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## Management of women with decreased fetal movements

Hutt Maternity Policies provide guidance for the midwives and medical staff working in Hutt Maternity Services. Please discuss policies relevant to your care with your Lead Maternity Carer.

### **Purpose**

Maternal concern about decreased fetal movements (DFM) is common and occurs in 4-16% of pregnancies. The majority of cases are transient and benign however, DFM is associated with numerous adverse outcomes including small for gestation age (SGA), oligohydramnios, perinatal brain injuries, intrauterine infections, congenital abnormalities, feto-maternal haemorrhage, umbilical cord complications, stillbirths and neonatal deaths.<sup>1</sup> Emerging evidence suggests that dissemination of information regarding fetal movements to pregnant women and timely assessment of maternal reports of DFM may reduce adverse outcomes.<sup>2</sup> The purpose of this policy is to ensure timely and appropriate assessment of DFM complaints.

### **Scope**

This policy is intended to apply to women with otherwise normal pregnancies who present with a concern about fetal movements. For women with identified medical or obstetric conditions, DFM may be considered an additional risk factor for poor outcome. There is a lack of high-quality evidence to guide management of cases of DFM at present, although two large trials are ongoing.

### **Definitions**

A diagnosis of DFM is made based on the subjective impression of reduced fetal movements by the pregnant woman herself. This decrease may be in frequency and/or strength of movements, or constitute a change in her baby's normal pattern of movements.

### **Procedure**

All pregnant women should be provided information about fetal movements, including the importance of contacting their maternity care provider for assessment if they notice a reduction in fetal movements. Every mother and baby are different and pregnant women vary considerably in their ability to perceive fetal movement. In longitudinal fetal movement counting studies, movement counts are relatively stable over time in individual pregnancies.<sup>3</sup> Thus, DFM is a decrease in fetal movements from the normal baseline of movement for each individual woman.

There is no evidence that standard fetal movement advice should be altered for subgroups of women such as mothers with high body mass index (BMI)<sup>4</sup> or anterior placenta. Women at increased risk of poor outcome following presentation with decreased fetal movements include smokers, women aged >35 years and those with increased BMI.<sup>5</sup>

Cessation of fetal movement is a more worrisome sign than reduction in frequency. As is reduced frequency, coupled with reduced strength. A history of excessive or erratic fetal movement followed by cessation of movement has been associated with fetal death in a number of studies. Cases of repeat presentation with decreased fetal movement are associated with increased risk when compared to isolated DFM presentations.<sup>6</sup>

Pregnant women are often advised that fetal movements decrease prior to labour or that it is normal for the baby not to move for long periods. Health professionals should be proactive in dispelling these myths. Many women receive little or no information about fetal movements and have indicated they would prefer to get information about fetal movements from health professionals.<sup>7</sup>

## **Information for pregnant women**

### Normal movement

Fetal movements are normally identified by women between 16 and 20 weeks gestation, although some women feel movements earlier and some may not feel movements until as late as 28-30 weeks. The first fetal movements are identified as light swishes or flutters, and the sensation is similar to bubbles of wind moving in the gut. Anterior placenta and primiparity are associated with a delay in quickening of approximately seven days.<sup>8</sup>

Fetal activity becomes easier for women to identify as pregnancy advances and the fetus grows larger and stronger. By 32 weeks most women will be aware of regular bouts of movement interspersed by quieter 'rest' periods. Perception of fetal hiccups and increasingly strong movements are associated with reduced risk of stillbirth.<sup>9</sup>

Women should be encouraged to take note of their baby's normal daily movement pattern and to 'check-in' with their baby every day to ensure they are moving normally. It is normal to feel less movement during the morning and when the mother is in an upright position.<sup>10,11</sup> Conversely, women perceive fetal movements more readily during the afternoon or evening and when sitting down or lying on the left side. At term, fetal rest periods last for longer, and whole-body movements such as stretching or wriggling movements occur more often than brisk kicking movements due to diminished space in the abdomen.

A small number of women will feel very few or no fetal movements, despite normal pregnancy progress. Such women should be encouraged to observe and note their baby's growth and any pregnancy changes that are indicative of normal progress. In some cases, more regular fetal assessment may be required for the purpose of reassurance.

There is no evidence that eating sugary food or drinking cold water promotes fetal activity and advising women who are concerned about movements to do this, can delay formal assessment.<sup>12</sup> Excessive delay in presenting with fetal movement concerns is associated with worse pregnancy outcome.<sup>13</sup>

**It is important that all pregnant women are informed that a reduction in fetal movements can be a sign the baby is not doing well and to contact their care provider for assessment. If the woman becomes concerned about movements during the evening/night time or over the weekend, she should be advised not to delay assessment until the following day or until the next appointment.**

The leaflet 'Your Baby's Movements and What They Mean' published by the Perinatal Society of Australia New Zealand is a useful source of written information for pregnant women and is available in a number of languages via the website below.  
<https://sanda.psanz.com.au/resources/pregnancy/>

#### **DFM at 20-27<sup>+7</sup> weeks**

There is very little evidence to guide assessment of fetal movements at this stage of pregnancy, as CTG is difficult to interpret and delivery is often not appropriate. Nevertheless, there are case reports of women presenting with fetal movement concerns prior to 28 weeks where prompt attention has mitigated a poor outcome.

A reasonable approach at this gestation is to first take a history and listen to the fetal heart. An ultrasound scan should be considered to assess fetal biometry and amniotic fluid. If the woman has not had a morphology scan one should be arranged. Testing for fetomaternal haemorrhage should also be considered by Kleihauer or flow cytometry.<sup>1</sup>

#### **DFM at >28 weeks**

**Assessment of DFM complaints should be undertaken as soon as possible and within 2 hours.**

The DFM assessment is essentially; a full antenatal check with the addition of a CTG, Kleihauer (or flow cytometry) and ultrasound scan for fetal biometry and liquor volume where indicated.

At present, there is insufficient evidence for offering routine ultrasound scanning for all women with DFM, however, a large Norwegian study reported a significant reduction in perinatal deaths (OR 0.51, 95% CI 0.32-0.81) after introduction a protocol that included ultrasound examinations for all DFM cases.<sup>15</sup> The most common potentially abnormal finding in association with DFM is SGA, which affects 16-26% of DFM cases. Identification

of fetal growth problems allows for optimal fetal surveillance and timing of delivery,<sup>16</sup> theoretically reducing the risk of perinatal death.

DFM is associated with placental insufficiency, especially in cases of multiple/repeat presentation.<sup>6,17,18</sup> Routine umbilical artery Doppler assessment for all DFM cases has not been shown to be useful, however placental and fetal Doppler assessment may be indicated in some cases. The need for ultrasound scan and timing of same should be determined on a case-by-case basis.

### **Assessment**

The first step is to auscultate the fetal heart to exclude fetal death, making sure to distinguish the fetal heart beat from the maternal. A hand-held Doppler device should be used for this, not a pinards or other stethoscope. If there is no fetal heart-beat, formal ultrasound should be arranged as soon as possible and the protocol for fetal death should be followed. When fetal viability is confirmed, other reasons for the fetal movement concern should be explored, as below;

1. Review the history and note any risk factors for stillbirth (see appendix 1).
2. Record the blood pressure, temperature, pulse and urinalysis.
3. Measure the symphysial-fundal height and plot it on a customised growth chart. For women with a BMI that precludes accurate fundal height measurement a growth scan should be carried out.
4. A CTG should be performed for at least 20 minutes or until satisfactory, ensuring the mother is marking the fetal movements that she perceives. The optimal position for conducting a CTG is with the mother seated or side-lying. A supine position should be avoided when undertaking CTG. Sugary foods and drinks of water do not promote reactive CTGs.<sup>14</sup>
5. Perform a Kleihauer or flow cytometry test to exclude significant fetomaternal haemorrhage.
6. Consider carrying out an ultrasound scan within 24 hours, including fetal biometry, amniotic fluid volume and fetal morphology (if morphology scan not already performed).

### **Follow-up**

**If there are any abnormalities present**, the ongoing plan of care should be determined following consultation with a specialist.

**If the assessment is normal**, there are no risk additional risk factors for stillbirth and the mother feels that her baby's movements have returned to normal, no further follow-up is required.

**If the assessment is normal, but** the woman continues to perceive altered fetal movement she should have an ultrasound scan and return for repeat CTG the following day. Twice weekly CTG and ultrasound assessment of liquor volume, should be considered until 37 weeks.

**If the woman is 37 weeks or more** with a favourable cervix and has had multiple DFM presentations and/or has additional risk factors for stillbirth (see appendix 1) the relative risks of induction of labour versus expectant management should be discussed with a specialist.

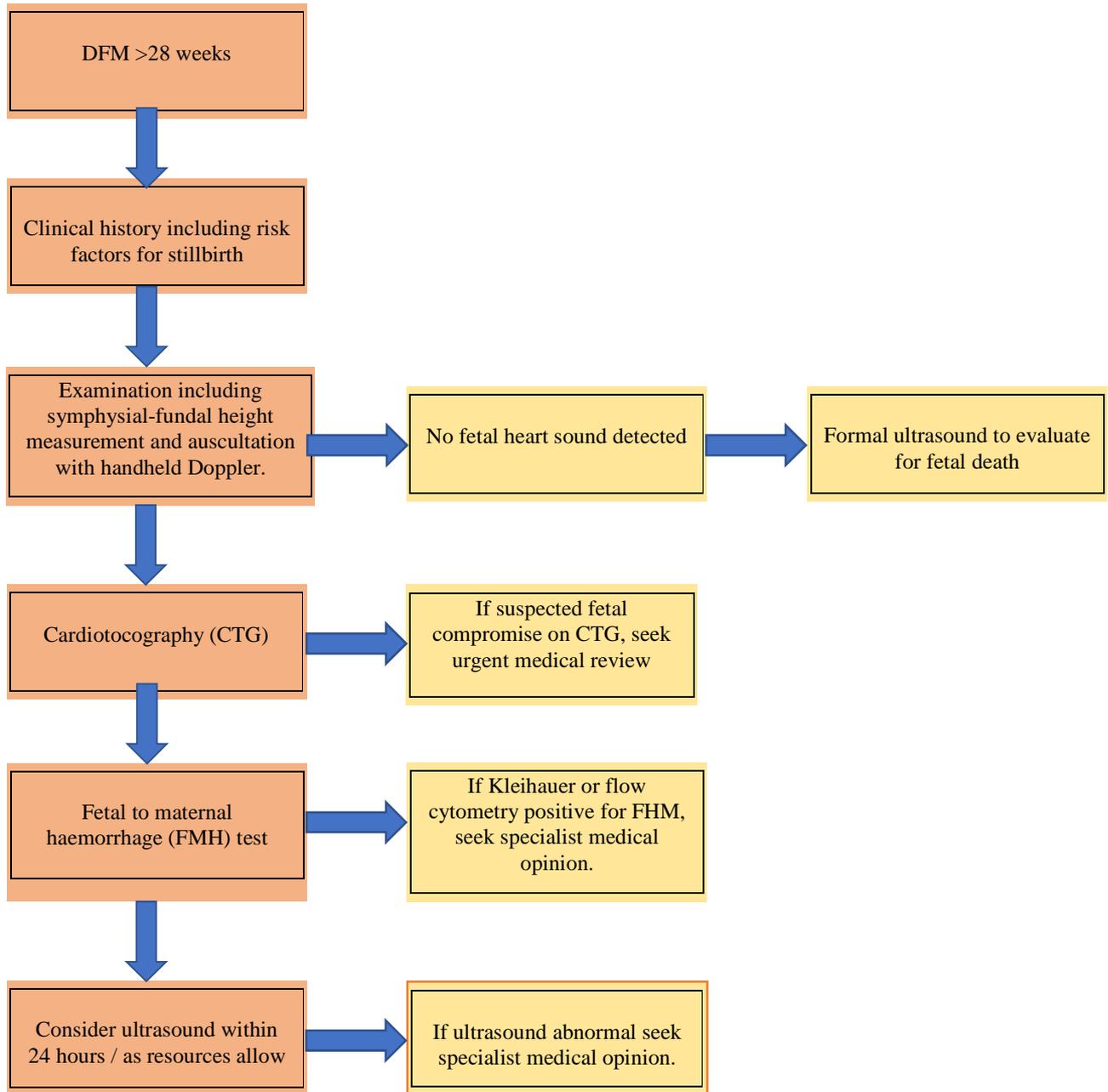
**Of note.** Supine maternal sleep position is associated with increased risk of late stillbirth.<sup>19</sup> This association is thought to be due to impaired placental perfusion resulting from compression of the inferior vena cava during supine maternal sleep, which may be an added stressor to a vulnerable fetus. All women who have presented with DFM should have advice to avoid going to sleep supine reinforced at the time of assessment.

## **Appendix 1**

### **Risk factors for stillbirth<sup>20</sup>**

- Previous stillbirth
- Fetal growth restriction and SGA
- Diabetes
- Hypertension
- Parity of 0 or >3
- Advanced maternal age (>35 years)
- Smoking or illicit drug use
- Indian ethnicity
- Low socioeconomic status

## Appendix II Flowchart



## **References**

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### **Informed Consent**

The right of a consumer to make an informed choice and give informed consent, including the right to refuse medical treatment, is enshrined in law and in the Code of Health and Disability Consumers' Rights in New Zealand. This means that a woman can choose to decline treatment, referral to another practitioner, or transfer of clinical responsibility. If this occurs follow the process map on page 18 of the Referral Guidelines (Ministry of Health, 2012).