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STANDARD OPERATING PROCEDURE FOR USE OF DAWES REDMAN CTG

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Documents to read alongside this Policy, Procedure etc (delete as necessary)	Standing Operating procedure for use of Dawes Redman CTG
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Disclaimer

When using this document please ensure that the version is the most up to date by checking the Obstetrics & Gynaecology Guidelines on CTM UHB WISDOM

PRINTED DOCUMENTS MUST NOT BE RELIED ON

Use of Dawes-Redman CTG

Contents

Criteria met:	2
Criteria not met:	2
Short Term Variation values	3
Reasons for not meeting Dawes-Redman criteria and codes	3

The Dawes-Redman CTG monitor should only be used for antenatal women with **NO** uterine activity and only if electronic fetal monitoring is required. It is **NOT** to be used for women who are contracting this includes active labour and latent phase of labour.

The Dawes-Redman will provide you with two possible outcomes:

- Criteria met
- Criteria not met

Criteria met:

A CTG can meet the Dawes-Redman criteria in as little as ten minutes

- If criteria are met (and there are no other clinical concerns) the CTG can be considered normal and discontinued- it does not need to remain on for twenty minutes
- A visual inspection of the CTG by the practitioner must always be performed to confirm the CTG is normal.
- If Dawes-Redman criteria are met but there are concerns about the normality of the CTG, an obstetric review (ST3 or above) should be sought.
- Dawes-Redman is an ‘expert assistant’, however it also requires robust clinical judgement and confirmation.
- If criteria are met but the woman has clinical concerns that need obstetrician involvement regardless of the Dawes-Redman outcome request a review.

Criteria not met:

- If the Dawes-Redman criteria are not met the CTG should continue for the full 60 minutes, If there are pathological features or any cause for concern during this time, immediate escalation should take place.
- The reason(s) why the trace did not meet the criteria are highlighted as coded numbers alongside the ‘criteria not met’ message. These codes should be evaluated with the appropriate risk factors.

- If the trace appears normal at 60 minutes but the Dawes-Redman criteria is not met the CTG should be discontinued, and obstetric review (ST3 or above) should be sought.
- The Dawes-Redman measurements including the Short Term Variation (STV) should be documented and reviewed as this will identify why the trace has not met the criteria. The STV is important and should be compared to any previous Dawes-Redman CTG analysis for the fetus. A low STV is most commonly associated with fetal growth restriction and chronic hypoxia.

Short Term Variation values

4-5 Normal	<4 low	<3 abnormal	<2 very abnormal
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If STV >5 the fetus may have a problem but is unlikely to be hypoxemic. Consider other clinical aspects of the case. It is more significant in preterm fetuses, especially <32 weeks.

If STV 3.0-3.99 repeat CTG within four hours and notify obstetrician.

If STV <3.0 = preterminal trace, immediately notify obstetrician and prepare for delivery.

Reasons for not meeting Dawes-Redman criteria and codes

1	Basal heart rate outside normal range
2	Large decelerations
3	No episode of high variation
4	No movements or fewer than 3 accelerations
5	Baseline fitting is uncertain
6	Short Term Variation (STV) is less than 3ms
7	Possible error at end of record
8	Deceleration at end of record
9	High frequency sinusoidal rhythm
10	Suspected sinusoidal rhythm
11	Long Term Variation (LTV) in high episodes below accepted level
12	No accelerations

1. Basal Heart Rate outside normal range

The FIGO and NICE guidelines agree that a normal baseline fetal heart rate for a term fetus is 110 – 160 beats per minute. Baseline FH Rates must be assessed in consideration of expected baseline for a fetus of the gestation being monitored. The Dawes/ Redman

analyses the intervals between beats and converts into a Basal Heart Rate. Basal rate is not the same as baseline rate and may deviate significantly from a visual assessment of baseline rate.

2. Large decelerations

These will be unprovoked decelerations. Review by obstetric Registrar. Immediate intervention if the trace is otherwise abnormal, or significant clinical concerns.

3. No episodes of high variation

Long Term Variation (LTV) is essentially equivalent to traditional baseline variability. Measured over 1-minute, the difference between the high and low FH values is analysed. Important evidence of normality is the episodic variation in the baseline heart rate. LTV is reported as "High" or "Low" episodes. In deep sleep the fetal heart rate is relatively constant with lower short-term variation but this should not normally exceed 50 minutes.

4. No movements and fewer than 3 accelerations.

This is significant and requires review by the obstetric team.

5. Baseline fitting is uncertain

If all else is normal and the baseline falls within normal parameters then this can be ignored.

6. Short-term variation (STV) is less than 3ms

Short-term variation is a computerised measure of the micro fluctuations of the fetal heart. These are not visible to the human eye. A value of less than 3ms is strongly linked to the development of metabolic acidaemia and impending intrauterine death. Particularly with the absence of an episode of high variation. STV can only be analysed after a full 60 minutes. STV of less than 3ms is significant and should be discussed and reviewed by the Obstetric Registrar or Consultant. Urgent review is required if the CTG visual assessment is also abnormal

7. Possible error at end of the record

This occurs when the machine detects a possible abnormality at the end of the trace which would otherwise be passed as CRITERIA MET. In this event the trace may be continued or, if the clinical evaluation is that it is significantly abnormal, for example prolonged deceleration, then action should be taken as appropriate.

8. Deceleration at the end of the record

In this event the trace should be continued, and action taken as appropriate. Review by Obstetric Registrar or Consultant on call.

9. High frequency sinusoidal rhythm

Sinusoidal FHR patterns are associated with either severe fetal anaemia or severe/prolonged fetal hypoxia with acidosis and are associated with poor fetal

outcomes. The analysis of the Dawes Redman system should be acted on immediately and discussed with the Obstetric Registrar or Consultant on call.

10. Suspected sinusoidal rhythm

Sinusoidal FHR needs to be distinguished from a pseudosinusoidal FHR which, while it closely resembles a sinusoidal pattern, is usually transient, resolves spontaneously and is associated with a good fetal outcome. Where a diagnosis of Sinusoidal FHR pattern is made, immediate intervention is required with probable emergency delivery if intrauterine resuscitation is not appropriate. The CTG should be continued.

Maternal blood should be taken for an urgent Kleihauer test to assess the degree of any fetomaternal haemorrhage. The Obstetric Registrar, Obstetric Consultant, Neonatal Paediatricians and Haematologist, should be alerted.

11. Long-term variation in high episodes below acceptable level

This should be acted upon in the same way as STV.

12. No accelerations

In this event the CTG trace should be continued but should be reviewed by Obstetric Registrar or Consultant. (Dawes Redman analyses acceleration using a slightly lower threshold (>10bpm) than FIGO and NICE definitions).

Dawes-Redman CTG Algorithm

