



TITLE	Antenatal Computerised CTG Guideline
Version	
Approved by	
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This clinical guideline supersedes all previous issues



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1. Aim of this guideline:

To assist midwives and obstetricians in the understanding and interpretation of antenatal computerised CTG (cCTG) including the Dawes Redman Criteria.

2. Background of antenatal CTG monitoring:

There is no clear evidence that antenatal CTG improves perinatal outcomes or caesarean section rates. However, a comparison of computerised CTG versus traditional CTG showed a reduction in perinatal mortality with computerised CTG.

Saving Babies' Lives Care Bundle 2, recommends the use of computerised CTG in antenatal fetal assessment. Computerised fetal heart rate analysis using Dawes Redman criteria offers advantages over traditional CTG, providing an objective and reproducible interpretation of the fetal heart rate. In addition, this type of CTG corrects the parameters analysed for gestational age, reduces the time for interpretation and includes the assessment of the short-term variation (STV), which has been shown to be the best predictor of fetal wellbeing.

3. Eligibility:

- Assessment of a fetus with cCTG is NOT suitable in an intrapartum context.
- All women of 26 weeks gestation or more requiring antenatal CTG assessment should be assessed with cCTG unless previously otherwise stated by a Fetal Medicine specialist.
- Women between 24 and 26 weeks gestation should be assessed by cCTG if specifically requested by a Fetal Medicine specialist.

4. Duration of monitoring:

The maximum record length is 60 minutes. During this time, the computer analyses the CTG data and compares it with the Dawes Redman criteria at 10 minutes and every 2 minutes thereafter. The practitioner commencing the CTG must return within 10 minutes to ensure the quality and assess, visually, whether the monitoring is normal.

5. Interpretation of computerised CTG including Dawes Redman Criteria

CTG is not a replacement of clinical judgement. In the presence of other associated signs or symptoms suggestive of maternal or fetal compromise further assessment is required, even if a CTG is normal and Dawes Redman criteria are met. It is also important to remember that intrapartum NICE CTG guidance is NOT applicable in the antenatal period.



Dawes Redman analysis assesses fetal wellbeing based on a specific data set. In the absence of sufficient evidence of normality the monitor will report 'Criteria Not Met' and reference a code.

Code	Reason for criteria not met
1	Basal heart rate outside normal range
2	Large decelerations
3	No episodes of high variation
4	No movements and fewer than 3 accelerations
5	Baseline fitting is uncertain
6	Short-term variation is less than 3ms
7	Possible error at the end of the record
8	Decelerations at the end of the record
9	High-frequency sinusoidal rhythm
10	Suspected sinusoidal rhythm
11	Long term variations in high episodes below acceptable levels
12	No accelerations

Low STV, specifically, is the best predictor of fetal acidaemia and risk of in utero demise. Interpretation of STV is only valid with a full 60 minutes of data. Mean STV increases as gestation advances. Considering information applied from TRUFFLE (Trial of Randomised Umbilical and Fetal Flow in Europe), if the STV falls below the threshold for the gestation, delivery should be considered due to suspected hypoxia in the fetus.

If criteria has not been met after 60 minutes but the STV is within the normal range for gestation, this should be discussed with and reviewed by a senior obstetrician. This is unlikely to be a problem associated with fetal hypoxia and other causes should be sought.

If any other features of the antenatal CTG are suspected to be abnormal at any point, such as sinusoidal rhythm or repeated decelerations, an immediate obstetric review must be sought.

6. Regional standard:

Obstetric units unable to provide onsite assessment with computerised CTG and training to obstetric and midwifery staff in the use of computerised CTG should alert the Regional Maternity Network.



7. References:

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Antenatal CTG: North East of England and Cumbria

