

Element 30.00

Majerus-Monaghan

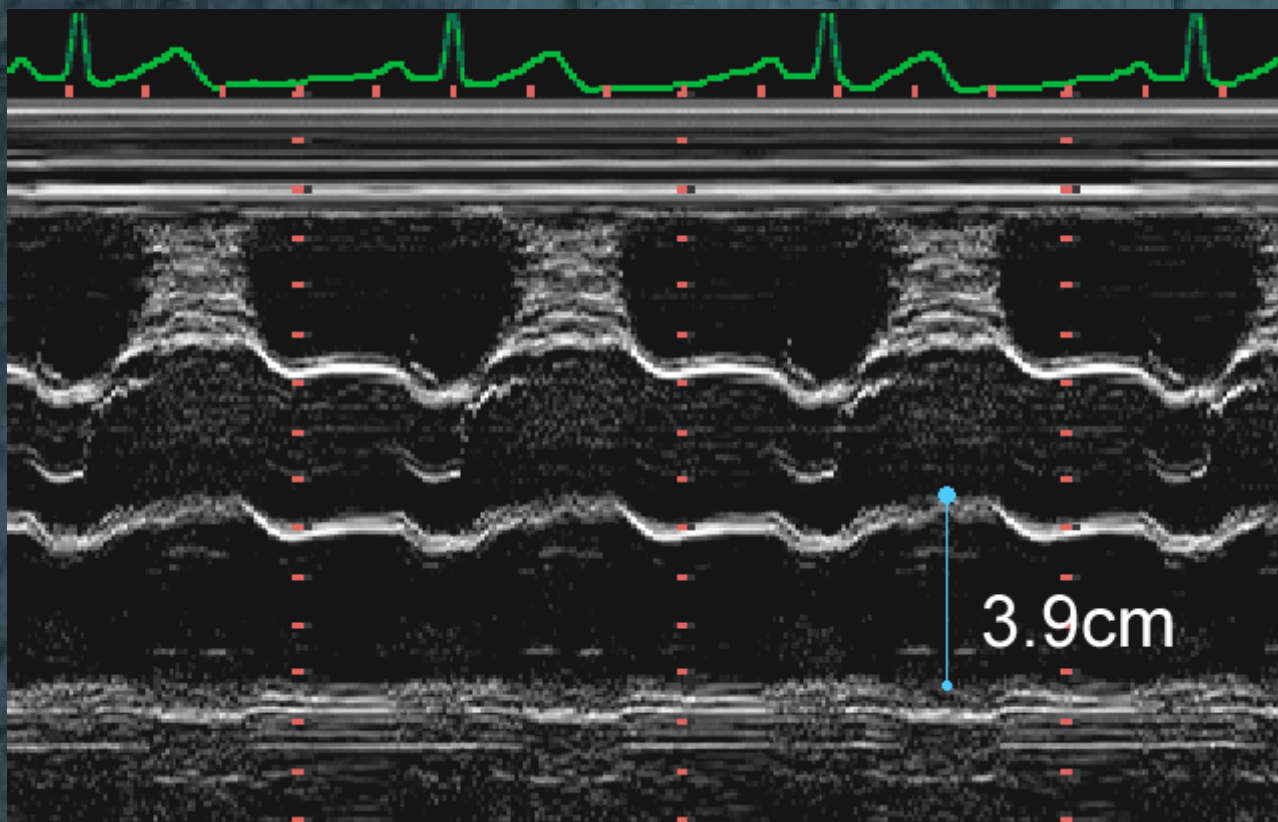
Patient

- 65 y/o male
- s/p AVR 1986 – bicuspid Ao
- DOE
- s/p BiV pacemaker

LA Evaluation

- M-mode dimension in LAX
- LA area in apical 4 chamber
- LA volume from 2 apical views

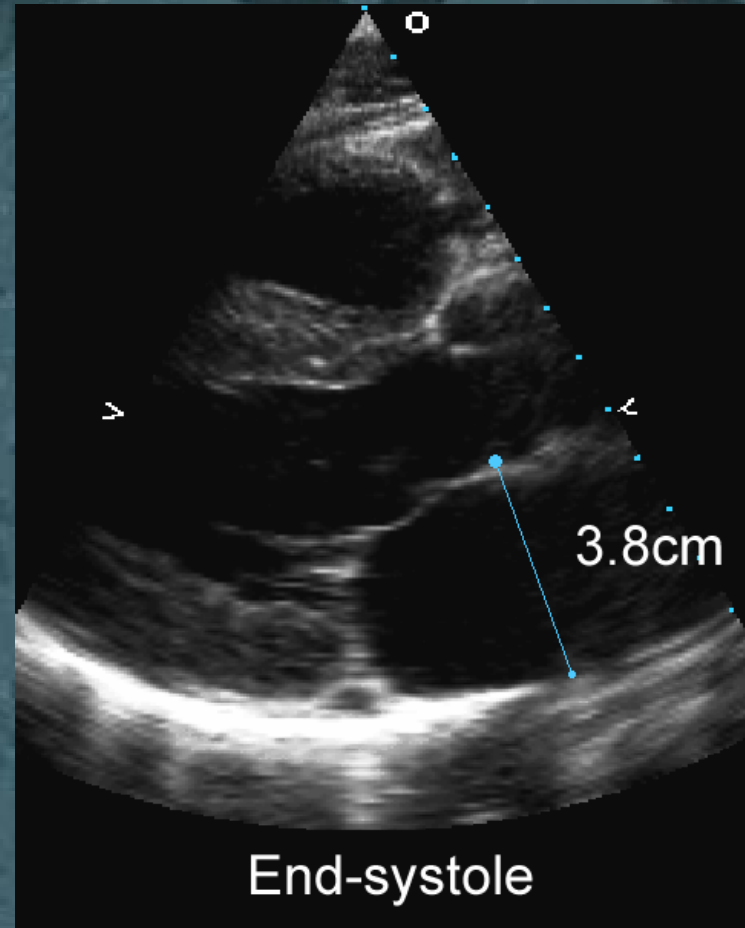
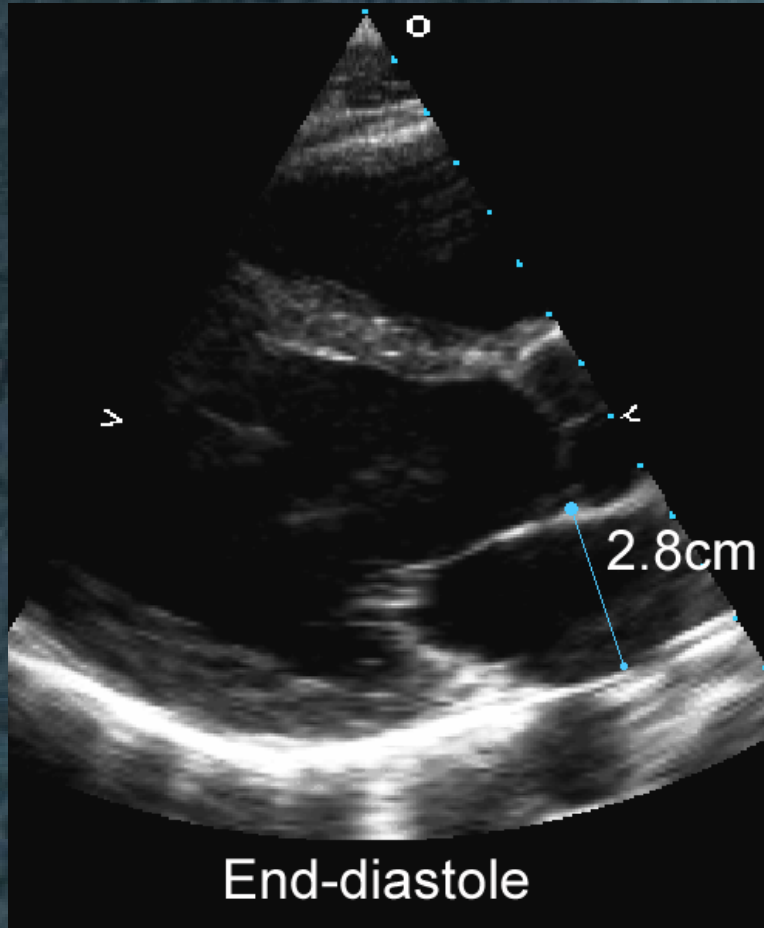
LA M-mode



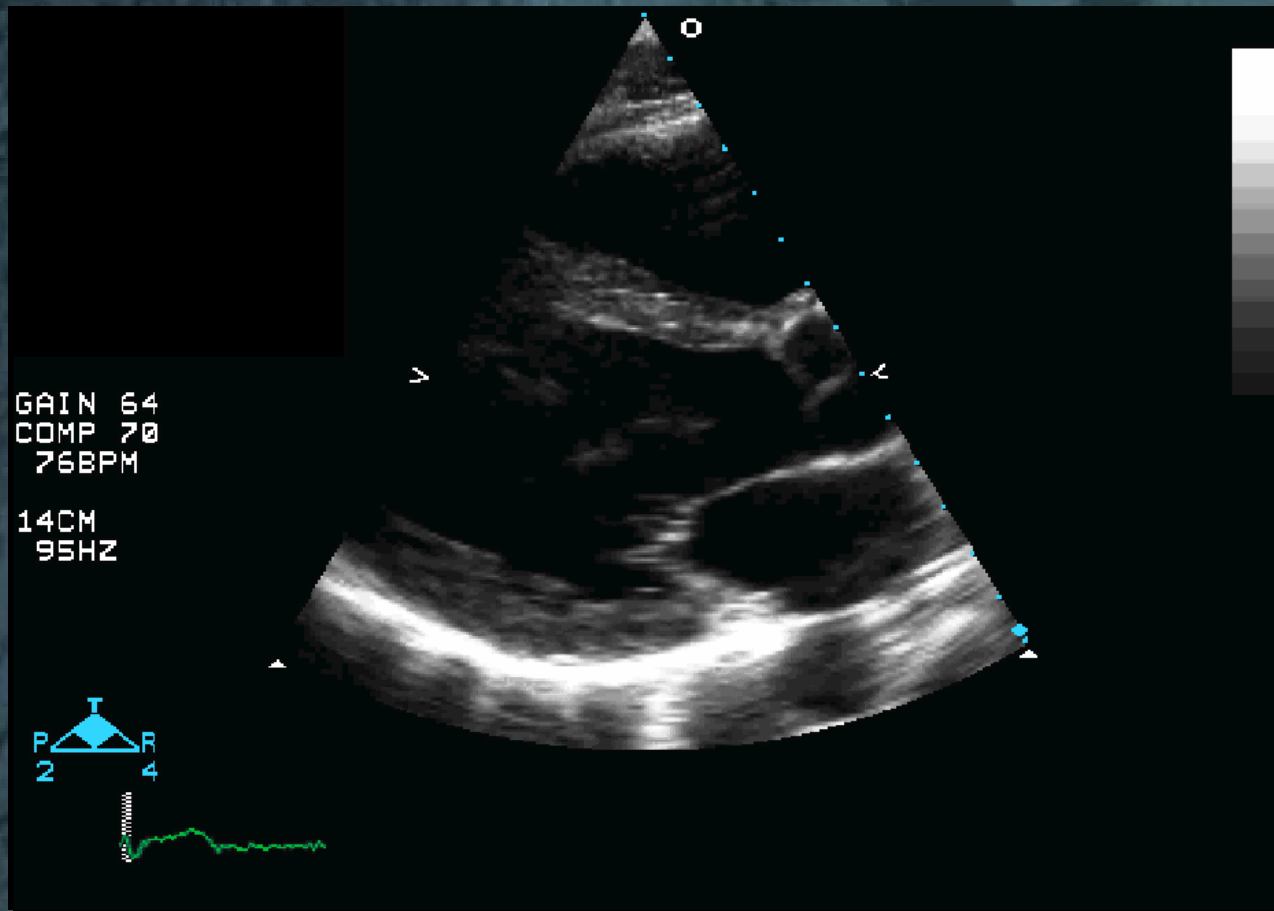
LA Measures

- **Measure at end-systole**
- **No single dimension**
- **Plane should pass through AoV**

LA 2D



LA 2D



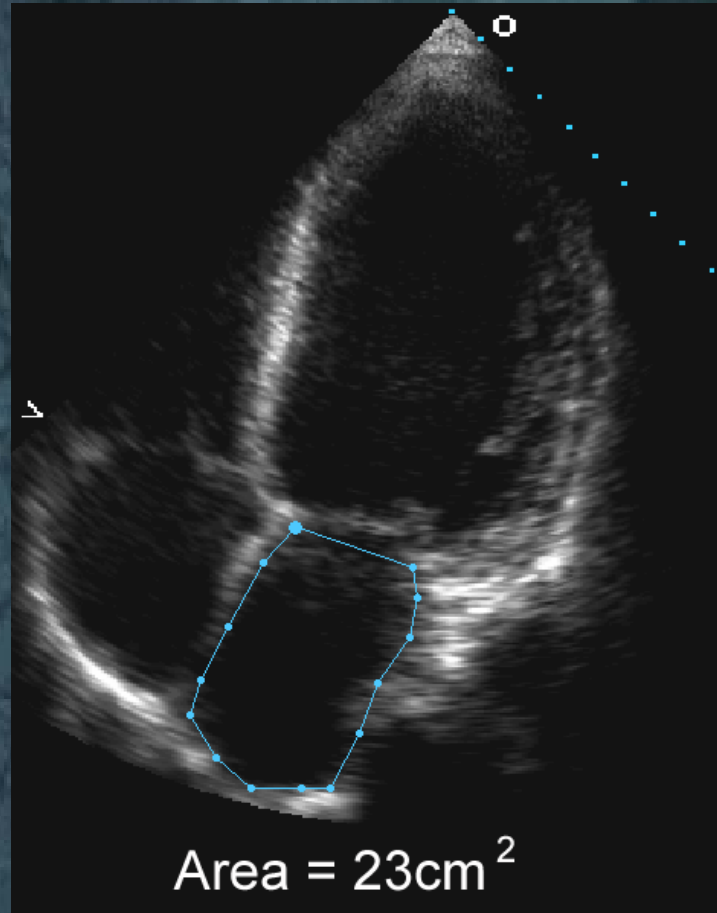
LA Measures

- **Asymmetric dilation can occur**
- **Multiple views**
- **LA linear dimensions correlate to LA volume from angiography and MRI**

LA Evaluation

- Goal = consistency
- Measure at end systole
- American Society of Echocardiography standard is “planimetry of LA area from Apical 4 chamber”

LA 2D Area



LA Volume

- Prolate Ellipse
- LA volume= $(D1 * D2 * D3) / 0.523$
- D1=Anteroposterior diameter from PLAX
- D2/D3=2 orthogonal diameters from 4C

LA Volume

- Area-Length Technique
- Use apical 4 and apical 2
- Planimeter LA in both
- Make linear measurement from annulus to superior border
- Calculate LA volume:
$$LA\ volume = (0.85 * A1 * A2) / L$$

LA 2D Volume

