

THE VENTRICLES AND PULMONARY PRESSURES

Evaluating left ventricular size and hypertrophy

National echo societies and echo guideline documents recommend slightly different normal ranges and severity criteria for left ventricular (LV) size. Ideally you should use the same values as the other echocardiographers in your institution to ensure uniformity of practice. If you do not have this guidance available, these tables may help:

Left ventricular diastolic cavity diameter

	Normal	Mildly dilated	Moderately dilated	Severely dilated
Women LV diastolic diameter (cm)	3.9-5.3	5.4-5.7	5.8-6.1	≥6.2
<mark>Men</mark> LV diastolic diameter (cm)	4.2-5.9	6.0-6.3	6.4-6.8	≥6.9

Measure using a leading edge convention at the tip of the mitral valve leaflets in the parasternal long-axis view.





If you have a very small or large patient, you may need to correct for body size using body surface area.



Left ventricular diastolic cavity volume

	Normal	Mildly dilated	Moderately dilated	Severely dilated
Women LV diastolic volume (mL)	56-104	105-117	118-130	≥131
<mark>Men</mark> LV diastolic volume (mL)	67-155	156-178	179-200	≥201

Measure using Simpson's biplane (or 3D).





If you have a very small or large patient, you may need to correct for body size using body surface area.



Left ventricular wall thickness (septum and posterior wall)

	Normal	Borderline	Mildly thickened	Moderately thickened	Severely thickened
Women LV wall thickness (mm)	6-9	10	11-12	13-15	≥16
<mark>Men</mark> LV wall thickness (mm)	6-10	11	12-13	14-16	≥17



1 IVS = interventricular septum 2 PW = posterior wall



Bear in mind that sport or fitness training can cause mildly increased wall thicknesses.

References and further reading:

- 1. Lang RM, Bierig M, Devereux RB, et al. 2006. Recommendations for chamber quantification. *Eur J Echocardiogr.* **7**:79–108.
- 2. Lang RM, Badano LP, Mor-Avi V, et al. 2015. Recommendations for cardiac chamber quantification by echocardiography in adults: An update from the American Society of Echocardiography and the European Association of Cardiovascular Imaging. *J Am Soc Echocardiogr.* **28**:1–39.