aortic Valve

AV Vmax: 1.33 m/s Peak Gradient: 7.08 mmHg
 AV VT: 0.247 m Mean Gradient: 4 mmHg
 LVOT Peak Velocity: 0.761 m/s LVOT Peak Gradient: 2 mmHg
 LVOT VT: 0.14 m DI Vmax: 0.57

Tricuspid Valve

TR Velocity: 2.25 m/s TR Gradient: 20 mmHg

Pulmonic Valve

Peak Velocity: 0.928 m/s Peak Gradient: 3.44 mmHg

Structures

Left Atrium

LA Dimension: 4.7 cm LA/Aorta: 1.42
 LA area: 26.7 cm²

Left Ventricle

Diastolic Dimension: 5 cm Septum: 0.974 cm
 Systolic Dimension: 3.7 cm Post Wall: 0.899 cm
 FS: 26 %
 TDI Med E': 69.9 cm/s

Right Ventricle

TAPSE: 1.7 cm

Vessels

Aorta

Aortic Annulus: 3.3 cm

Vena Cava

IVC Expirium: 2.1 cm

Transthoracic Echocardiography Report (TTE)

Gender	Male	Race	Caucasian
Procedure			
Referring Physician	Sonographer		Arvitt Homol
Investigator	Nurse / Assistant		
Technical Quality	Adequate Visualization	Investigation Date	01/05/2012
Requesting Physician	Pre-assessment		
Comments	? Oesophagectomy		

Conclusions

Good LV and RV systolic function.
Chordal SAM noted without outflow obstruction.
No other valvular abnormalities noted.

Signature

Electronically signed by Arvitt Homol(Reviewer) on 01/05/2012 01:01

Valves

Mitral Valve

Peak E-Wave:	0.6 m/s	Peak Gradient:	1.44 mmHg
Peak A-Wave:	0.7 m/s	E/A Ratio:	0.86

Mitral Valve Summary

Normal mitral valve structure and function.

Aortic Valve

AV Vmax:	1.4 m/s	Peak Gradient:	7.84 mmHg
LVOT Peak Velocity:	1.3 m/s	DI Vmax:	0.93

Aortic Valve Summary

Normal aortic valve structure and function.

Tricuspid Valve

Tricuspid Valve Summary

Normal tricuspid valve structure and function.

Pulmonic Valve

Peak Velocity:	0.9 m/s	Peak Gradient:	3.24 mmHg
		Acceleration Time:	99 msec

Pulmonic Valve Summary

Normal pulmonic valve structure and function.

Structures

Left Atrium

LA Dimension:	3.2 cm	LA/Aorta:	1.33
LA area:	18.8 cm ²		

Left Atrium Summary

Normal left atrium.

Left Ventricle

Left Ventricle Summary

Normal left ventricle structure and function.
Diastolic filling: Abnormal filling pattern - Impaired relaxation

Right Atrium

Right Atrium Summary

Normal right atrium.

Right Ventricle

TAPSE:	2.4 cm
RV S Velocity:	16 cm/s

Right Ventricle Summary

Normal right ventricle structure and function.

Vessels

Aorta

Aortic Annulus:	2.4 cm
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A GOOD REPORT

What makes a good GP echo report

- All 4 chambers and 4 valves described
- Simple summary of results
- Avoid abbreviations
- Results contextualised eg Mild mitral regurgitation. No significant valve disease
- If significant abnormality, described in summary
- If abnormal, advise on action
- Rapid reporting and communication

What makes a good GP echo report

- Need senior clinical opinion interpreting / translating
- Put yourself in the position of the GP
- A bad report generates more unnecessary work for everyone
- Easy to get descriptions a little “wrong” even if very experienced
- Support for enquiries

Transthoracic Echocardiography Report (TTE)

Gender	Male	Race	Black
Procedure			
Referring Physician	Sonographer		Perviz Asaria
Investigator	Nurse / Assistant		
Technical Quality	Adequate visualization	Request Date	31/05/2012
HR	120 bpm	Investigation Date	31/05/2012
Comments	? Inf MI on ECG Any RWMA?		

Conclusions

HR 120 bpm throughout
Good LV and RV systolic function
All LV segments including the inferior wall contract well
Mild MR and AR
No significant valve disease
No evidence for previous MI

Signature

Electronically signed by Dr Jamil Mayet(Reviewer) on 06/06/2012 08:33

Valves

Mitral Valve

Peak E-Wave:	1.04 m/s	Peak Gradient:	4.33 mmHg
Peak A-Wave:	0.79 m/s	E/A Ratio:	1.32
Deceleration Time:	97 msec		

Mitral Valve Summary

Normal mitral valve structure.
Mild MR

Aortic Valve

AV Vmax:	1.23 m/s	Peak Gradient:	6.05 mmHg
LVOT Peak Velocity:	0.89 m/s	DI Vmax:	0.72
LVOT Diameter:	1.51 cm		
AR PHT:	941 msec		

Aortic Valve Summary

Normal aortic valve structure and function.
Mild AR

Tricuspid Valve

Tricuspid Valve Summary

Normal tricuspid valve structure and function.
No TR seen

Pulmonic Valve

Peak Velocity:	1.43 m/s	Peak Gradient:	8.18 mmHg
PR ED Velocity:	0.9 m/s	Acceleration Time:	69 msec

Pulmonic Valve Summary

Normal pulmonic valve structure and function.
Mild PR

Structures

Left Atrium

LA Dimension:	3 cm	LA/Aorta:	2.16
LA area:	14.5 cm ²		

Left Atrium Summary

Normal left atrium.

Left Ventricle

Diastolic Dimension:	3.94 cm	Septum:	1.4 cm
Systolic Dimension:	2.83 cm	Post Wall:	1.26 cm
F8:	28.17 %	TDI Lat E' :	7.13 cm/s
TDI Med E' :	14.5 cm/s		
E/E' :	14.59		

Left Ventricle Summary

Good LV systolic function
Diastolic function: Normal
No RWMA

Right Atrium

RA Area:	10.2 ml
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Right Atrium Summary

Normal right atrium.

Right Ventricle

TAPSE:	1.36 cm	Dimension (Base):	2.3 cm
RV S Velocity:	3.4 cm/s		

Right Ventricle Summary

Right ventricle appears visually active.

Vessels

Aorta

Aortic Annulus:	1.39 cm	LVOT Diameter:	1.51 cm
Sinus of Valsalva:	3.06 cm		
ST Junction:	1.39 cm		
Ascending Aorta:	3.05 cm		

Vena Cava

IVC Inspirium:	1.9 cm	IVC Expirium:	0.9 cm
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Vessels Summary

IVC collapses on inspiration

Any queries please contact:
 Tel: 020 3312 6452
 Fax: 020 3312 2303
 Email: cardiologyadvice@nhs.net

Any queries please contact:
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 Fax: 020 3312 2303
 Email: cardiologyadvice@nhs.net

Transthoracic Echocardiography Report (TTE)

Gender	Male	Race	Unknown
Procedure			
Referring Physician	Sonographer		Srinivasan Sudha
Investigator	Nurse / Assistant		
Technical Quality	Adequate visualization	Investigation Date	04/10/2011
ECG	Faulty Cable		
Comments	Renal Artery Stenosis Recent Hx of SOB		

Conclusions

Good biventricular function
 Moderate concentric LVH
 Calcified aortic valve but no significant obstruction to flow. Mild AR.
 Moderate pulmonary hypertension with estimated pulmonary artery systolic pressure of approx 50mmHg. There is Doppler evidence for severe diastolic LV dysfunction with raised left atrial pressures and this is the likely cause of the moderately raised pulmonary pressures. I would advise a trial of furosemide to see if this helps the symptoms.

Signature

Electronically signed by Dr Jamil Mayet(Reviewer) on 04/10/2011 11:40

Valves

Mitral Valve

Peak E-Wave:	1.09 m/s	Peak Gradient:	4.75 mmHg
Peak A-Wave:	0.85 m/s	E/A Ratio:	1.28
Deceleration Time:	229 msec		

Mitral Valve Summary

Minimally thickened with mildly calcified PML base
 Opens well
 Mild MR

Aortic Valve

AV Vmax:	1.84 m/s	Peak Gradient:	13.54 mmHg
LVOT Peak Velocity:	1.16 m/s	DI Vmax:	0.63

Aortic Valve Summary

Sclerotic aortic valve
 Opens well
 Grade I AR

Tricuspid Valve

TR Velocity:	3.16 m/s	TR Gradient:	39 mmHg
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Tricuspid Valve Summary

Structurally Normal
 Mild TR
 Estimated RVSP ~ 40mmHg + JVP

Pulmonic Valve

Peak Velocity:	0.72 m/s	Peak Gradient:	2.07 mmHg
		Acceleration Time:	88 msec

Pulmonic valve summary

Structurally Normal
 No PS / PR

Structures

Left Atrium

LA Dimension:	3.8 cm	LA/Aorta:	1.56
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Left Atrium Summary

LA size: Normal

Left Ventricle

Diastolic Dimension:	4.5 cm	Septum:	1.9 cm
Systolic Dimension:	2.6 cm	Post Wall:	1.48 cm
FS:	42.22 %	TDI Lat E':	5.5 cm/s
TDI Med E':	6 cm/s		
E/E':	19.82		

Left Ventricle Summary

Good LV Systolic function EF ~ 70%
 Diastolic dysfunction
 Normal cavity size
 Moderate concentric LVH
 Sigmoid basal septum
 No midcavity obstruction

Right Atrium

Right Atrium Summary

Normal right atrium size.

Right Ventricle

TAPSE:	3.6 cm
RV S Velocity:	23 cm/s

Right Ventricle Summary

Normal right ventricle size and function.

Vessels

Aorta

Aortic Annulus:	2.43 cm
Sinus of Valsalva:	2.9 cm