

Clinical Guidelines

Adult Echocardiography Reporting Module

ACV 8.0

doc v1

In the Adult Echo reporting module, clinical guidelines from the American Society of Echocardiography may be accessed during reporting, by clicking the Guidelines tab on the far right of the screen.

Findings - transthoracic

Left ventricle

Normal by TTE

Cavity size: Normal

Thickness: Normal

Hypertrophy: Absent

Systolic function

Systolic function: Normal

EF (%): 55-60

EF method: Visual

Systolic function worksheet

Wall motion

Normal, no regional abnormality

No RWMA, but limited sensitivity

Cannot exclude abnormality

Diffuse hypokinesis

Regional wall motion worksheet

Diastolic function

High LV filling pressure: Absent

Diastolic function: Normal diastology

Cannot assess due to

Ventricular septum

Normal

Thickness: Normal

Dyssynergy: Present

Paradox: Present

Other abnormalities: Early diastolic notch

Diastolic flattening: Present

Systolic flattening: Present

Interpretation: Post-thoracotomy

VSD measurements

Aortic valve

Normal by TTE

Prosthesis: Unspecified

Prosthesis type: Unspecified

Aorta and arteries

Mild aortic root calcification

Aortic root

Description: 1 New

Size: Normal-sized

Calcification: Absent

No evidence of...: Aneurysm

Cannot exclude...: Aneurysm

Aorta

Description

Coronary arteries

Mitral valve

Normal by TTE

Visualization: Not well visualized

Prosthesis

Prosthesis type: Unspecified

Overall impression: Normal

Annulus

Mitral valve (cont'd)

Leaflets

Structural abnormality

Thickening, calcification

Leaflet separation

Bowing, prolapse

Velocity

Stenosis

Regurgitation

Left atrium

Normal by TTE

Visualization

Size

Pulmonary veins

Right ventricle

Normal by TTE

Visualization

Size, thickness

Cavity size

Systolic function

Line/wire

Pulmonic valve

Normal by TTE

Visualization

Prosthesis

Prosthesis type

Overall impression

Leaflet appearance

Restricted mobility

Systolic doming

Velocity

Stenosis

Regurgitation

Summary

- Left ventricle:** The cavity size is normal. Systolic function is normal. The estimated ejection fraction is 55-60%. Wall motion is normal; there are no regional wall motion abnormalities.
- [New summary item](#)

Study data

Patient is 53 year(s) old. Patient birthdate: 12/19/1959. Study date: 11/09/2013. Birth gender: female. Height: 130 cm. Height: 51.2 in. Weight: 55 kg. Weight: 121.3 lb. BMI: 32.5 kg/m². BSA: 1.44 m². Transthoracic echocardiogram. M-mode, complete 2D, and complete spectral Doppler. The patient tolerated the procedure well.

Procedure narrative

A transthoracic echocardiogram was performed. Image quality was adequate. Scanning was performed from the parasternal, apical, and subcostal acoustic windows.

Left ventricle

The cavity size is normal. There is no evidence of hypertrophy, wall thickness is normal. Systolic function is normal. The estimated ejection fraction is 55-60%. Wall motion is normal; there are no regional wall motion abnormalities. Wall motion score: 1.00.

LV segmental data

Aortic valve

The valve is structurally normal. The valve is trileaflet. Cusp separation is normal. There is no stenosis. There is no regurgitation.

Systemic arteries

Aortic root: The root is normal-sized.

Mitral valve

The valve is structurally normal. Leaflet separation is normal. There is no evidence for stenosis. There is no significant regurgitation.

Left atrium

The atrium is normal in size.

Right ventricle

The cavity size is normal. Systolic function is normal.

Pulmonic valve

There is no evidence for stenosis. There is no regurgitation.

Pulmonary artery

The main pulmonary artery is normal-sized. There is no evidence of pulmonary hypertension.

Tricuspid valve

The valve is structurally normal. Leaflet separation is normal. There is no evidence for stenosis. There is trivial regurgitation.

Right atrium

The atrium is normal in size.

Systemic veins

Inferior vena cava: The IVC is normal-sized.

Pericardium, extracardiac

There is no pericardial effusion.

Recommendations

[New recommendation](#)

Scroll for additional content

These guidelines provide a reference library “at your fingertips” during Echo reporting.

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Prior reports History Study Measurements Calculations Diagrams Minor abnormalities
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Findings - transthoracic

Left ventricle

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VSD measurements

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Normal by TTE

Prosthesis

Prosthesis type: Unspecified

Prosthesis (cont'd)

Overall impression: Normal function

Description

Annular calcification: Mild

Structural abnormality

Thickening, calcification: Minimal thickening

Visualization: Not well visualized

Leaflet number: Trileaflet

Cusp separation: Normal

Appearance: Normal thickness

Mild sclerosis

Sclerosis without stenosis

Velocity: Normal

Stenosis: Absent

Regurgitation: Absent

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Scroll for additional content

Diastolic function

SELECT GUIDELINE

Diastolic function

Aortic stenosis

Aortic regurgitation

Valve stenosis

Mitral regurgitation

Tricuspid regurgitation

Pulmonary regurgitation

Hypertrophic cardiomyopathy

Prosthetic aortic valve

Prosthetic mitral valve

Prosthetic tricuspid valve

Prosthetic pulmonary valve

Aorta

LV diastolic function flowchart

A

In patients with normal LV EF

1. Average E/e' > 14
2. Septal e' velocity < 7cm/s or Lateral e' velocity < 10cm/s
3. TR velocity > 2.8m/s
4. LA volume index > 34ml/m²

< 50% positive

50% positive

> 50% positive

Normal Diastolic Function

Indeterminate

Diastolic Dysfunction

B

Mitral Inflow

Choose the desired guideline topic from the Select Guideline dropdown list. The designated guideline is then displayed. To return to reporting, click the Findings or Report tab.

The screenshot displays a software interface with a 'Guidelines' tab selected. The main content area shows a flowchart titled 'Diastolic function' with a sub-section 'LV diastolic function flowchart'. The flowchart starts with a box 'In patients with normal LV EF' and lists four criteria: 1. Average E/e' > 14, 2. Septal e' velocity < 7cm/s or Lateral e' velocity < 10cm/s, 3. TR velocity > 2.8m/s, and 4. LA volume index > 34ml/m². Below these criteria, three boxes represent the percentage of positive results: '< 50% positive', '50% positive', and '> 50% positive'. These lead to three final boxes: 'Normal Diastolic Function' (green), 'Indeterminate' (red), and 'Diastolic Dysfunction' (green). Below the flowchart, a section labeled 'B' shows a box for 'Mitral Inflow'. On the right side, a 'SELECT GUIDELINE' dropdown menu is open, listing various cardiac conditions: Diastolic function, Aortic stenosis, Aortic regurgitation, Valve stenosis, Mitral regurgitation, Tricuspid regurgitation, Pulmonary regurgitation, Hypertrophic cardiomyopathy, Prosthetic aortic valve, Prosthetic mitral valve, Prosthetic tricuspid valve, Prosthetic pulmonary valve, and Aorta. The dropdown menu is circled in red.

The topic list contains the following imaging interpretation guidelines:

- LV diastolic function
- Aortic valve stenosis
- Valvular stenosis (other than AS)
 - Mitral stenosis
 - Tricuspid stenosis
 - Pulmonary stenosis
- Valvular regurgitation
 - Aortic
 - Mitral
 - Tricuspid
 - Pulmonary
- Hypertrophic heart disease
- Prosthetic valve
 - Aortic
 - Mitral
 - Tricuspid
 - Pulmonary
- Thoracic aorta

Each guideline includes tables and figures, as well as the guideline's reference citations.

Valve stenosis

SELECT GUIDELINE

+ Recommendations for classification of mitral stenosis

- Findings indicative of hemodynamically significant tricuspid stenosis

Table 10 Findings indicative of haemodynamically significant tricuspid stenosis

Specific findings
Mean pressure gradient
Inflow time-velocity integral
T _{1/2}
Valve area by continuity equation ^a
Supportive findings
Enlarged right atrium ≥ moderate
Dilated inferior vena cava

^aStroke volume derived from left or right ventricular outflow. In the presence of mo value ≤ 1 cm² implies a significant haemodynamic burden imposed by the combin

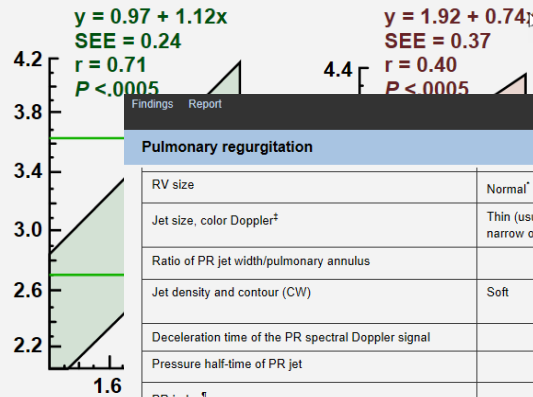
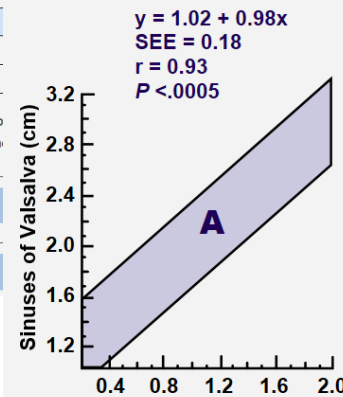
+ Grading of pulmonary stenosis

+ Reference

Aorta

SELECT GUIDELINE

- Nomograms



Body Surface

Figure 3 Aortic root diameter (vertical axis) in relation to BSA (horizontal axis) in appar panel, green), and ≥40 (right panel, pink) years. For example, an individual between the (vertical green line) has a normal root diameter range (2 SDs) between 2.75 and 3.65 c the green-shaded parallelogram.

+ Normal Ao root diameter by age for men

Pulmonary regurgitation

SELECT GUIDELINE

RV size	Normal [†]	Normal or dilated	Dilated [†]
Jet size, color Doppler [‡]	Thin (usually <10 mm in length) with a narrow origin	Intermediate	Broad origin; variable depth of penetration
Ratio of PR jet width/pulmonary annulus			>0.7 [§]
Jet density and contour (CW)	Soft	Dense	Dense; early termination of diastolic flow
Deceleration time of the PR spectral Doppler signal			Short, <260 msec
Pressure half-time of PR jet			<100 msec
PR index [¶]		<0.77	<0.77
Diastolic flow reversal in the main or branch PAs (PW)			Prominent
Pulmonic systolic flow (VTI) compared to systemic flow (LVOT VTI) by PW [#]	Slightly increased	Intermediate	Greatly increased
RF ^{**}	<20%	20%-40%	>40%

PW, Pulsed wave Doppler.

* Unless there are other reasons for RV enlargement.

† Exception: acute PR.

‡ At a Nyquist limit of 50-70 cm/sec.

§ Identifies a CMR-derived PR fraction ≥40%.

¶ Defined as the duration of the PR signal divided by the total duration of diastole, with this cutoff identifying a CMR-derived PR fraction > 25%.

|| Not reliable in the presence of high RV end diastolic pressure.

Cutoff values for RVol and fraction are not well validated.

§ Steep deceleration is not specific for severe PR.

** RF data primarily derived from CMR with limited application with echocardiography.

- Reference

These figures were published in Zoghbi WA, Adams D, Bonow RO, Enriquez-Sarano M, Foster E, Grayburn PA, Hahn RT, Han Y, Hung J, Lang RM, Little SH, Shah DJ, Sherman S, Thavendiranathan P, Thomas JD, and Weissman NJ. Recommendations for Noninvasive Evaluation of Native Valvular Regurgitation: A Report from the American Society of Echocardiography Developed in Collaboration with the Society for Cardiovascular Magnetic Resonance. J Am Soc Echocardiogr 2017;30:303-371. Copyright American Society of Echocardiography 2017.



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