### Assess risk

<table>
<thead>
<tr>
<th>Maternal problems</th>
<th>Fetal problems</th>
<th>Labour abnormalities</th>
<th>Suspected fetal distress in labour</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Hypertension</td>
<td>• Pre / post-maturity</td>
<td>• Induced/augmented/prolonged labour</td>
<td>• Meconium staining</td>
</tr>
<tr>
<td>• Diabetes</td>
<td>• IUGR / placental insufficiency</td>
<td>• Prolonged membrane rupture</td>
<td>• Suspicious FHR on auscultation or admission CTG</td>
</tr>
<tr>
<td>• Collagen disease</td>
<td>• Twins / triplets</td>
<td>• Previous Caesarean section</td>
<td>• Vaginal bleeding</td>
</tr>
<tr>
<td>• Renal disease</td>
<td>• Breach presentation</td>
<td>• Epidural</td>
<td>• Intrauterine infection</td>
</tr>
</tbody>
</table>

- **Low risk**: Intermittent auscultation or external ultrasound monitoring only
- **High risk**: Continuous monitoring - use fetal scalp electrode only if good trace not possible with ultrasound

- Re-assess regularly - risk level may change at any time.
- Abnormal CTGs may reflect maternal problems, not fetal (eg. maternal pyrexia)
- FETAL MONITORING HAS HIGH -VE PREDICTIVE VALUE BUT LOW +VE PREDICTIVE VALUE - If trace normal reactive, chance of acidaemia very low. If trace abnormal, fetus not necessarily compromised.

### Using the CTG

- Check monitor: undamaged, sufficient paper, date/time correct?
- Correct and sufficient gel used with ultrasound transducer
- Palpate - position U/S transducer over fetal left scapula
- Adjust position for clear fetal heart sounds - slapping valve sounds not swishing cord / placental sounds

- **Check maternal rate is different from rate displayed by monitor - can be confirmed with intermittent auscultation - check & document regularly**

### ACCELERATIONS ARE AN INDICATOR OF FETAL WELLBEING

#### Normal
- FIGO guidelines for normal labour CTG:
  - Baseline rate at term: 110-150bpm (120-160 in early 3rd trimester)
  - Variability: ± 5 to ±25bpm
  - Presence of accelerations: ↑ 15+bpm lasting 15s+
  - Absence of decelerations: See below (↓ 20bpm lasting 30s+)

- Continue routine management - < 2% risk of acidaemia with normal trace

#### Variable deceleration
- Cord compression
- Shallow variable decelerations with reduced variability pathological - may be associated with hyperstimulation (oxytocin)
- If baseline and variability normal with rapid return to baseline - less ominous

- 25% incidence of acidaemia

#### Early deceleration
- Deceleration coincident with contraction
- Normal autonomic response to head compression in most cases
- If baseline and variability normal with rapid return to baseline - fetus probably coping well with stress

- 0% incidence of acidaemia

#### Late deceleration
- Deceleration delayed relative to contraction
- Non-autonomic biochemical response to transient hypoxia
- Fetus may have limited reserves (?Placental insufficiency)
- If baseline and variability normal with rapid return to baseline - less ominous

- 50% incidence of acidaemia

### DECELERATIONS INDICATE STRESS - NOT NECESSARILY PATHOLOGICAL - FETAL ABILITY TO COPE WITH STRESS INDICATED BY OTHER SIGNS (eg. time to return to baseline, baseline rate, variability & accelerations)

### References:

### Disclaimer:
The information contained in this poster is believed to be correct at the time of going to print based on current European guidelines. It is intended to be used as a guide only and does not cover all risk factors. It remains the responsibility of the clinician to manage each case in accordance with local guidelines and recommended clinical practice.

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