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

Disclaimer:
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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:**

\[
FS = \frac{\text{LVDD} - \text{LVSD}}{\text{LVDD}}
\]

\[
EF \sim 2 \times FS
\]

- RV-wall \ (~5 mm)
- RV \ (2.0-3.0 cm)
- IVS \ (6-10 mm)
- LV \ (LVDD 3.5-5.5 cm, LVSD 2.0-4.0 cm)
- PW \ (6-10 mm)

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

<table>
<thead>
<tr>
<th>Right ventricle</th>
<th>Left Ventricle</th>
</tr>
</thead>
<tbody>
<tr>
<td>Systole:</td>
<td>Systole:</td>
</tr>
<tr>
<td>Preload</td>
<td>Compliance</td>
</tr>
<tr>
<td>Afterload</td>
<td>Relaxation</td>
</tr>
<tr>
<td>Contractility</td>
<td>Heart rate</td>
</tr>
</tbody>
</table>

Hemodynamic instability, perform a systematic evaluation of these determinants plus concomitant pathology:
(e.g. pericardial effusion, pulmonary embolus, pleural effusion, pneumothorax, valvulopathy, dissection, defects)
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 cranial (patient’s left shoulder)
- Point right (patient’s left shoulder)
- Point right (patient’s back)

**Pos 2: Apical 2 - Chamber**
- Point right (patient’s left shoulder)
- Point right (patient’s left shoulder)
- Point right (patient’s left shoulder)

**Pos 2: Apical Long - axis**
- Point right (patient’s left shoulder)

**Pos 2: Apical 5 - Chamber**
- Point right (patient’s left shoulder)

**Pos 3: Parasternal short axis mitral plane**
- Point right (patient’s left shoulder)

**Pos 3: Parasternal aorta short axis**
- Point right (patient’s left shoulder)

**Systolic Ventricular Function**

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

Right and left ventricle Eye Balling use all views

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CW: Peak pressure: V<sup>2</sup> x 4; AO < 2 m/s; PA < 1 m/s; TI < 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

For additional information: www.usabcd.org