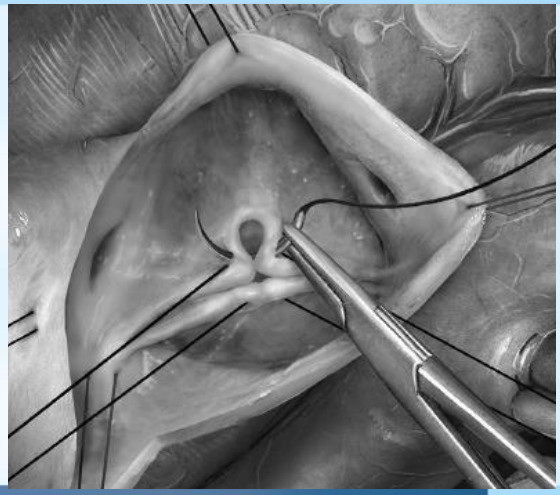
Universitätsklinikum
des Saarlandes

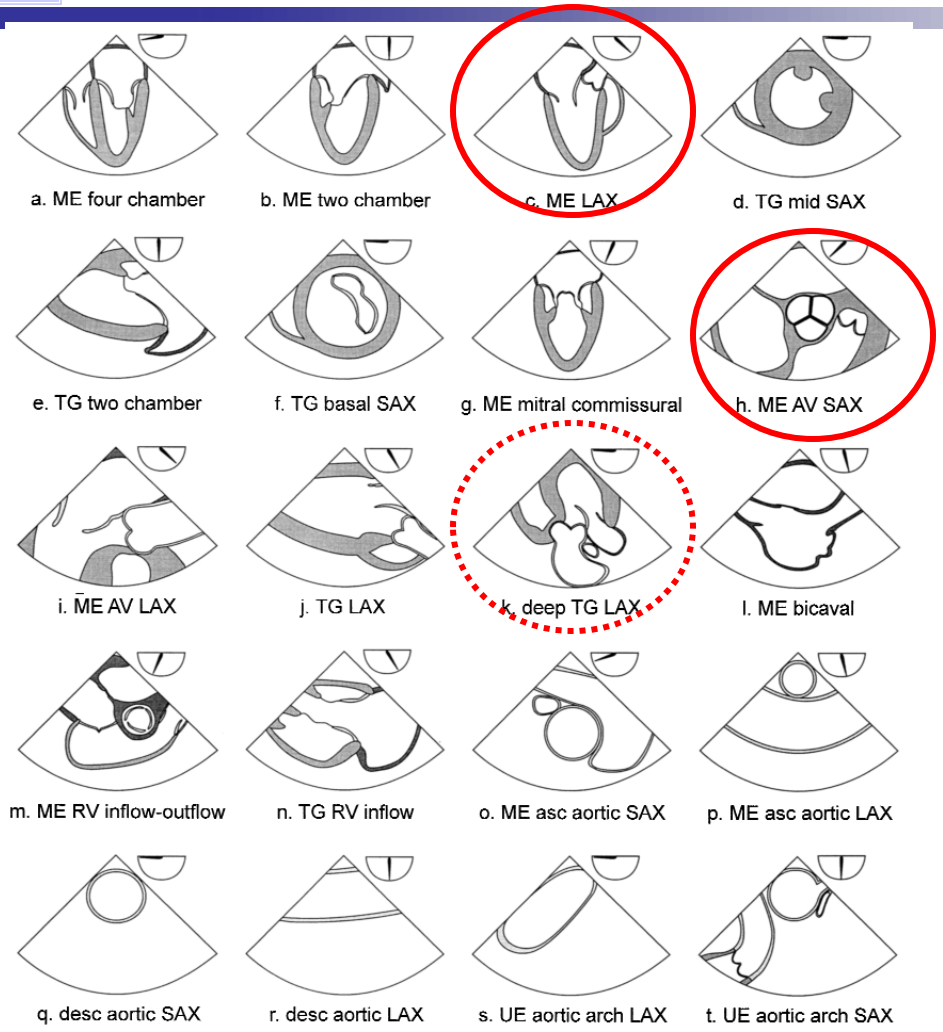
Frank Langer
Department of Thoracic & Cardiovascular Surgery

18.05.2017

Shortcut to echo…



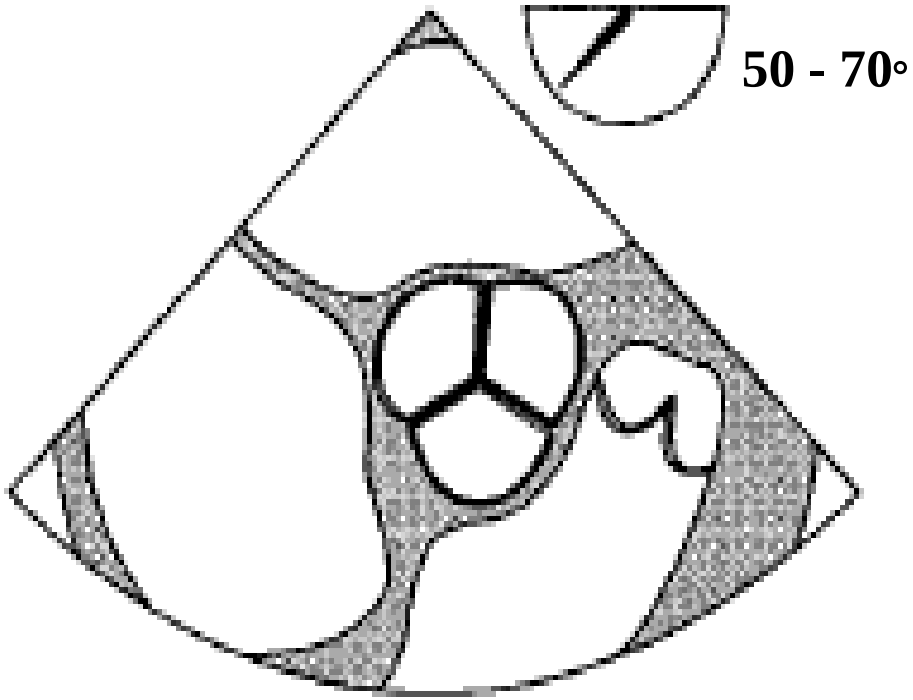
TEE: Standard views

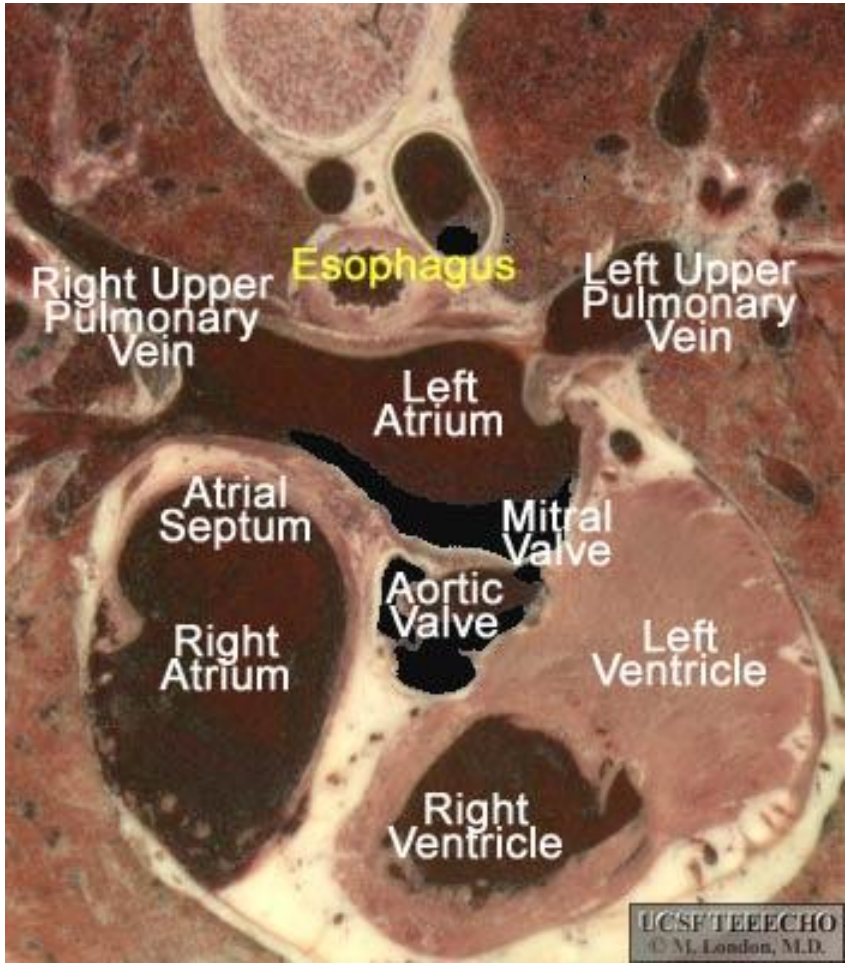


ASE/SCA Guidelines for Performing a Comprehensive Intraoperative Multiplane Transesophageal Echocardiography Examination: Recommendations of the American Society of Echocardiography Council for Intraoperative Echocardiography and the Society of Cardiovascular Anesthesiologists Task Force for Certification in Perioperative Transesophageal Echocardiography

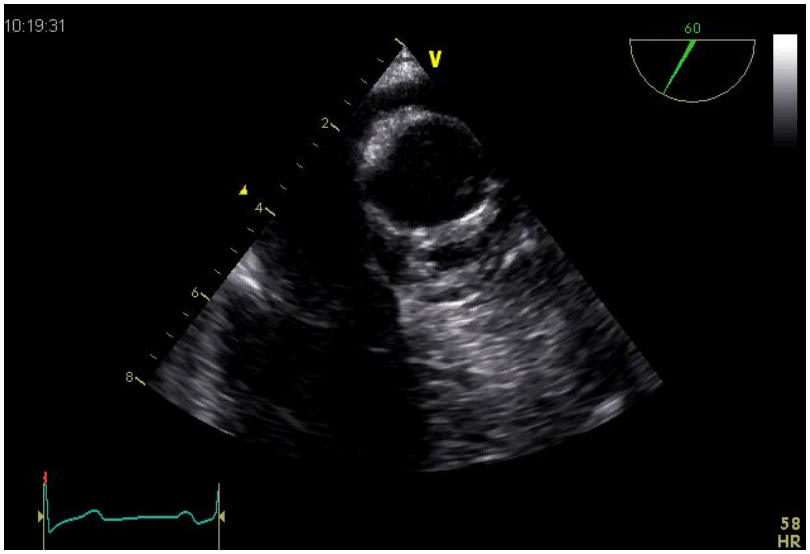
Shanewise J Am Soc Echo 1999

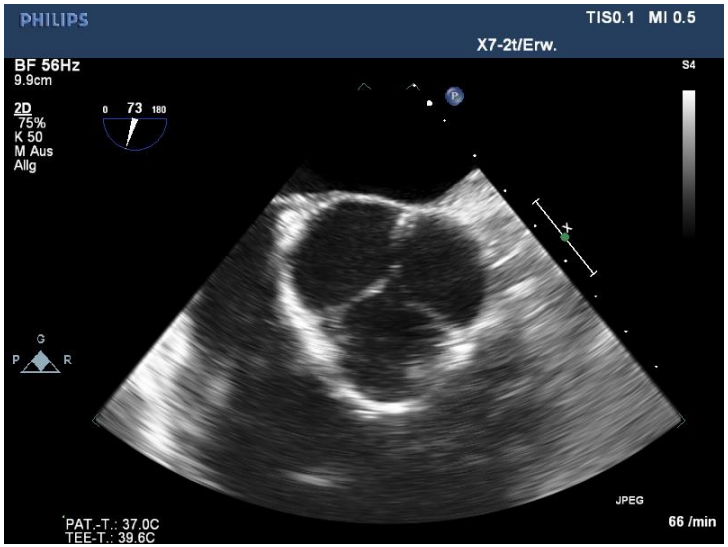
Midesophageal Short Axis View





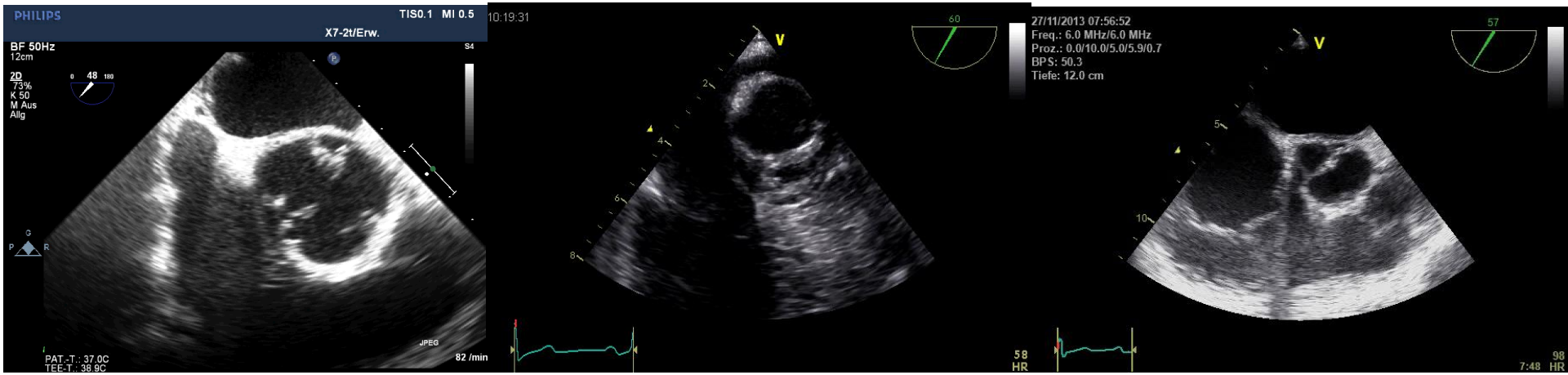
Midesophageal Short Axis View





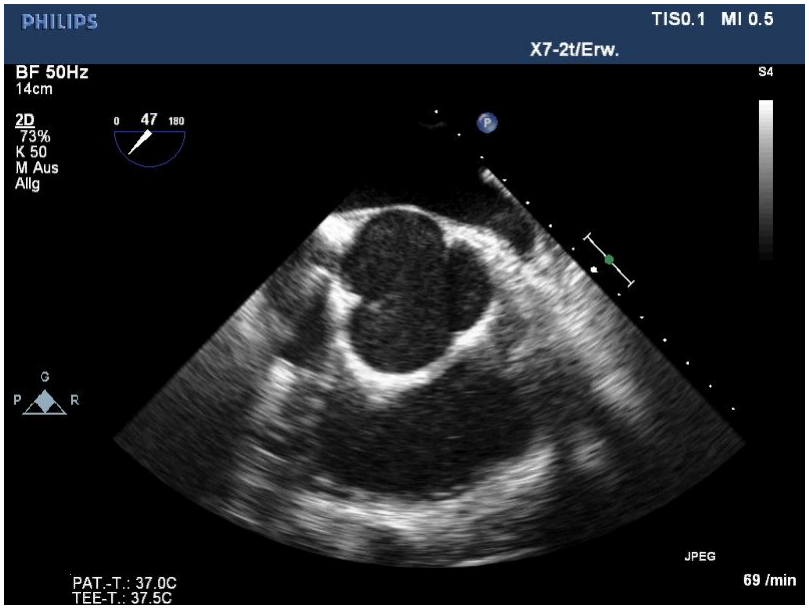
2D: AV-morphology ?

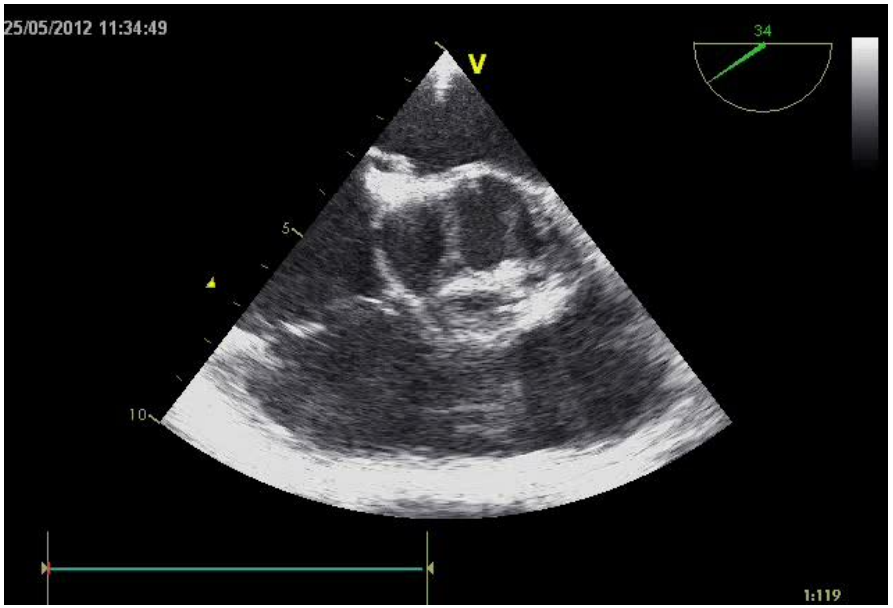
Midesophageal Short Axis View



2D: Cusp configuration

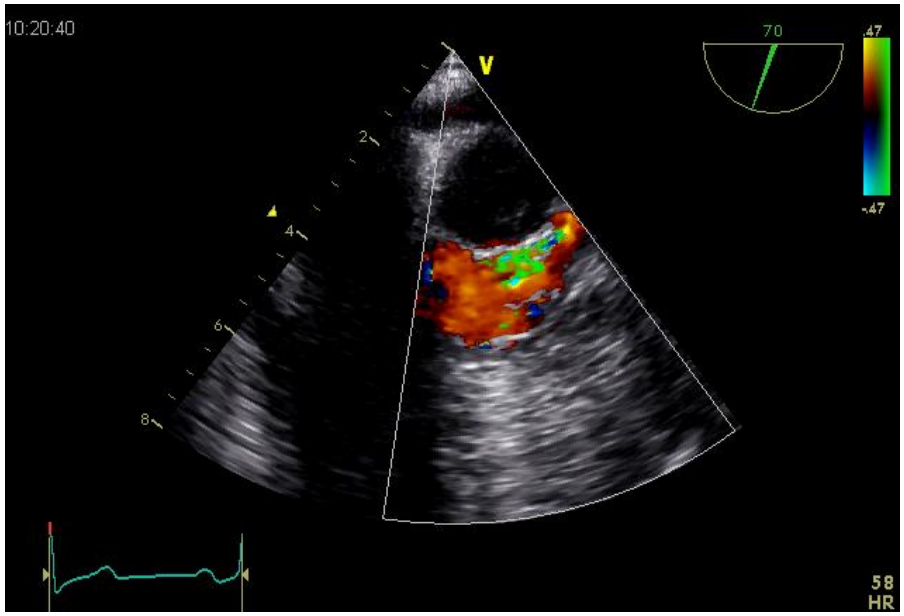
Midesophageal Short Axis View

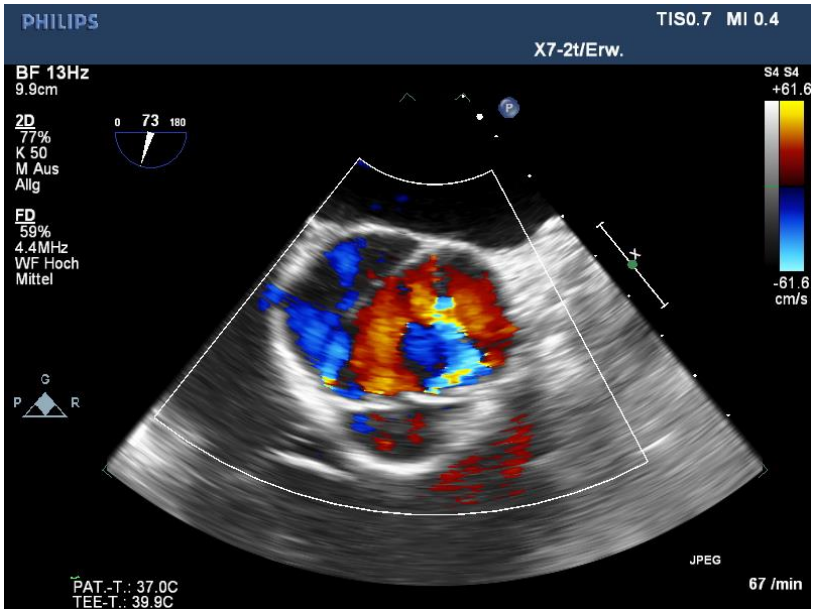




2D: Calcification ? Fibrosis ?

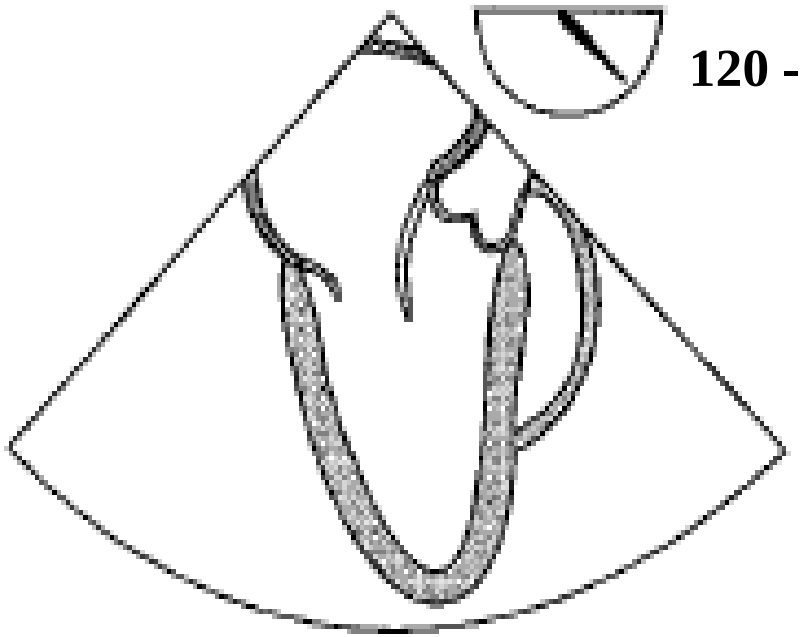
Midesophageal Short Axis View





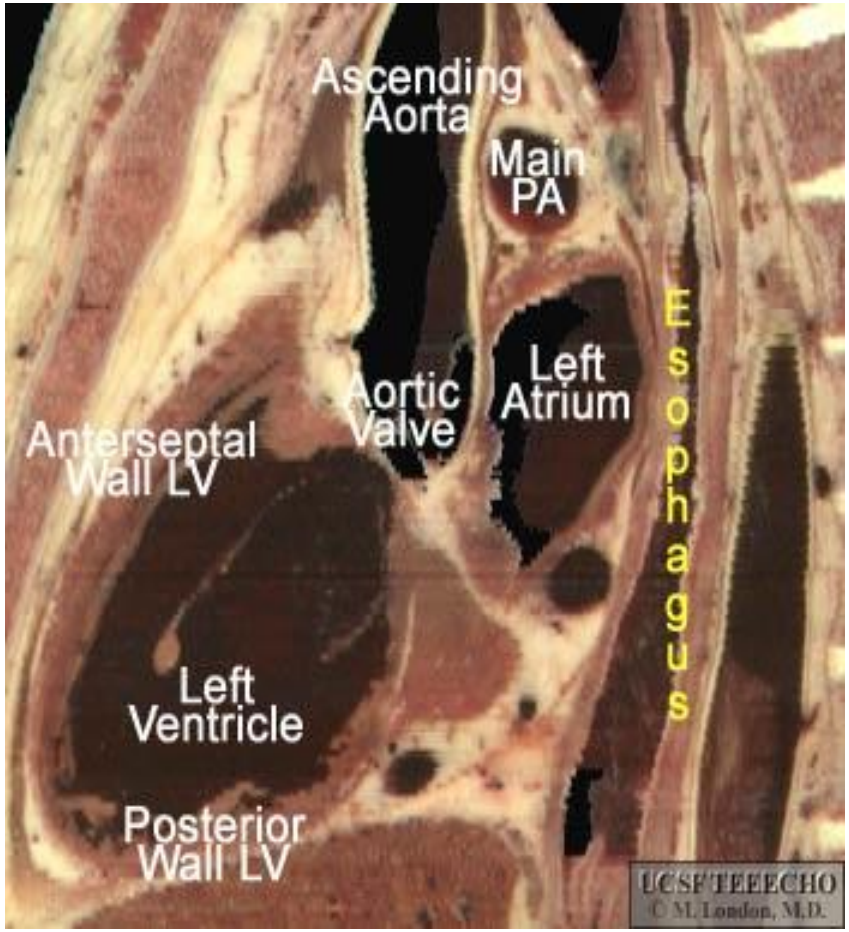
Color: Vena contracta ?

Midesophageal Long Axis View

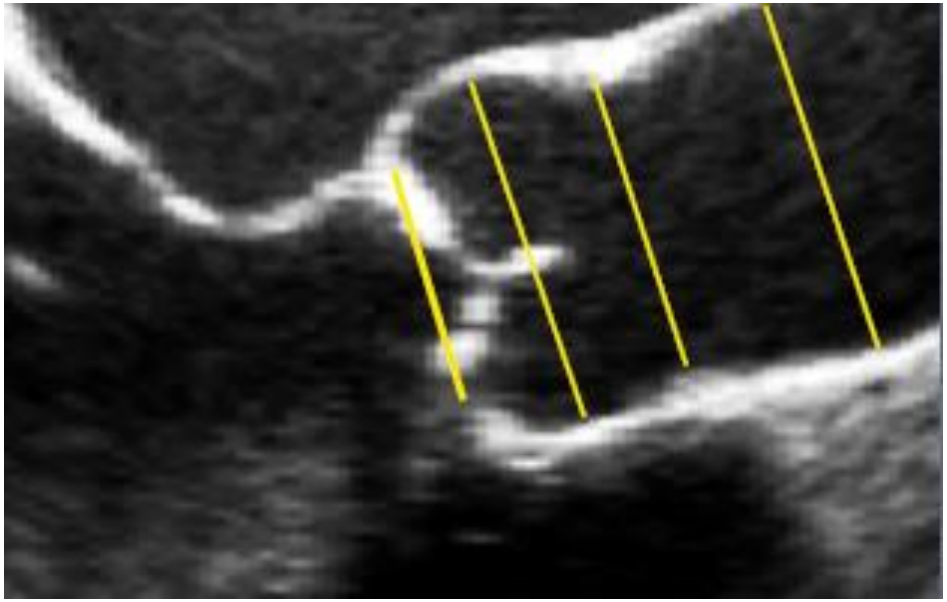


120 - 160°

c. ME LAX

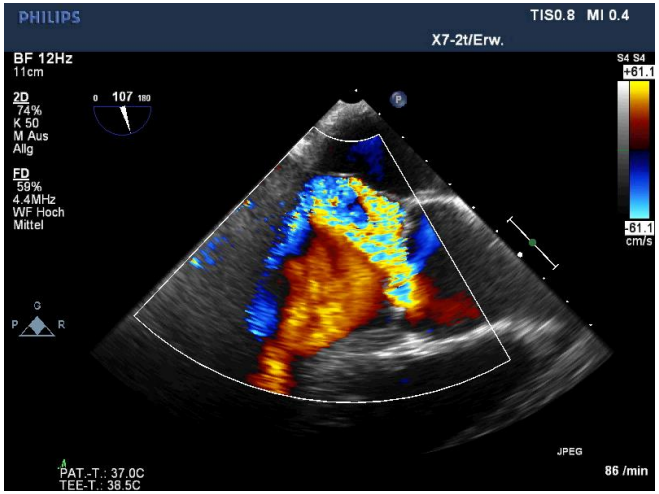


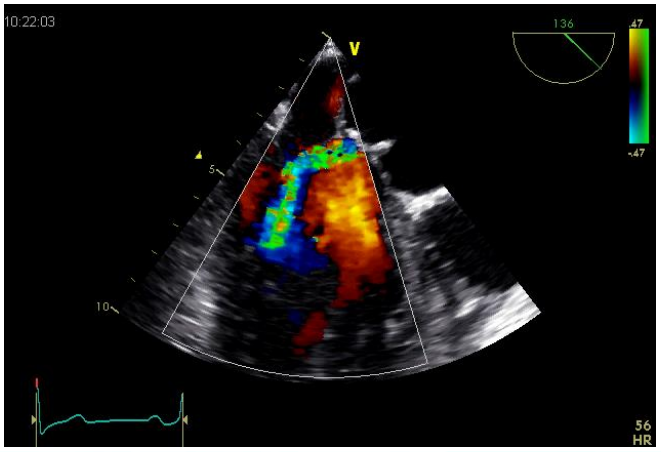
Midesophageal Long Axis View



2D:
AV-diameter
Sinus diameter
STJ-diameter
AA-diameter
Effective height

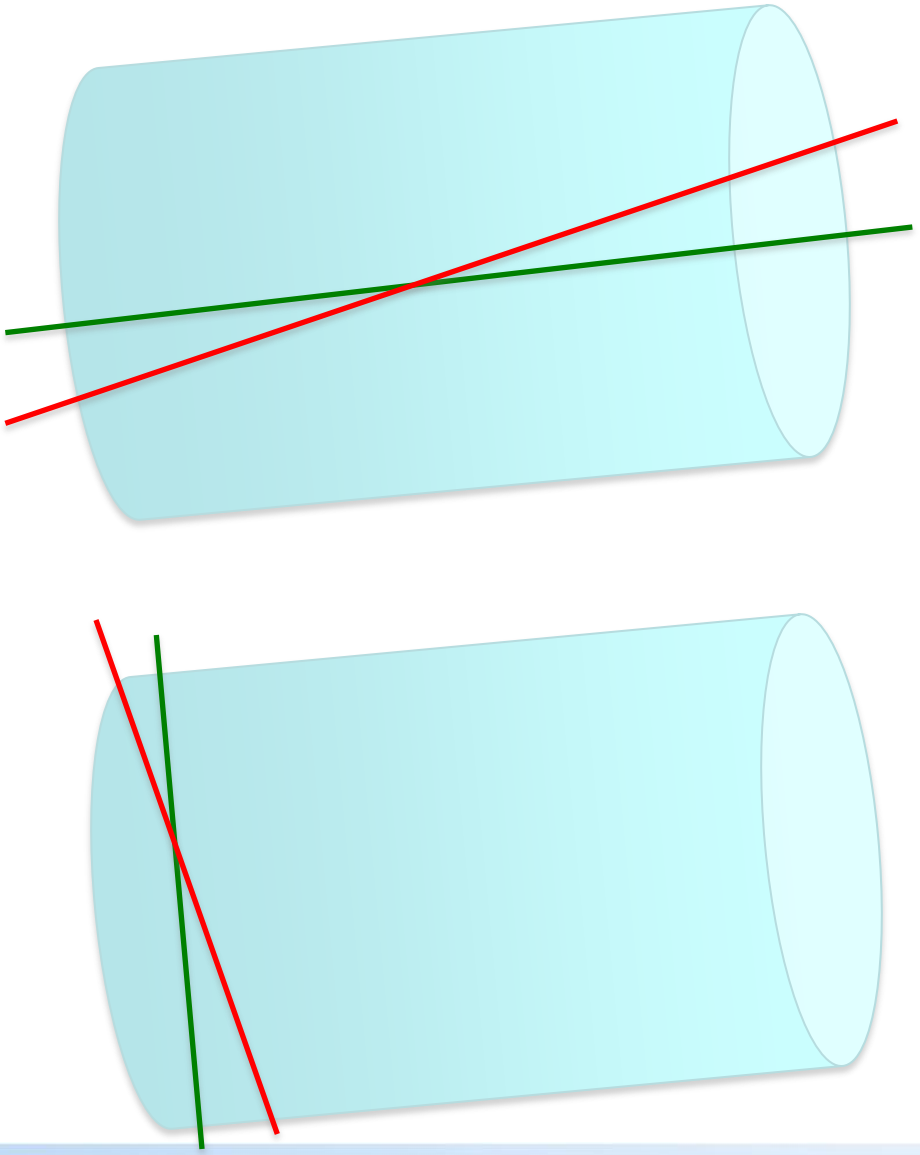
Midesophageal Long Axis View



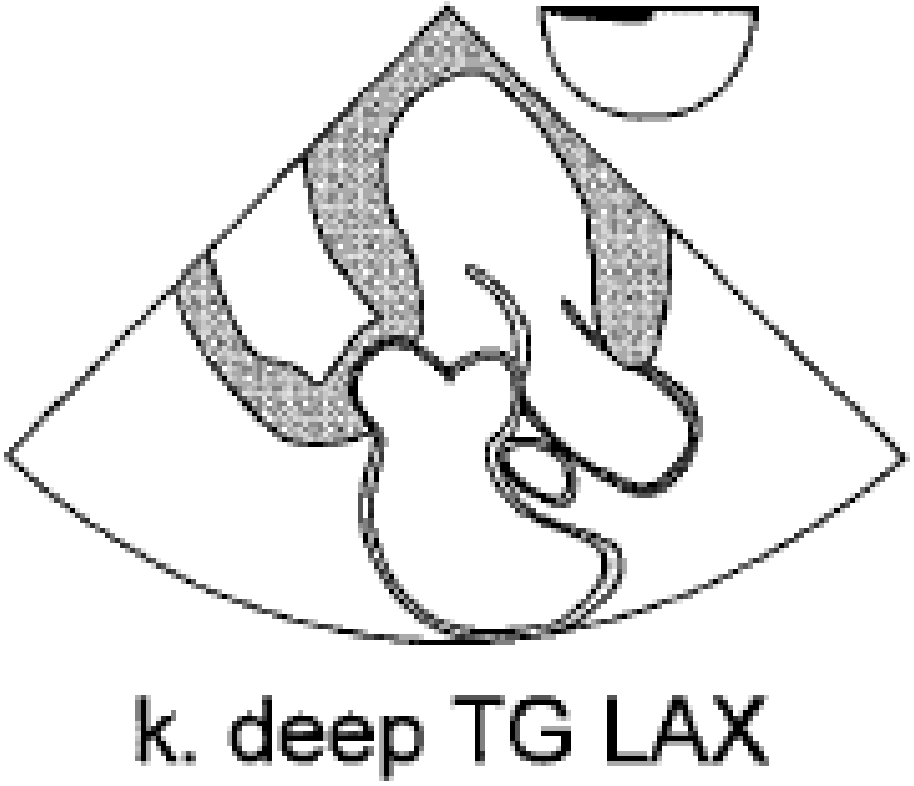


Color:
Jet width / LVOT
Vena contracta

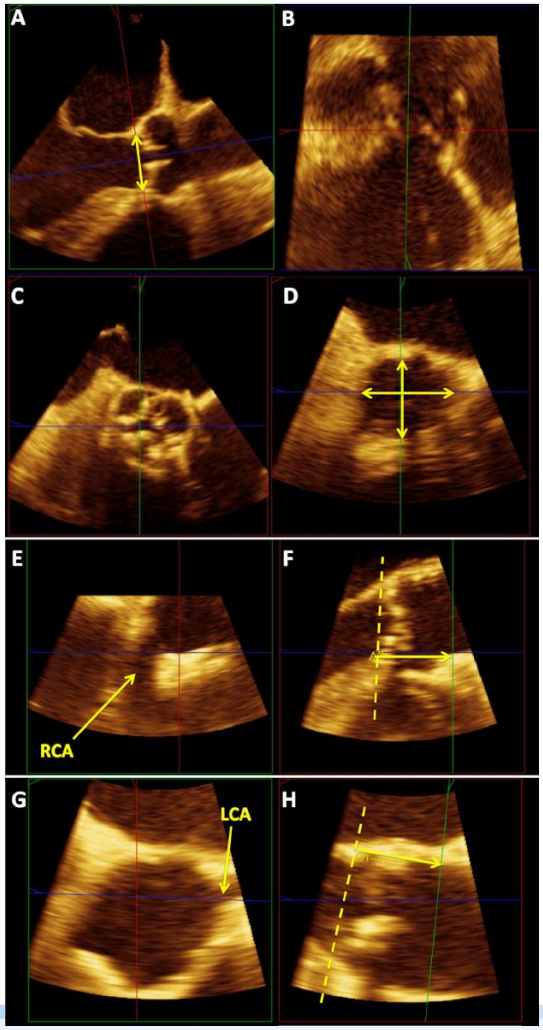
Be aware of projection artefacts !!!



Deep Transgastric Long Axis View

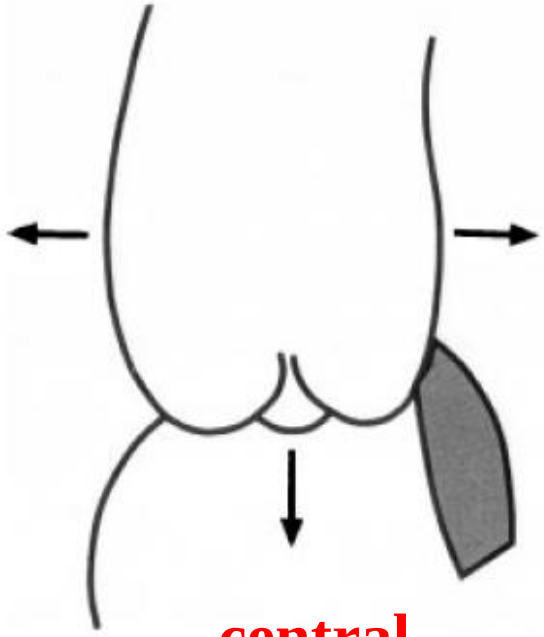


3D multiplanar view



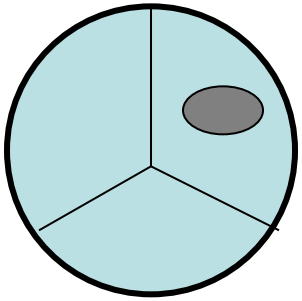
Classification of AR Mechanism

Aortic dilatation, normal cusps



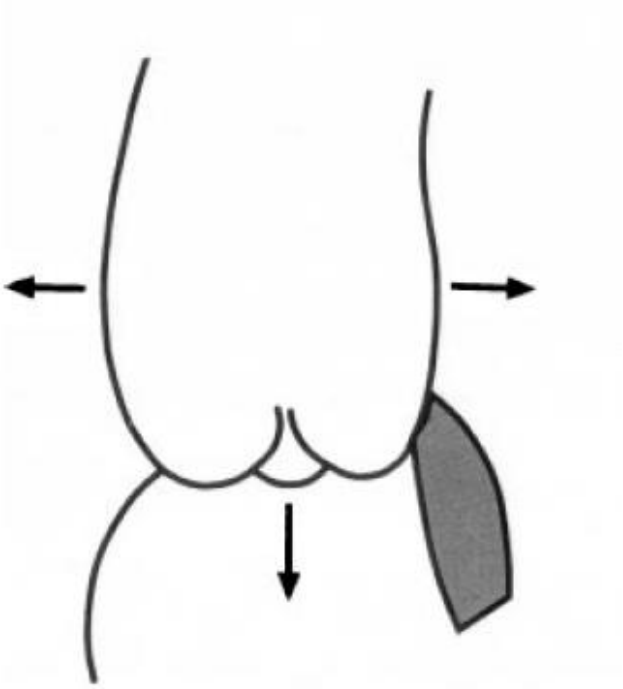
central AR jet

Cusp perforation



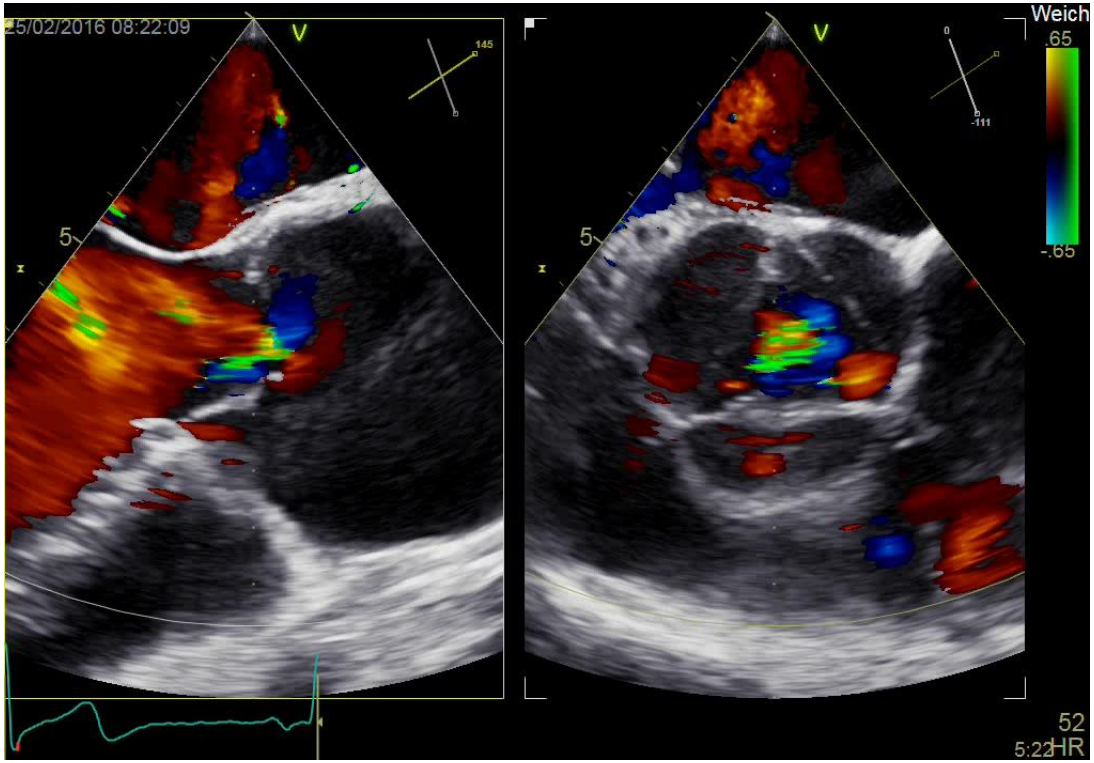
paracentral AR jet

Classification of AR Mechanism



Central AR jet: Vena contracta, but…

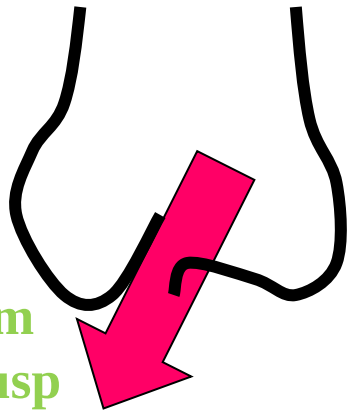
Central aortic regurgitation



…be sure to measure VC at level of leaflet free edge!!!

Classification of AR Mechanism

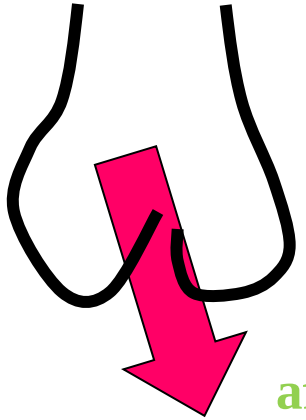
Cusp prolapse



away from affected cusp

Eccentric AR jet

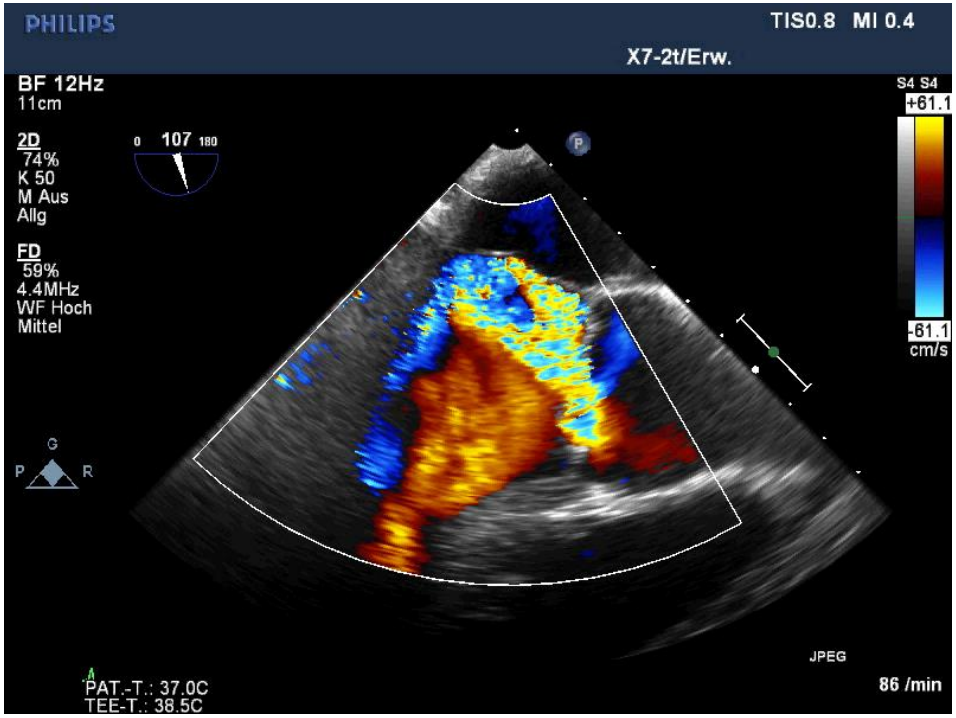
Cusp retraction



towards affected cusp

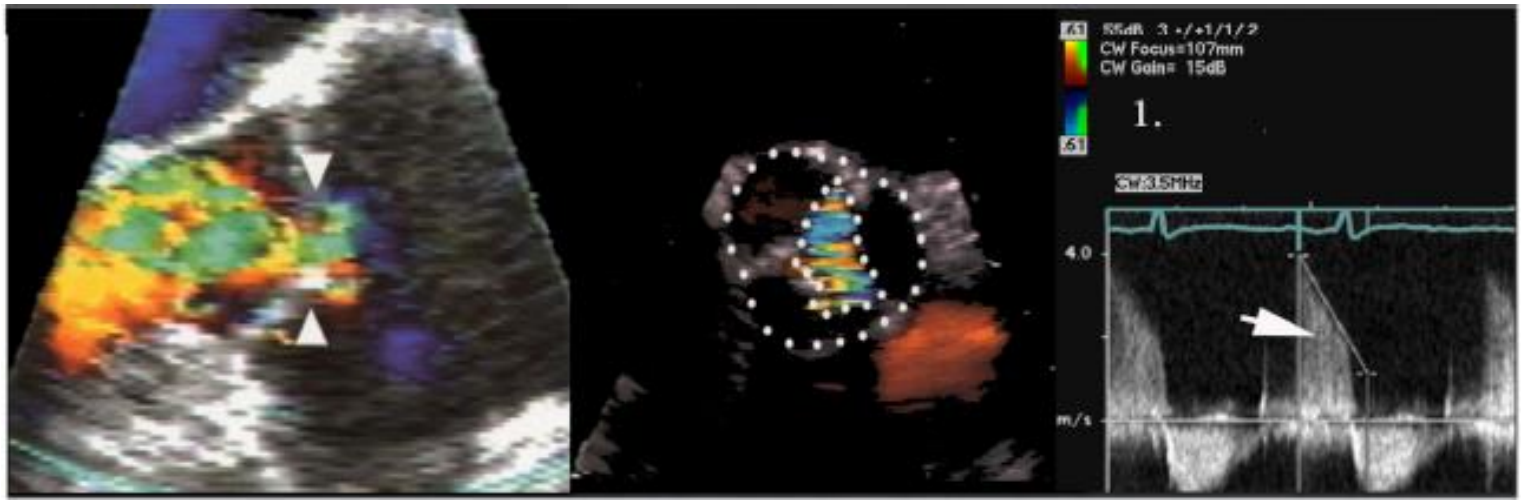
Eccentric AR jet

Eccentric aortic regurgitation



Exact measurement of VC in SAX and LAX is difficult !!!

Additional Parameters



Pressure half time < 200 ms
Flow reversal in descending aorta
Diastolic blood pressure

Zoghbi J Am Soc Echo 2003

Conclusions

- **Focused analysis of TEE is an essential prerequisite for aortic valve repair – including standardized intraoperative examination.**
- **Underlying mechanisms have to be identified for targeted repair.**

Who should perform TEE ?

Cardiologist ?

Anesthesiologist ?

Cardiac Surgeon !