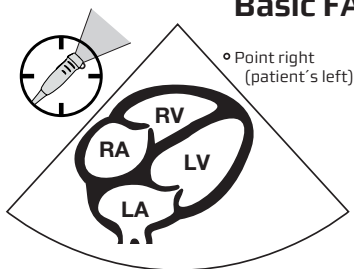


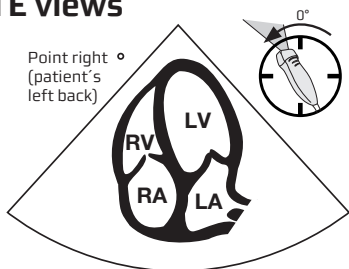
Focus Assessed Transthoracic Echo (FATE)

Scanning through position 1-4 in the most favourable sequence

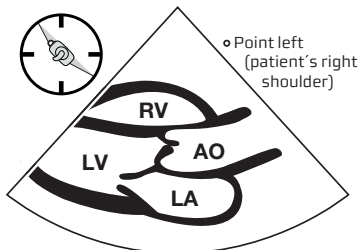
Basic FATE views



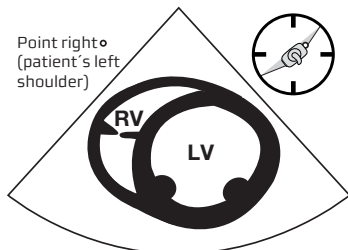
Pos 1: Subcostal 4-chamber



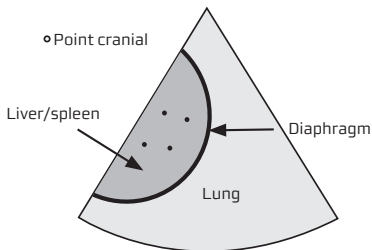
Pos 2: Apical 4-chamber



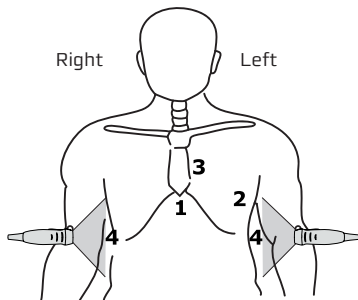
Pos 3: Parasternal long axis



Pos 3: Parasternal LV short axis



Pos 4: Pleural scanning



Focus Assessed Transthoracic Echo (FATE)

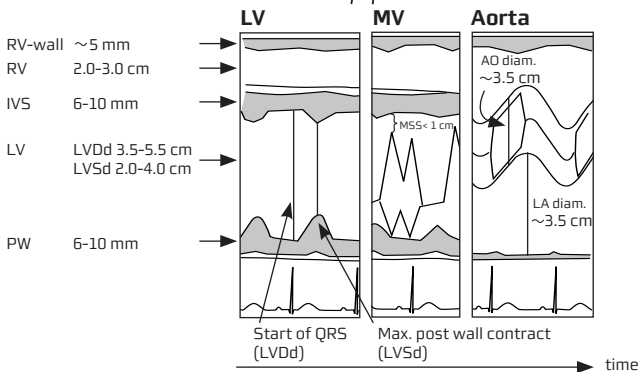
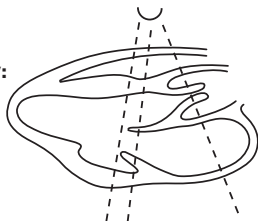
(European Journal of Anaesthesiology 2004; 21: 700-707)

1. Look for obvious pathology
2. Assess wall thickness + chamber dimensions
3. Assess bi-ventricular function
4. Image pleura on both sides
5. Relate the information to the clinical context
6. Apply additional ultrasound

Dimensions and contractility:

$$FS = \frac{(LVdD - LVsD)}{LVdD}$$

$$EF \sim 2 \times FS$$

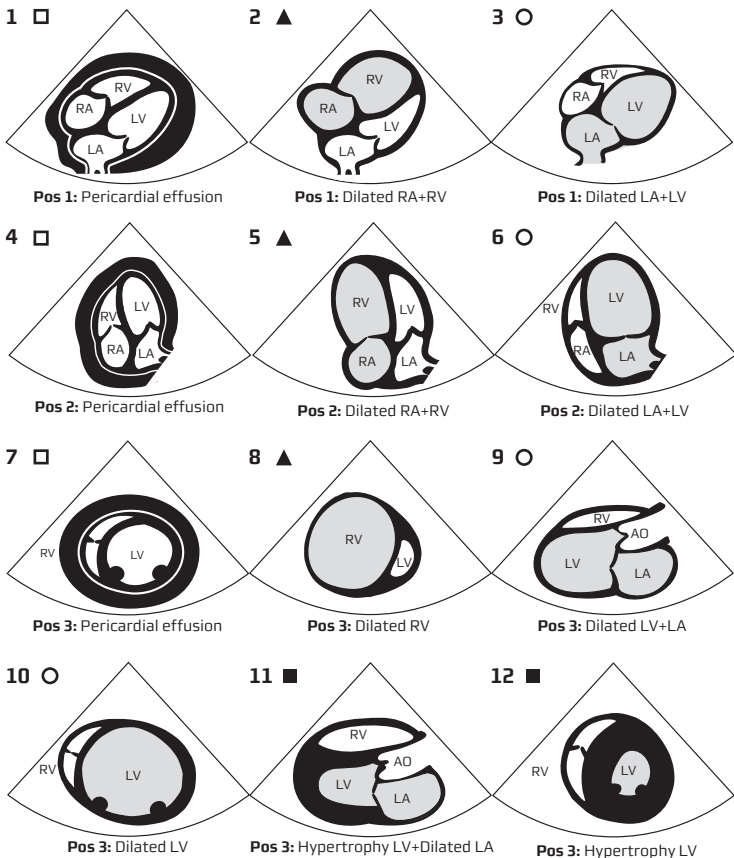


The global function of the heart is determined by the interaction between:

Right ventricle		Left Ventricle	
Systole:	Diastole:	Systole:	Diastole:
Preload	Compliance	Preload	Compliance
Afterload	Relaxation	Afterload	Relaxation
Contractility	Heart rate	Contractility	Heart rate
Heart rate		Heart rate	

Hemodynamic instability, perform a systematic evaluation of these determinants plus concomitant pathology: (e.g. pericardial effusion, pulmonary embolus, pleural effusion, pneumothorax, valvulopathy, dissection, defects)

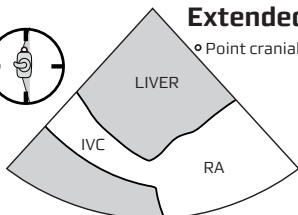
Important pathology



PATHOLOGY TO BE CONSIDERED IN PARTICULAR:

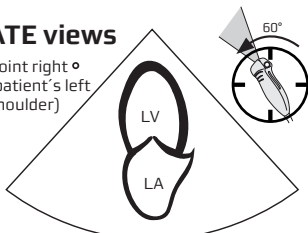
- Post OP cardiac surgery, following cardiac catheterisation, trauma, renal failure, infection.
- ▲ Pulmonary embolus, RV infarction, pulmonary hypertension, volume overload.
- Ischemic heart disease, dilated cardiomyopathy, sepsis, volume overload, aorta insufficiency.
- Aorta stenosis, arterial hypertension, LV outflow tract obstruction, hypertrophic cardiomyopathy, myocardial deposit diseases.

Extended FATE views

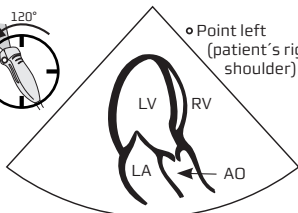


Pos 1: Subcostal Vena Cava

Point right ◦
(patient's left shoulder)

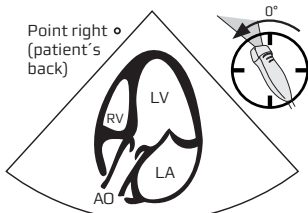


Pos 2: Apical 2 - Chamber

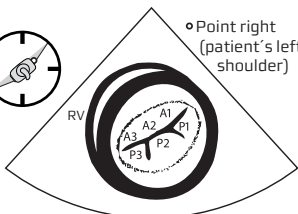


Pos 2: Apical Long - axis

Point right ◦
(patient's back)

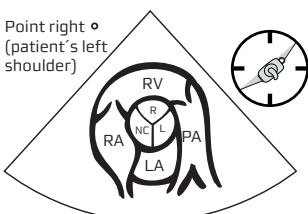


Pos 2: Apical 5 - Chamber



Pos 3: Parasternal short axis mitral plane

Point right ◦
(patient's left shoulder)



Pos 3: Parasternal aorta short axis

CW: Peak pressure: $V^2 \times 4$; AO < 2 m/s; PA < 1 m/s; T1 < 2.5 m/s

PW: Mitral Inflow desc. time 140 - 240 ms; MAX E < 1.2 m/s; E/A > 1 (Age dependent)

TVI: E/e' < 8-10; IVC < 20 mm; 50% collaps during inspiration is normal

Systolic Ventricular Function

Ventricle	M-Mode	Normal	Mild ↓	Moderately ↓	Severely ↓
LV Pos 3, PS long	EF (%)	≥ 55	45 - 54	30 - 44	< 30
LV Pos 3, PS long	FS (%)	≥ 25	20 - 24	15 - 19	< 15
LV Pos 3, PS long	MSS (mm)	< 10	7 - 12	13 - 24	> 24
LV Pos 2, AP 4ch	Mapse (mm)	≥ 11	9 - 10	6 - 8	< 6
RV Pos 2, AP 4ch	Tapse (mm)	16 - 20	11 - 15	6 - 10	< 6

Right and left ventricle Eye Balling use all views