Reduced Fetal Movements

VERSION 8.2

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Care Group	**:**	Women and Children's
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Comments	**:**	References to SaTH Guidelines in the text pertain to the latest version of the Guideline on the intranet. Printed copies may not be the most up to date version.

For triennial review

Version	Implementation Date	History	Ratified By	Review Date
1	June 2004	New Guideline		June 2007
2	December 2006			December 2008
3	20th Feb 2012	Revised and updated from RCOG recommendations	MGG Maternity Governance	February 2015
3.1	26th July 2012	Minor review- clarification on plan of care if FM remain reduced or absent (section 5.1.5/6)	MGG	Feb 2015
4-4.5	18th May 2015-25th May 2017	History box amalgamated refer to version 5 for full history	MGG Maternity Governance	May 2018
5	29th Nov 2017	Full review Clarification on repeated RFM	MGG Maternity Governance	Nov 2022
5.1	1st May 2018	Minor revisions in line with Saving Babies' Lives	MGG Maternity Governance	Nov 2022

6	5th Oct 2018	Full review following CQC recommendations (Care Quality Commission Health and Social Care Act 2008- Urgent notice of decision to impose conditions on your registration as a service provider in respect of a regulated activity Shrewsbury and Telford Hospital Regulated activity: Treatment of disease, disorder or injury. Reference: MRR1-5657673357)	Head of Midwifery Extraordinary Approval	October 2019
6.1	31st Oct 2019	Pending full version review extension to full review date	Extraordinary approval	April 2020
7	19th May 2021	Full version review addition of pathways to appendix	MGG Maternity Governance	May 2024
7.1	Nov 2022	Audit & Monitoring paragraph updated to reflect new process		May 2024
7.2	April 2023	Amendment in relation to triage 26-28 week gestation reporting RFM		May 2024
7.3	Aug 2023	SBLCB version 3 standard: Recurrent RFM offered a USS by next working day if not had growth scan within 2 weeks		May 2024
8	21st June 2024	Full version review and rewrite	Maternity Governance	June 2027
8.1	3rd July 2024	Corrected risk factors for stillbirth recurrent movements	Maternity Governance	June 2027
8.2	Feb 2025	Minor addition- Clarifying that women with a single episode of RFM, no risk factors and spontaneous labour <39 weeks is suitable for MLU/IA	Maternity Governance	June 2027

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1.0 Introduction

In this guideline we use the terms ‘woman’ or ‘mother’ throughout. These should be taken to include people who do not identify as women but are pregnant or have given birth.

Reduced fetal movements is a known indicator for fetal compromise. It is believed to represent a fetal response to chronic hypoxia by conserving energy, with the subsequent reduction of fetal movements being a mechanism adapted to reduce the consumption of oxygen (Maulik 1997). It’s recognised that intrauterine death is preceded by complete cessation of fetal movements for ≥24 hours (Heazell et al. 2018). It has been found that 40-55% women with stillbirth experience reduced fetal movements prior to diagnosis of intrauterine fetal death (Efkarpidis et al. 2004).

Maternal perception of reduced fetal movement affects up to 15% of pregnancies (Sergent et al. 2005). It is important to remember that the majority, (70%) of these mothers, will have a normal pregnancy outcome (O'Sullivan et al. 2009). Up to 29% of the women reporting reduced fetal movements have a small for gestational age baby with a subsequent increased risk of stillbirth (Scala et al. 2015)

2.0 Aim(s)

2.1 To guide care in accordance with evidence-based practice.
2.2 To provide a standardised pathway of care for pregnant women reporting reduced fetal movements.
2.3 To standardise the information given to pregnant women and their families (including Patient Information Leaflets) in relation to reduced fetal movements.

3.0 Objectives

The objectives of this guideline are in line with national guidance, including the recommendations set out by the Saving Babies Lives Care Bundle: Version 3, released in July 2023.
3.1 Provide information (including PIL) and generate discussion surrounding fetal movements early in pregnancy and by 28^{+0} latest.
3.2 Discuss fetal movements at every contact from 24^{+0}
3.3 Perform a cCTG if women present with RFM ≥26^{+0} with risk factors for stillbirth (See Appendix 2)
3.4 Make use of checklists derived from evidence-based care to determine appropriate management of pregnant women who attend with RFM.

4.0 Definitions

4.1 RFM: Maternal perception of reduced fetal movement
4.2 SGA: Small for gestational age
4.3 CTG Cardiotocograph
4.4 cCTG: Computerised cardiotocograph (with analysis)
4.4 DAU: Day Assessment Unit
4.6 FGR: Fetal growth restriction
4.7 EFM: Electronic fetal monitoring
4.8 MIS: Maternity information system
4.9 IOL: Induction of labour
4.10 SFH: Symphysis- fundal height

4.11 USS: Ultrasound scan
4.12 Tier 2: CM/CS/ST3-7, or equivalent/higher
4.13 Tier 3: Consultant
4.14 BMI: Body mass index
4.15 PIL: Patient information leaflet
4.16 FH: Fetal heart

5.0 Process

5.1 Antenatal Education

5.1.1 Booking

At the initial booking appointment, women should receive an introduction about fetal movements and be signposted to the patient information available to them. These conversations should be documented on the MIS
See guideline "Patient Information Guideline- Maternity" for instruction on how to add leaflets as additional reading via the MIS.

Fetal movements are felt at different gestations depending on multiple factors, such as parity, placental location, and maternal BMI. However, most people are aware of fetal movements by 20 weeks gestation.
If fetal movements have not been felt by 24^{+0}, women should be referred to the fetal medicine service for USS to investigate fetal activity.

There is no robust epidemiological evidence on fetal movements and maternal perception of fetal activity; therefore, there is no agreed definition of "normal". Women should be encouraged to tune into their fetal movements in order to detect any patterns, for example, periods or times of the day with more activity or sleep cycles. Patterns of fetal movements have usually developed by 32 weeks gestation.

5.1.2 Antenatal appointments $<24^{+0}$

Those providing care for pregnant women should continue to raise awareness of the importance of monitoring/becoming aware of fetal movements.
Women should be reassured that fetal movements are irregular with no distinct pattern in early pregnancy.
Any advice given or discussions had, should be documented on the MIS

5.1.3 Antenatal appointments $\geq 24^{+0}$

At every contact from 24 weeks, fetal movements should be discussed and documented on the MIS.
The following advice should be given:

- Be aware of individual pattern of movements and consider them throughout the day.
- Contact the local maternity unit (triage) if there are any concerns regarding fetal movements, including a reduction, absence, or sudden alteration.
- Concerns should be raised immediately, without delay to maternity triage, which is open 24 hours a day.

- Fetal movements tend to develop into a pattern by 32 weeks gestation and although they tend to plateau at this point, there is no reduction in fetal activity during the third trimester.
- Be aware of fetal movements up to and including during labour.
- Continue to monitor fetal movements- even after recently being reassured following a maternity unit attendance for an episode of reduced fetal movement.
- Contact numbers should be highlighted.

5.2 Management of reduced fetal movements (Appendix 1)

All reports of reduced fetal movement should be taken seriously and discussed with the woman. The management offered **is dependent on gestation and the presence or absence of risk factors for stillbirth.** All women should be invited for review at maternity triage from 16 weeks onwards.

All women should have the workflow “Reduced fetal movement checklist” completed on the MIS (see appendix 5).

5.2.1 16^{+0} - 19^{+6} weeks gestation

- Provide reassurance that fetal movements are irregular and not established at this point in pregnancy.
- Consider auscultation to provide maternal reassurance and be aware that NICE do not recommend routine auscultation until 20^{+0}
- Record discussions on the MIS

5.2.2 20^{+0} – 25^{+6} weeks gestation

- Provide reassurance that irregular fetal movements are common at this gestation.
- Auscultate the fetal heart, differentiating from maternal pulse.
- If already in a community setting it would be appropriate for the attending midwife to complete this assessment.
- **While placental insufficiency rarely presents prior to the third trimester, the fetal heart should be auscultated to exclude fetal demise as part of a full examination.**
- If FH is not detectable, immediately escalate to a senior trained obstetrician to conduct an USS as soon as possible to look for fetal heart activity.
- Where FH is confirmed as present, assess risk factors for stillbirth and ensure appropriate follow up is in place, eg, growth scans/ community midwife appointments.
- Document assessment/findings and any discussions on the MIS.
- If a woman reaches 24 weeks and has never felt fetal movements, they should have an ultrasound arranged next available slot and to consider referral to fetal medicine to look for evidence of fetal neuromuscular conditions.

There have been no studies looking at outcomes of women who present with RFM <24/40.

5.2.3 Management of first episode Reduced Fetal Movements (RFM) between 26^{+0} – 38^{+6} weeks gestation

- Refer to triage and advise to attend immediately.
- On arrival to triage patient should be triaged within 15 minutes, and managed as per BSOTs pathway for RFM.

ASK

- Confirm there is maternal perception of RFM? How long has there been RFM? Is this the first episode? When were movements last felt?

- Take a full history and review the medical notes, including assessment of:
    - Gestation
    - Any associated symptoms including:
        - Vaginal bleeding
        - Abdominal pain
        - Symptoms of pre-eclampsia
        - Ruptured membranes
        - Symptoms of preterm labour etc
    - Medical history
    - Obstetric history
    - Previous SFH/USS scan history
    - Smoking status (CO level)

ACT

- Examination:
    - MEOWS
    - Urine Dipstick
    - Abdominal palpation including SFH (if not done in last 2 weeks and not undergoing serial growth scans)
    - Auscultate fetal heart prior to commencing CTG to confirm fetal viability and distinguish from maternal heart rate
        - If unable to auscultate fetal heart arrange immediate ultrasound

- Conduct cCTG (with antenatal computerized analysis)
        - Review CTG after 10mins to rule out obvious abnormality.
            - If initial CTG abnormal refer for immediate obstetric review
        - Once computerised analysis complete, manually review CTG before removing.

If CTG is abnormal or there is immediate clinical concern (symptoms/abnormal MEWS) – Refer for obstetric review, urgency depending on level of concern/BSOTS grading

Criteria not met but visually appears normal

- If Criteria not met but appears normal remove CTG after completing 60 minutes monitoring and request obstetric review.
- If Obstetric review not available repeat CTG within 4 hours

CTG Normal and no clinical concern or risk factors for stilbirth:

- Id CTG normal and computerised analysis has met criteria and woman is now happy with fetal movements, she can be discharged home by the attending midwife and resume normal antenatal care.
- Provide/ re-enforce Patient Information Leaflet.
- Advise to contact maternity triage for any further concerns.
- Complete reduced fetal movement checklist on MIS

CTG Normal with clinical concerns/risk factors

- Refer to **Appendix 4** for indications for obstetric review.

Ultrasound scan after first episode of RFM

- **Appendix 3** highlights the indications to perform USS.
- If an ultrasound scan has not been performed in the 2 weeks prior to the episode of RFM, the triage midwife should arrange USS for growth, liquor volume and doppler within 24 hours for women who meet the criteria in
- If an ultrasound scan has been performed in the previous 2 weeks and there is an indication for scan, USS should be arranged two weeks from the previous scan. **If the follow up scan is normal and the movements are normal they should return to their planned pathway.**
- If an ultrasound is not available within 24 hours escalate to the Maternity Manager of the Day on bleep 254.

ADVISE

- Convey results of investigations to the mother. Mother should be encouraged to re-attend if she has further concerns about RFM.

If single episode of RFM with NO other risk factors and having spontaneous labour before 39 weeks, the woman is considered suitable for MLU and IA.

5.2.4 ≥ 39+0 weeks gestation

- Initial management as per 5.2.3
- In cases of RFM (single or recurrent) after 38+6 weeks refer to resident tier 2 /tier 3 to discuss and offer IOL (consider VE and membrane sweep to help with IOL process)

If IOL is declined or not available within 48 hours:

- Offer VE +/- membrane sweep
- Arrange USS within 24 hours

- If USS normal and IOL declined, arrange twice weekly CTGs and weekly USS to assess liquor volume and dopplers.
- Offer IOL at any time if fetal movements remain reduced.

5.3 Management of Recurrent Reduced Fetal Movements (rRFM)

Recurrent episodes of fetal movements have no nationally identified definition but generally, the accepted definition is two or more episodes of reduced movements **within** a 21-day period from 28 weeks gestation.

Women who present on two or more occasions with RFM are at an increased risk of poor outcomes- stillbirth, FGR, preterm birth- compared to those who present on only one occasion.

- Initial management in triage as per 5.2.3
- All women should have USS within 24 hours of presentation if patient has not had growth scan within 2 weeks.
- Women with rRFM after 37 weeks should have an USS arranged within 24 hours and to have an appointment in the emergency antenatal clinic to discuss ongoing management with IOL considered from 39 weeks in the absence of any other concerns.
- Where a woman cannot be seen prior to 39 weeks in the emergency clinic, they should be reviewed by resident tier 2/3 for this discussion.
- Advise birth on the consultant unit with EFM. **Update risk level on the MIS.**

5.4 Increase in fetal movements/ fetal hiccups

Evidence from the Midland and North of England Stillbirth case-control study (MiNESS) found that an increase in fetal movements and fetal hiccups is associated with a **decreased** risk of stillbirth, and the woman can be reassured.

Similarly, more recently further studies (Sharp et al 2020) have not shown a link between increased fetal movements and stillbirth. Therefore, women who experience increased fetal movements alone can be reassured and do not need to be invited in. If however, the increased movements is followed by reduced movements then they should be managed for the reduced movements.

6.0 Training

Refer to Maternity Training Needs Analysis guideline

6.1 All healthcare professionals must receive training annually organised by the midwifery education team, to ensure:

- They understand the association between reduced fetal movements and late stillbirth
- They are proficient in CTG interpretation and attend yearly updates to maintain this skill
- All practising midwives and doctors (ST1 or above) must have evidence of CTG training within the previous year.
- Demonstrate awareness of evidence about the contribution of suboptimal care of RFM to late stillbirth

7.0 Monitoring/audit

"Compliance with this guideline will be audited as part of the Shrewsbury and Telford Hospital NHS Trust's five-year rolling programme of NICE and local guideline audits, unless circumstances require an earlier or more frequent audit. The audit will be carried out using the auditable standards and the results will be reported and acted on in accordance with the Trust Clinical Audit Policy (CG25)"

8.0 References

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Appendix 1 Management pathway

Presentation with altered fetal movements <28^{+0} is not counted towards Recurrent RFM.

At presentation to triage

- Take full history and identify risk factors (see Appendix 2)
- Perform full set of maternal observations (MEOWS)
- Perform abdominal palpation. Measure and plot SFH on customised growth chart if ≥26/40 and has had no measurement in the previous 2 weeks unless woman is already on serial growth scan pathway..

20-25^{+6}/40

- Auscultate FH with handheld doppler
- If FH present and within normal range, patient can be discharged home with safety netting advise
-If no fetal movements have been felt by 24 weeks, arrange USS* and to look for fetal movements

Please highlight
-the Tommy's Patient Information leaflet regarding fetal movements upon discharge.
-Maternity triage contact numbers.

26^{+0} – 38^{+6}/40

All Women with RFM:
- Perform cCTG (with antenatal computerized analysis)
- If CTG visually abnormal or does not meet criteria / abnormal MEWS/ other symptoms eg bleeding, abdominal pain or PET→ senior obstetric review

1st episode and no other symptoms:
- If CTG normal (checked by two midwives), SFH plots ≥10th centile, and fetal movements now felt, discharge home by the attending midwife with safety netting advice
-If CTG normal but risk factors present (appendix 2) or perception of RFM persists → midwife to arrange USS* within 24 hours (if not done within prev 2 weeks)

Recurrent episode (2nd or subsequent RFM within 21 days)
- Arrange USS* within 24 hours if has not had growth scan within 2 weeks.
- If USS done within previous two weeks then arrange scan for 2 weeks from the last scan
- Consider additional scan for LV and Doppler only if known SGA/FGR or LV/Doppler previously abnormal
- Advise recommended place of birth to be consultant led unit, document risk level on MIS.
- From 37 weeks refer to obstetrician with scan result to discuss and offer delivery from 39+0 weeks. Consider earlier delivery if additional concerns.
- Consider additional monitoring at consultant level if any other concern are present, eg IUGR, PET with an individualised care plan.

39^{+0}/40

All women:
- Perform cCTG (with antenatal analysis)
- Senior obstetric review with discussion for delivery.
-If delivery declined:
offer VE +/- membrane sweep
Arrange USS within 24 hours.
If USS normal, arrange twice weekly CTGs and weekly USS for LV and doppler

USS*:

-Fetal biometry (if not done within previous 2 weeks)
-liquor volume
-umbilical artery doppler

LV + Doppler should not be requested alone unless already known SGA/FGR or previously abnormal

Appendix 2 Risk factors for stillbirth

Recurrent RFM or ≥2 episode of RFM after 28^{+0}
Current known SGA/FGR on scan
Maternal age >40 years or <16 years
BMI ≥35
Current smoker
Obstetric history of previous FGR, stillbirth, LSCS
Multiple non-attendance
Pre-eclampsia/ hypertension (chronic or pregnancy induced)
Chronic kidney disease
Maternal autoimmune disease
Diabetes
Substance/alcohol misuse
Multiple pregnancy
Known Placental insufficiency
Fetal anomaly/ genetic factors
Abnormal Uterine artery dopplers in second trimester

Appendix 3 Indications for Growth Scan

1st episode of RFM and presence of risk factor (Appendix 2)
Recurrent RFM (2nd episode within 21 days) $<39^{+0}$
SFH <10th centile or reduced growth velocity
Suspected oligohydramnios or polyhydramnios
If $\geq 39^{+0}$ and IOL declined
Persistent perception of reduced movements after initial assessment

Appendix 4 Indications for Obstetric Review

1st episode/recurrent RFM with associated symptoms- eg pain/vaginal bleeding/pre-eclampsia
1st episode/recurrent RFM with known IUGR/SGA, suspected IUGR/SGA on SFH or multiple pregnancy
Abnormal maternal observations
Abnormal CTG
Computerised analysis criteria not met
Third episode of reduced fetal movements within 21 days at any stage
Any reduced movements at or after 38^{+6} weeks
Recurrent reduced movements at or after 37^{+0} weeks (review with scan result in emergency ANC)

Appendix 5 – RFM checklist