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TITLE: Decreased Fetal Movements

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1. Purpose

The purpose of this guideline is to provide evidence-based advice to improve consistency in the management of pregnant women/people with decreased fetal movements (DFM).

More specifically to;

- Provide an evidence-based approach to the management of DFM
- Improve consistency in the management of DFM
- Assist maternity care providers to counsel women/people with DFM
- Reduce maternal concern about fetal activity and self-monitoring
- Aid in the identification of those with higher-risk pregnancy
- Improve outcomes for women/people and their babies.

In recognition of Te Tiriti o Waitangi (the Treaty of Waitangi) and the Crown's special relationship with Maori, Te Whatu Ora Lakes is committed to acknowledging the Treaty by working in partnership with Maori. Te Whatu Ora Lakes personnel who are involved in implementing this policy should be aware of Lakes DHB's Te Tiriti o Waitangi Policy (EDMS 40583).

2. Scope

This guideline applies to all Te Whatu Ora Lakes Obstetric medical staff, employed midwives, midwifery students and to all Lead Maternity Carers (LMC's) who have an Access Agreement with Te Whatu Ora Lakes, and the women/people they provide care to.

N.B.: The management of pregnant women/people with specific pregnancy conditions identified during the course of care, in accordance with this guideline (e.g. fetal growth restriction, hypertension, diabetes), is beyond the scope of this guideline, as is the management of decreased fetal movements in multiple pregnancy or before 28 weeks' gestation.

This clinical guideline relates to decreased fetal movements. Although women/people do sometimes report changes in fetal movements without the movements being decreased, there is no clinical guidance available about this situation. Clinical discretion is advised.

3. Definitions

APH	Antepartum Haemorrhage
CTG	Cardiotocograph
DFM	Decreased Fetal Movements
FGR	Fetal Growth Restriction
FMH	Feto-Maternal Haemorrhage
LMC	Lead Maternity Carer
MEWS	Maternal Early Warning System
PI	Pulsivity Index
SFH	Symphysial Fundal Height
SGA	Small for Gestational Age
USS	Ultrasound Scan

4. Routine Antenatal Care

- Discussion about normal fetal movements should occur with all pregnant women/people at every routine antenatal visit from 18 weeks' gestation.
- Discussion about fetal movements should include a description of the changing patterns of movement as the fetus develops, normal wake/sleep cycles and factors which may modify the mother's perception of movements such as maternal weight and placental position.
- Written information should be provided – 'Baby Movements' Patient Information Leaflet
- All pregnant women/people should be advised to contact their LMC if they have any concern about decreased or absent fetal movements and not to wait until the next day or the next appointment to report this.

5. Care when Decreased Fetal Movements Are Reported

- Pregnant women/people who report decreased fetal movements (DFM) are more likely to experience adverse outcome.
- Maternal concern of decreased fetal movements (DFM) overrides any definition based on numbers of fetal movements.
- Women/people who report a concern about fetal movements should undergo immediate assessment.
- Presentation and assessment should not be delayed through efforts to stimulate the fetus with food or drink.

5.1 Assessment

1.	**History**	Ask about history, including when fetal movements were last felt, previous presentations for DFM, any changes in strength or frequency.
2.	**Abdominal Palpation**	Abdominal palpation to assess uterine tone and tenderness, fetal lie/presentation.
3.	**Symphysial Fundal Height**	Measure symphysial fundal height (SFH) in cm and plot on customised growth chart.
4.	**Fetal Heart**	Auscultate fetal heart with hand-held doppler (to exclude fetal death).
5.	**Maternal Pulse**	Measure maternal pulse (to confirm this is different to fetal heart rate).
6.	**Maternal Observations**	Full set of MEWS observations i.e. blood pressure, temperature etc. documented on MEWS chart.
7.	**CTG**	Cardiotocograph (CTG): for at least 20 minutes as per Lakes Fetal Heart Monitoring Guideline, using maternal fetal movement recorder where possible and documented and evaluated using CTG Interpretation (Sticker) Tool and 'Fresh Eyes'.
8.	**Obstetric Review**	Seek **urgent** Obstetric review if the CTG is abnormal.

Assessing for Feto-Maternal Haemorrhage

Although rare, DFM may be a sign of fetomaternal haemorrhage (FMH). A retrospective analysis of clinical data from a multihospital health care system in the United States found that decreased or absent fetal movement was the most common presenting sign reported by pregnant women/people in FMH cases.[3]

Investigation of suspected FMH can be by Kleihauer or flow cytometry tests of the mother's blood, or by Doppler assessment of middle cerebral artery peak systolic velocity (MCA PSV) during fetal ultrasound. Kleihauer test is the most commonly used test for FMH. However, sensitivity of both Kleihauer and MCA PSV are poor for detection of significant FMH in the context of DFM. [3]

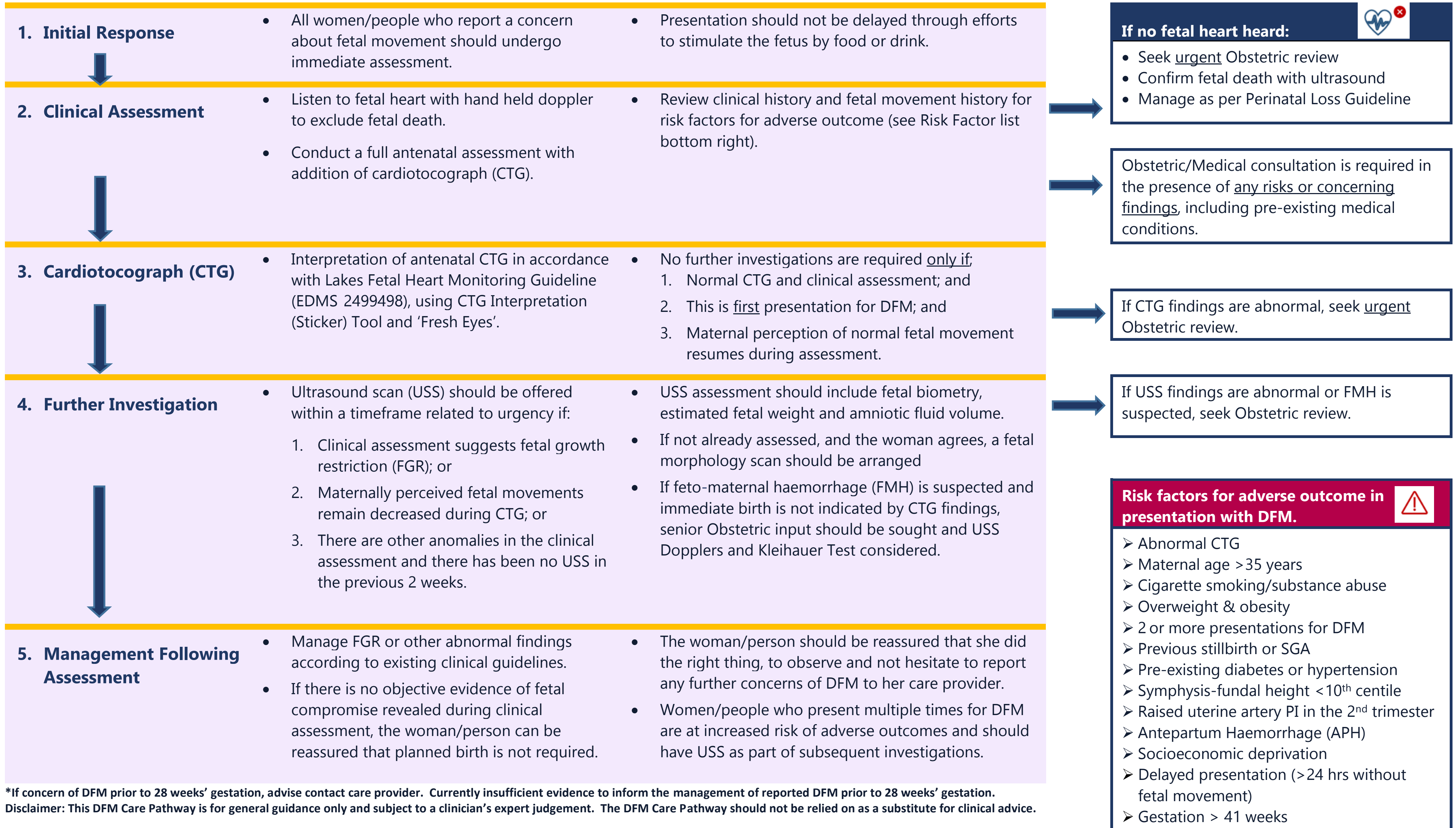
FMH in the context of DFM is rare, and will usually be identified by abnormal CTG, with a sinusoidal FHR pattern being the classically described CTG sign indicating severe fetal anaemia. However, sinusoidal FHR is not present in all cases and other CTG abnormalities including reduced or absent variability may indicate FMH. [1,2]

In women with DFM, if FMH is suspected based on history or abnormal CTG, and urgent delivery is not indicated, senior Obstetric input should be sought. Ultrasound assessment of MCA PSV or Kleihauer should be considered [1]

For the full management pathway for a woman/person presenting with DFM see Decreased Fetal Movements (DFM) Care Pathway (based on Perinatal Society of Australia and New Zealand Clinical Practice Guideline, 2023 [3]), section 6., page 4.

6. Decreased Fetal Movements (DFM) Care Pathway

For women/people with singleton pregnancy from 28+0 weeks' gestation.



Step		
1. Initial Response	• All women/people who report a concern about fetal movement should undergo immediate assessment.	• Presentation should not be delayed through efforts to stimulate the fetus by food or drink.
2. Clinical Assessment	• Listen to fetal heart with hand held doppler to exclude fetal death. • Conduct a full antenatal assessment with addition of cardiotocograph (CTG).	• Review clinical history and fetal movement history for risk factors for adverse outcome (see Risk Factor list bottom right).
3. Cardiotocograph (CTG)	• Interpretation of antenatal CTG in accordance with Lakes Fetal Heart Monitoring Guideline (EDMS 2499498), using CTG Interpretation (Sticker) Tool and 'Fresh Eyes'.	• No further investigations are required only if; 1. Normal CTG and clinical assessment; and 2. This is first presentation for DFM; and 3. Maternal perception of normal fetal movement resumes during assessment.
4. Further Investigation	• Ultrasound scan (USS) should be offered within a timeframe related to urgency if: 1. Clinical assessment suggests fetal growth restriction (FGR); or 2. Maternally perceived fetal movements remain decreased during CTG; or 3. There are other anomalies in the clinical assessment and there has been no USS in the previous 2 weeks.	• USS assessment should include fetal biometry, estimated fetal weight and amniotic fluid volume. • If not already assessed, and the woman agrees, a fetal morphology scan should be arranged • If feto-maternal haemorrhage (FMH) is suspected and immediate birth is not indicated by CTG findings, senior Obstetric input should be sought and USS Dopplers and Kleihauer Test considered.
5. Management Following Assessment	• Manage FGR or other abnormal findings according to existing clinical guidelines. • If there is no objective evidence of fetal compromise revealed during clinical assessment, the woman/person can be reassured that planned birth is not required.	• The woman/person should be reassured that she did the right thing, to observe and not hesitate to report any further concerns of DFM to her care provider. • Women/people who present multiple times for DFM are at increased risk of adverse outcomes and should have USS as part of subsequent investigations.

If no fetal heart heard:
- Seek urgent Obstetric review
- Confirm fetal death with ultrasound
- Manage as per Perinatal Loss Guideline

Obstetric/Medical consultation is required in the presence of any risks or concerning findings, including pre-existing medical conditions.

If CTG findings are abnormal, seek urgent Obstetric review.

If USS findings are abnormal or FMH is suspected, seek Obstetric review.

Risk factors for adverse outcome in presentation with DFM.
- Abnormal CTG
- Maternal age >35 years
- Cigarette smoking/substance abuse
- Overweight & obesity
- 2 or more presentations for DFM
- Previous stillbirth or SGA
- Pre-existing diabetes or hypertension
- Symphysis-fundal height <10th centile
- Raised uterine artery PI in the 2nd trimester
- Antepartum Haemorrhage (APH)
- Socioeconomic deprivation
- Delayed presentation (>24 hrs without fetal movement)
- Gestation > 41 weeks

***If concern of DFM prior to 28 weeks' gestation, advise contact care provider. Currently insufficient evidence to inform the management of reported DFM prior to 28 weeks' gestation.**
Disclaimer: This DFM Care Pathway is for general guidance only and subject to a clinician's expert judgement. The DFM Care Pathway should not be relied on as a substitute for clinical advice.

7. Associated Documents

- Cardiotocograph (CTG) Sticker
- Fetal Heart Monitoring Guideline (EDMS 2499948)
- Induction of Labour Guideline (EDMS 978951)
- Maternity Early Warning System (MEWS) Chart
- Perinatal Loss Guideline: Second and Third Trimester Care (EDMS 2053162)
- 'Baby Movements' Patient Information Leaflet

8. References

1. Athiel Y, Maisonneuve E, Bléas C, et al. Reduced fetal movement during pregnancy: Is the Kleihauer-Betke test really useful? *Journal of Gynaecology Obstetrics and Human Reproduction* 2020; 49(10): 101748. https://www.sciencedirect.com/science/article/abs/pii/S2468784720300829?via%3Dihub
2. Haruna Y, Suzuki S. Cardiotocography findings of early-stage chronic feto-maternal haemorrhage after the presentation of reduced fetal movement. *Clinical Case Reports* 2019; 7(3): 564-7. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6406220/
3. Perinatal Society of Australia and New Zealand (PSANZ) and Centre of Research Excellence Stillbirth. Clinical practice guideline for the care of women with decreased fetal movements with a singleton pregnancy from 28 weeks' gestation. Centre of Research Excellence in Stillbirth. Brisbane, Australia, September 2022.

   https://learn.stillbirthcre.org.au/wp-content/uploads/2023/05/DFM_Clinical-Practice-Guideline_V2.5_Mar2023.pdf [Accessed 17th November 2023].
4. Te Whatu Ora Te Toka Tumai Auckland. Decreased (Reduced) Fetal Movements Guideline. https://nationalwomenshealth.adhb.govt.nz/assets/Womens-health/Documents/Policies-and-guidelines/Decreased-fetal-movements.pdf [Accessed 17th November 2023].

Authorised by: Maternity Continuous Quality Improvement (CQI) Meeting