Document Control

Title **Management of Women with Perceived Reduced Fetal Movements Guideline**			
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Version	**Date Issued**	**Status**	**Comment / Changes / Approval**
1.0	Sep 2003	Final	Initial version
1.1	Apr 2011	Revision	Update of first version for consultation
2.0	Dec 2011	Final	Approved by guideline group meeting & ratified in Maternity Services Patient Safety Forum meeting on 21st December.
2.1	May 2012	Revision	Preliminary checks by Corporate Governance to title, version number, approval, table of contents and headers and footers.
3.0	Nov 2016	Revision	Update of first version and approved by guideline group meeting 07.11.2016
3.1	Apr 2017	Revision	Consultation for update based on SEA
3.2	May 2017	Draft	Consultation with stakeholders
4.0	Dec 2017	Final	Approved at Maternity Services Guideline Group Meeting
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Superseded Documents			
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Consulted with the following stakeholders: (list all) • Senior Obstetricians • Senior Midwives • Antenatal clinic and day assessment unit midwives • Ultra sonographers • Senior management Team
Approval and Review Process • Maternity Governance Forum
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Policy categories for Trust's internal website (Bob)	**Tags for Trust's internal website (Bob)**
Maternity/Midwifery	RFM

CONTENTS

KEY POINTS

- **Leaflets regarding RFM should be provided to pregnant women by 28+0 weeks of gestation.**
- **Women with perceived reduced fetal movements must be assessed urgently. Management is based on the gestation, episodes of RFM and associated risk factors for fetal growth restriction and still birth.**
- **If NO fetal movements felt by 24 weeks, refer to fetal medicine unit to look for evidence of fetal neuromuscular conditions.**
- **Computerised EFM (cEFM) should be used for antenatal assessment of women presenting with reduced fetal movements. (Appendix 2)**
- **Induction of labour for RFM alone is not recommended prior to 39+0 weeks.**

1. Purpose

1.1. Maternal perception of fetal movement is one of the first signs of fetal life and is regarded as a manifestation of fetal wellbeing. A significant reduction or sudden alteration in fetal movement is a potentially important clinical sign. Most women (55%) experiencing a stillbirth perceived a reduction in fetal movements prior to diagnosis (RCOG 2011). Unrecognised or poorly managed episodes of reduced fetal movements have consistently been highlighted as contributory factors to avoidable stillbirths (CESDI 1997; MBRRACE 2015).

1.2. This document sets out Northern Devon Healthcare NHS Trust's best practice guidelines for reduced fetal movements.

1.3. The following general principles should be applied to provide recommendations as to how women presenting in both the community and hospital settings should be managed. This guideline excludes the management of RFM in multiple pregnancies.

1.4. This guideline applies to all maternity staff and must be adhered to. Non-compliance with this guideline may be for valid clinical reasons only. The reason for noncompliance must be documented clearly in the patient's notes.

2. Definitions

Normal Fetal Movement during Pregnancy

2.1. Perceived fetal movements are defined as the maternal sensation of any discrete kick, flutter, swish or roll. Such activity provides an indication of the integrity of the central nervous and musculoskeletal systems.

2.2. Most women are aware of fetal movements by 20 weeks gestation showing diurnal changes. Fetal movements tend to plateau at 32 weeks gestation; there is no reduction in the frequency of fetal movements in the late third trimester.

2.3. Recent study by Alexander EP Heazell has shown that an increase in strength and frequency of fetal movements is associated with the lowest risk of still birth, suggesting that guidance should be altered to indicate that maternal perception of fetal movements normally increases throughout pregnancy. ('Alteration in maternally perceived fetal movements and their association with late stillbirth: findings from the Midland and North of England stillbirth case-control study')

2.4. The woman's perception of a reduction in actual fetal movements should be taken very seriously. Management should be on an urgent basis.

Abbreviations

RFM reduced fetal movements

FH fetal heart

SB stillbirth

FGR fetal growth restriction

SFH symphysis-fundal height

IUFD intrauterine fetal death

USG ultrasound

EFM electronic fetal monitoring

cEFM computerised electronic fetal monitoring

cCTG computerised CTG

FHR fetal heart rate

AC abdominal circumference

EFW estimated fetal weight

AFV amniotic fluid volume

IOL induction of labour

NST non-stress test

3. Responsibilities

3.1. Midwifery staff are responsible for:

- Ensuring that pregnant women have a discussion about importance of monitoring fetal movements at each antenatal visit from 20 weeks gestation onwards and making sure they report if the fetal movements are not felt satisfactorily.
- Ensuring that pregnant women with perception of reduced fetal movements are reviewed as an urgent basis and refer appropriately for further management based on risk assessment.

3.2. Obstetric staff are responsible for:

- Ensuring that pregnant women presenting recurrently with reduced fetal movements are provided with detailed management plan.

- Ensuring that detailed management plan provided are communicated within the team and documented clearly in the notes.

4. General Principles of Management of Reduced Fetal Movements

4.1. FACTORS INFLUENCING FETAL MOVEMENTS

Women may perceive decreased fetal activity in the following circumstances:

- When sitting or standing
- Anterior placenta prior to 28 weeks gestation
- Fetal position, direct occipito-anterior
- Maternal characteristics such as obesity
- Sedating drugs such as alcohol, benzodiazepines, methadone and other opioids

Decreased fetal movements may be associated with the following conditions.

- Placental insufficiency such as fetal growth restriction, small-for-gestational-age fetus
- Medical complications such as Diabetes, Hypertension
- Congenital malformation, especially abnormalities of the central nervous
  system, musculo-skeletal dysfunction
- Congenital infection

4.2. ASSESSMENT OF FETAL MOVEMENTS

- The importance of monitoring fetal movements should be discussed at each antenatal appointment from 20 weeks gestation. This discussion should be documented in the woman's handheld records. Pregnant women were given patient information leaflets by 28 weeks gestation.
- The use of formal fetal movement count (Kick Chart) is not recommended. Women should be advised to be aware of their baby's individual pattern of movements and to **report any decrease or cessation of fetal movements to their midwife or maternity unit promptly.**

4.3. MANAGEMENT OF PERCEIVED REDUCED FETAL MOVEMENTS AT <28 WEEKS

- If the woman is unsure whether movements are reduced - advise to have something light food to eat and then lie on her left side focusing on fetal movements for 2 hours.

- After confirmation of reduced fetal movements arrange for the woman to be seen by a midwife **ideally** in a community setting.

- Undertake and record a full medical, past obstetric history and current obstetric history to identify risk factors for stillbirth and fetal growth restriction; Examples include known growth restriction, hypertension, diabetes, maternal age=>40 at booking, active smoking, placental insufficiency, congenital malformation, BMI>35, poor obstetric history and not accessing antenatal care (non-attendee).

- Complete full antenatal check including BP, urinalysis and abdominal palpation (to exclude new risk factors).

- Auscultate fetal heart using a sonicaid, ensuring to differentiate and document maternal and fetal heart rates.

- **There is no evidence to recommend the routine use of CTG surveillance or the routine use of USG assessment in this group and should be discouraged. However, cCTG may be performed where there are reports of reduced movements, combined with other clinical concerns and when intervention may then be planned dependent upon the results.**

- If clinically there is evidence of small for date when SFH is plotted on the customised chart, an ultrasound scan should be arranged.

  N.B. If NO fetal movements felt by 24 weeks refer to fetal medicine unit/clinic and further investigations considered to look for evidence of fetal neuromuscular conditions.

4.4. MANAGEMENT =/> 28 WEEKS GESTATION (FIRST PRESENTATION) (see Appendix 1)

- If the woman is unsure whether movements are reduced - advise to have something light food to eat and then lie on their left side focusing on fetal movements for 2 hours. If normal movements not felt in 2 hours advise to attend maternity unit promptly.

- Obtain a detailed clinical history including risk factors – as detailed 4.3.
- On admission perform abdominal palpation and symphysis fundal height (SFH) measurement if not done within last 2 weeks and document on customised fundal height chart.

- Complete a full antenatal check including BP and urinalysis.

- Commence electronic fetal monitoring (EFM) (preferably computerised CTG) ensuring maternal heart rate differentiated.

  (See Appendix 2 for cEFM pathway. http://portal.e-lfh.org.uk/ContentServer/EFM_01_004/d/ELFH session/_intro.html)

- **If normal cCTG with NO risk factors for stillbirth or fetal growth restriction** advise the woman to continue routine antenatal care and to contact if repeat reduced fetal movements noted.

- **If cCTG normal WITH risk factors for stillbirth or fetal growth restriction**, arrange USG for EFW/AC, liquor volume, umbilical artery Doppler within 3 working days. It is not necessary if the scan was carried out within last 2 weeks and is normal. On public holidays and out of hours, SAS doctor or consultant on-call may carry out the fetal well-being (liquor and umbilical artery Doppler) scanning, if they are experienced. Advise the woman to continue antenatal care under consultant care and contact if repeat reduced fetal movements noted.

- In the absence of other fetal or maternal indications, IOL may be discussed if the woman presents with one episode of reduced fetal movements **after 38+6 wks.** gestation after careful counselling of the pros and cons of induction.

- IOL/ delivery **before 39 weeks** should be considered only if there are objective concerns such as fetal (oligohydramnios/EFW<10th cc/abnormal CTG) and/ maternal risk factors (H/T, DM, APH etc).

NB: If any insulin dependent diabetic patient is reviewed with reduced fetal movements they should receive a senior obstetric review/opinion.

4.5. RECURRENT REDUCED FETAL MOVEMENTS ≥28 WEEKS (second episode or more from 28 weeks)

- If a woman presents with 2 or more separate episodes of reduced fetal movements after 28 weeks, arrange USG for EFW/AC, liquor volume and umbilical artery Doppler unless it is performed within last 2 weeks and normal.

- **Offer IOL only if RFM still persists after 38+6 weeks gestation** after counselling of the pros and cons of induction. **Also consider the interval between the two episodes of RFM when considering IOL. (i.e.; the episodes of RFM should be temporally related, e.g. two episodes within 3 weeks rather than one episode at 28 weeks and another at 38 weeks).**

- Consider IOL/ delivery **before 39 weeks**, if fetal (oligohydramnios/EFW<10th cc/abnormal CTG) and/ maternal risk factors (H/T, DM, APH etc)

- **Decision for delivery or IOL for Recurrent RFM should be made by senior clinician.**

NB: If any insulin dependent diabetic patient is reviewed with reduced fetal movements they should receive a senior obstetric review/opinion.

4.6. MANAGEMENT IN LABOUR

- When a woman has had reduced fetal movements (after 28 weeks), subsequent reassuring investigations, including a scan with Dopplers, and has therefore **remained or reverted to midwifery-led care**, there is no indication to perform an EFM unless other factors emerge.

- However, if the **RFM still persists or recurs** despite normal investigations and the woman should then be continuously monitored in labour and treated as a high-risk patient.

- If a woman reports **reduced or no fetal movements in the 24 hours prior to admission in labour,** care must be transferred to consultant-led care. The need for continuous EFM in labour must then be discussed with a senior obstetrician and labour ward co-ordinator.

5. Education and training

5.1. All qualified midwifery and obstetric staff should be fully trained at CTG interpretation. All midwifery and obstetric staff must attend PROMPT in-house training and further mandatory updates according to training needs analysis. Education and training programmes will be organised by the midwifery and obstetric Clinical lead for labour ward and practice development midwives.

6. Consultation, approval, review and archiving process

6.1. The author consulted with all relevant stakeholders. Please refer to the Document Control Report.

6.2. Final approval was given by the Maternity Governance Forum Meeting.

6.3. The guidelines will be reviewed every 3 years. The author will be responsible for ensuring the guidelines are reviewed and revisions approved by the Maternity Services Governance Forum in accordance with the Document Control Report.

6.4. All versions of these guidelines will be archived in electronic format by the author within the maternity Team policy archive.

6.5. Any revisions to the final document will be recorded on the Document Control Report

6.6. To obtain a copy of the archived guidelines, contact should be made with the maternity Team/ Author.

7. Monitoring Compliance with and the Effectiveness of the Guideline

7.1. Monitoring of implementation, effectiveness and compliance with these guidelines will be the responsibility of the senior management team and risk management coordinator for maternity service. However, it is recognized that individual women alternative approaches may be reasonable, and it must have been documented in the patient's medical notes.

7.2. Auditable standards are

- Percentage of women booked for antenatal care who had received leaflet/information by 28+0 weeks of pregnancy.
- Percentage of women who attend with RFM who have a computerised CTG.
- Rate of induction of labour when RFM is the only indication before 39+0 weeks' gestation.
- Percentage of stillbirths which had issues associated with RFM management identified using PMRT.

8. References

8.1. MBRRACE-UK (2015) Perinatal Confidential Enquiry. ***Term, singleton, normally formed, antepartum stillbirth.*** Leicester: The Infant Mortality and Morbidity Studies

8.2. National Institute for Health and Care Excellence (2014) Clinical Guideline 190: ***Intrapartum care for healthy women and babies***. London: NICE

8.3. Royal College of Obstetricians and Gynaecologists (2011) Green-top Guideline No. 57: ***Reduced fetal movements***. London: RCOG

8.4. ***Confidential Enquiry into Stillbirths and Deaths in Infancy: 8th Annual Report.*** London: Maternal and Child Health Research Consortium (2001).

8.5. RCOG, RCM and HEE-e-learning for electronic fetal monitoring; ***Antenatal Computerised CTG: Principles and physiology***. Redman C, Greenwood C.

8.6. Pardey J, Moulden M, Redman CW. ***A computer system for the numerical analysis of nonstress tests.*** Am J Obstet Gynecol. 2002 May;186(5):1095-103

8.7. Dawes GS, Redman CW, Smith JH. ***Improvements in the registration and analysis of fetal heart rate records at the bedside.*** Br J Obstet Gynaecol 1985;92(4):317-325.

8.8. O'Sullivan O, Stephen G, Martindale E, Heazell AEP. ***'Predicting poor perinatal outcome in women who present with decreased fetal movements'*** Journal of Obstetrics and Gynaecology .2009; 29 (8) 705-710.

8.9. Royal Devon and Exeter NHS Foundation Trust, 2018. ***The management of women with perceived reduced fetal movements:***

8.10. Greater Manchester and East Cheshire maternity network, 2018. ***Draft Reduced Fetal Movement (RFM) guidance.***

8.11. Heazell AEP, Budd J, Li M, et al**. '*Alteration in maternally perceived fetal movements and their association with late stillbirth: findings from the Midland and North of England stillbirth case-control study'.*** BMJ Open 2018; 0:e020031.

8.12. NHS England, March 2019. ***Saving Babies' Lives Version Two: A care bundle for reducing perinatal mortality.***

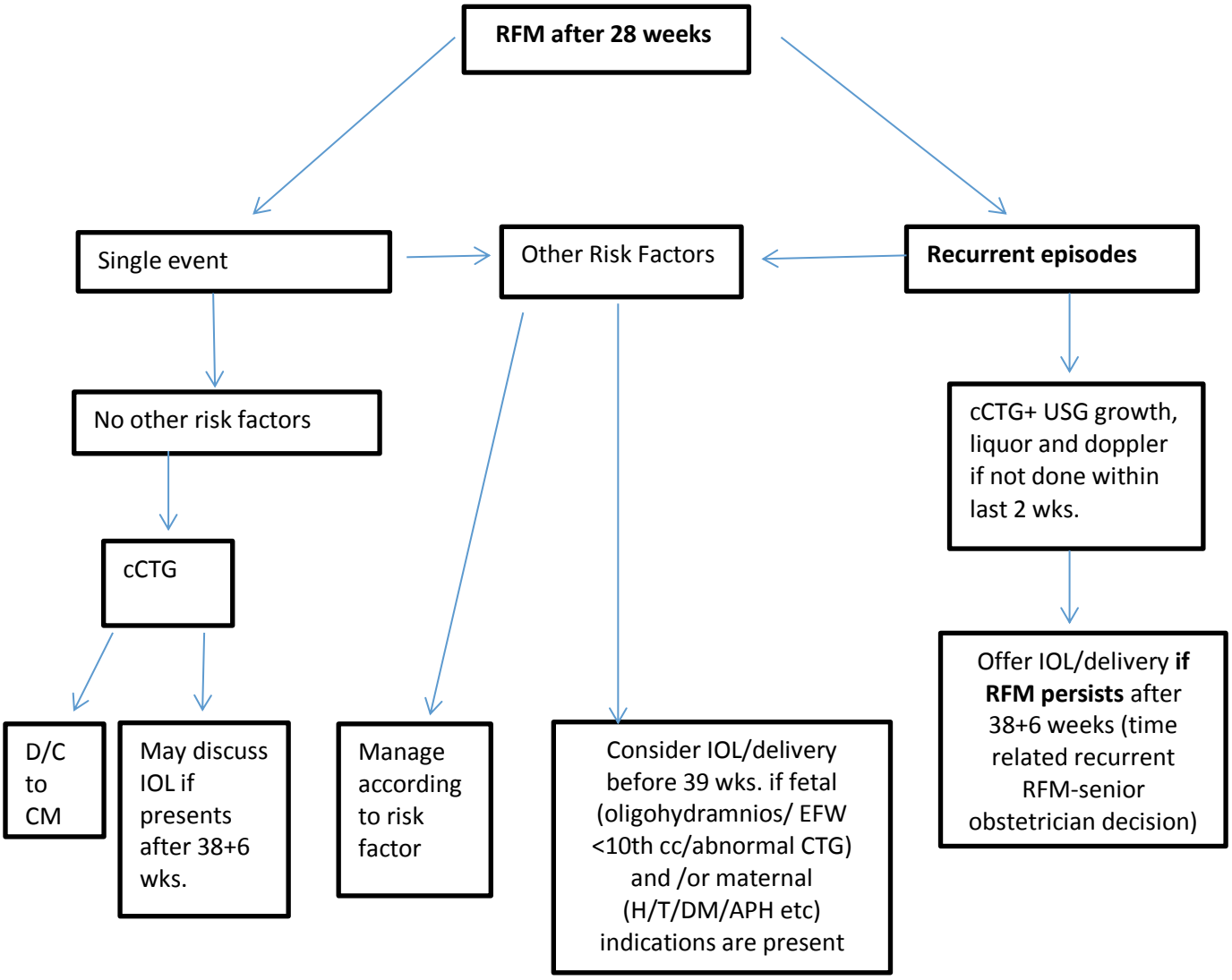
9. Associated Documentation

9.1. NDHT Access to antenatal care & screening including antenatal risk assessment & antenatal information guideline

9.2. NDHT Auscultation and electronic fetal monitoring guidelines

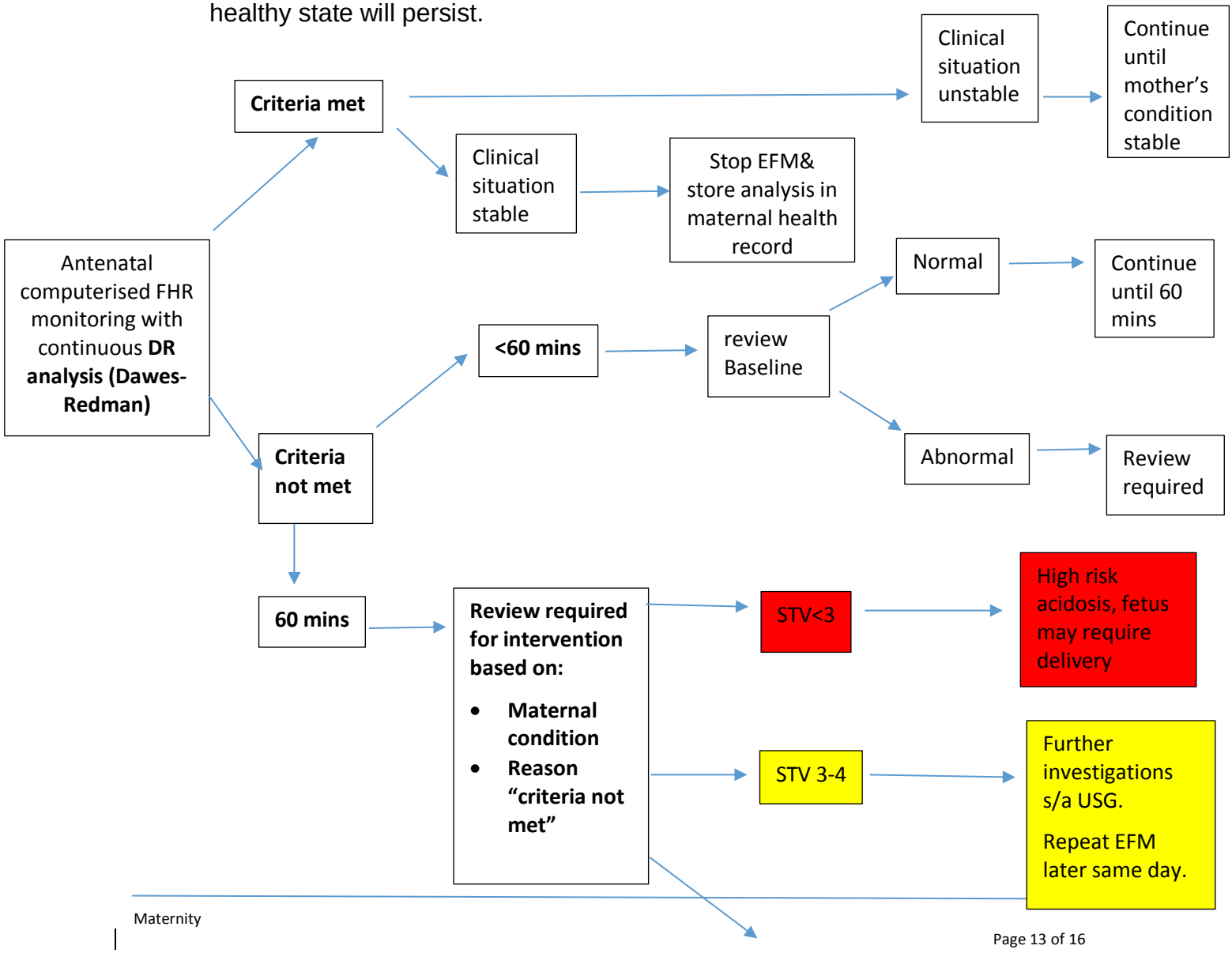
9.3. NDHT Induction of labour guidelines

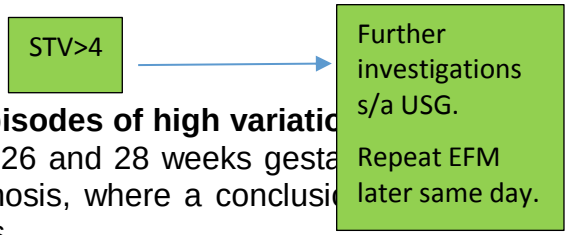
APPENDIX 1- MANAGEMENT OF REDUCED FETAL MOVEMENTS ALGORITHM



APPENDIX 2 – ANTENATAL COMPUTERISED CTG (cCTG)

- Computer analysis of the FHR allows **evidence-based standardisation** of interpretation to the highest standards. It provides objective numerical definition of **reactivity (STV)** that is tailored to the gestation of the fetus and independent of the presence of accelerations.
- The system is designed for the analysis of **antepartum FHR traces** in pregnancies **from 26 weeks onwards.**
- The system assists clinical management but does not make diagnoses. Both the analysis provided by the system and the information gained from a full clinical and, if appropriate, ultrasound assessment should be considered before any decisions are made.
- If the trace is currently normal it provides no indication of how long this healthy state will persist.





NOTE: Failing to meet criteria because there are **'no episodes of high variatio** common in otherwise normal preterm fetuses between 26 and 28 weeks gesta In this instance, there is no substitute for clinical diagnosis, where a conclusi formed using information gathered from different sources.

APPENDIX 3: CHECK LIST FOR MANAGEMENT OF REDUCED FETAL MOVEMENTS

Check list for Management of Reduced Fetal Movements after 28 weeks gestation
(Saving Babies' Lives /A care bundle for reducing still birth-version 2)

Please complete at the time of woman's attendance with Reduced Fetal Movements. Circle or tick or fill the box appropriately.

- **Ask**
  Is there maternal perception of reduced fetal movements? ☐

  Is it 1st/2nd/3rd/4th/5th/>5th episode? ☐

- **Assess**
  Are there risk factors for fetal growth restriction or stillbirt Yes/ No
  Consider- recurrent RFM, known FGR or SGA, maternal hypertension, diabetes, maternal age (=/>40 at booking), current smoking, BMI>35, past obstetric history of FGR/stillbirth) and issues with access to care.

  Please identify risk factor ☐

- **Act**
  Auscultate fetal heart (hand-held Doppler/ Pinnard) ☐

  Access fetal growth (review growth chart/perform SFH *if n*
  measured within last 2 weeks). ☐

  Perform cCTG (=/>*28 weeks' gestation or clinically indicat* ☐

  Perform ultrasound for EFW/AC, liquor volume and umbilical artery Doppler within 3 working days if risk factors for FGR/Still[illegible]or recurrent RFM. ☐
  (No need to perform if carried out within last two weeks and reassuring)

- **Advise**
  Convey results of investigations to the mother ☐
  Mother should re-attend if further reductions in fetal movements at any time
  Provide leaflet on RFM.

- **Act**
  a. Abnormal results-Act upon prompt ☐
  b. Normal results- further management depends on risk factors and ☐

gestation.

A. Further management plan

1. **First episode of RFM before 38+6 wks.**
   a. **No risk factors-Discharge & continue MLC** ☐
   b. **Risk factors- manage according to risk factor** ☐

2. **First episode of RFM presenting after 38+6 wks.**
   a. **Individualised care /May discuss IO** ☐

3. **Second or more episodes of RFM**
   a. **Offer IOL/delivery after 38+6 wks. if RFM still pers** ☐ **s.**
   b. **Consider IOL/delivery before 39 wks. if fetal (oligohydramnios/ EFW <10th cc/abnormal CTG) and /maternal risk factor** ☐ **H/T, D/M/APH etc)**

Please initial, name and date when complete DAU/LW/ANC

B. Maternal outcome	Spontaneous/Induced labour
If labour induced, reason for IOL and gestation at induc	
Mode of delivery	VD/Assisted Vg/CS
If CS, reason for CS	
C. Outcome of the baby	
Apgar at 5 mins	
SCBU admission	
Undiagnosed SFD/IUGR	Yes/No

"THANK YOU"