POSITION STATEMENT

IMPROVING DECISION-MAKING ABOUT TIMING OF BIRTH FOR LOW-RISK WOMEN AT TERM

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ENDORSING ORGANISATIONS

Please note: This is a position statement and should not replace local guidelines. It is intended to provide a consensus view and a current summary of available evidence in an area of uncertainty.

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TERMINOLOGY

The Stillbirth CRE recognise that individuals have diverse gender identities. In this guideline, we use the term 'woman' or 'mother' throughout. When we use these words, it is not meant to exclude those who are pregnant or breastfeeding and do not identify as women. Healthcare professionals should provide respectful care to all people and use the pronouns that individuals themselves prefer.

KEY MESSAGES

1. Stillbirth is a serious public health problem with far-reaching negative psychosocial and financial implications for families and society, with little improvement in rates in Australia and New Zealand.
2. In 2020 there were 710 late gestation stillbirths (28-41 weeks gestation) in Australia among 291,884 births[1], and 139 in New Zealand among 58,853 births[2]. While some reductions in these rates have been shown, further reduction is possible based on local data and international comparisons.
3. There is a need to address the high rates of early planned birth which is associated with adverse newborn and child outcomes.
4. Planned birth to reduce the risk of stillbirth may be advised for some women but should be targeted according to a woman's individualised risk, taking into consideration the possible adverse consequences of planned birth before 39 weeks' gestation.
5. All pregnant women are at risk of stillbirth although, for the majority, this risk is extremely low. Therefore, for most women, assessment of risk factors and discussion around plan of should be reassuring that awaiting onset of labour is usually a safe option. Conversely, for women at higher risk, assessment of risk factors can also be reassuring by guiding counselling and care planning to reduce this risk.
6. Sensitive, evidence-based communication with women about their risk of stillbirth and measures they can take to reduce their risk should be part of usual care.
7. The '5 STEPS' approach is recommended for care of women who have risk factors for stillbirth at term:
    1. Stillbirth risk assessment in early pregnancy
    2. Tests and further investigation as indicated
    3. Evaluate and reassess risk at 34-36^{+6} weeks
    4. Plan for increased surveillance when indicated
    5. Support informed, shared decision-making on timing of birth

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PURPOSE OF THIS STATEMENT

This position statement is part of the national 'Safer Baby Bundle' which comprises of five elements to reduce late gestation stillbirths in Australia. This statement addresses the fifth element of care: improving decision-making about timing of birth for low-risk women at term.

The purpose of this position statement is to reduce late gestation stillbirths without increasing unnecessary intervention and associated adverse maternal and neonatal outcomes through:

- Better care of women who have defined risk factors for stillbirth
- Informed, shared decision-making
- A well-considered, balanced approach to planned birth (i.e. birth prior to spontaneous onset of labour, whether via induction of labour or planned caesarean section)

TARGET AUDIENCE

Midwives, obstetricians, general practitioners, childbirth educators, and other health professionals who provide pregnancy care across Australia. Maternity care providers practicing in New Zealand should refer to 'Induction of Labour in Aotearoa New Zealand' clinical practice guideline.[3]

BACKGROUND

Stillbirth rates and risk factors

Despite great advance in the care of women and their babies in the past century an estimated 2 million babies die in the third trimester of pregnancy globally each year.[4] The burden of stillbirth has far-reaching psychosocial impacts on women, families, caregivers and communities, and wide-ranging economic impact on health systems and society.[5]

Recent data shows some reduction in stillbirth rates although more needs to be done to reduce preventable stillbirths. In 2019, the late gestation stillbirth rate in Australia of 2.6/1000 was higher than some other high-income countries (HIC) achieving rates of less than 2/1000.[6] Further, huge disparities exist within HIC. In Australia, the stillbirth rate for Aboriginal and Torres Strait Islander women, and other disadvantaged women, is often doubled. [4,7]

Areas for prevention are clear. Perinatal death audits have shown that substandard care factors are identified in up to 50% of stillbirths, and that death was potentially avoidable in 20-30% of cases.[8] Failure to identify and appropriately care for women with risk factors for stillbirth is amongst the most commonly reported substandard care factors.[5,9]

Although term stillbirths are rare, with 253 babies stillborn at 37 weeks or more in Australia in 2020, among almost 300,000 births, the impact on families is significant.[1,10] The prospective risk of stillbirth increases with gestational age at term, from 0.11 per 1000 births at 37 weeks' gestation to 3.18 per 1000 births at 42 weeks' gestation.[11] As there are no reliable screening tests to identify all babies at risk of stillbirth, antenatal care based on the presence of risk factors is the mainstay of management to reduce preventable stillbirths. Epidemiological studies have identified factors which may increase a woman's risk of stillbirth [12] and where closer monitoring and consideration of timing of birth may be considered to avoid stillbirth. These factors

include: maternal age over 35 years; maternal smoking in late pregnancy; overweight and obesity; nulliparity; conception using assisted reproductive technologies (ART); alcohol and other drug use; previous history of stillbirth; social disadvantage;[12] Aboriginal and Torres Strait Islander ethnicity;[12] Pacific ethnicity,[13] African ethnicity,[14] and South Asian ethnicity (India, Pakistan, Sri Lanka, Afghanistan, Bangladesh and others).[15] The reasons are likely to be complex and reflect the social determinants of health, but it may be appropriate to take these factors into account in planning timing of birth.[16]

High-level evidence in support of induction of labour for women who are beyond 41 weeks' gestation to reduce perinatal death[17] has resulted in increasing uptake into practice globally.[18] Recently, planned birth at gestations earlier than 41 weeks has been proposed as a means to avoid late term stillbirths. A randomised controlled trial of planned induction of labour at 39 weeks' gestation in low-risk nulliparous women found no significant reduction in composite adverse neonatal outcome, including stillbirth, in over 6,000 women.[19] A Cochrane review of induction of labour at or beyond 37 weeks' gestation found a clear benefit in reduction of perinatal death with a policy of induction of labour compared with expectant management.[20] However, it is important to note that only in two of the 30 included studies was induction offered from 37 weeks with most women included in the trials being at a gestational age of 39 weeks or more. The benefits of planned birth need to be carefully weighed against the risks of intervention at any gestation.

Avoiding stillbirth is an aim of ending pregnancy early, but there are significant associated morbidities for the baby born too early. While the adverse outcomes of preterm birth at earlier gestations are well understood, it is becoming increasingly apparent that both late preterm (34-36^{+6} weeks' gestation) and early term birth (37-38^{+6} weeks' gestation) are also associated with increased short and longer-term mortality and morbidity [21] and worse developmental outcomes.[22] Some of these consequences of planned birth may not be apparent until later in childhood and are usually not reported in studies of perinatal outcomes. There may also be increased costs for health and educational services associated with increasing the rate of planned birth[23]. Maternal complications associated with planned birth are also an important consideration.[24] Although a Cochrane review has concluded that caesarean section and adverse maternal outcomes do not appear to be increased with induction of labour at 37 weeks or more[20], decreased maternal satisfaction is reported with induction of labour compared to spontaneous birth.[25] Improved educational preparation of women, particularly first-time mothers, around what to expect regarding induction of labour including length of labour, need for vaginal examinations and continuous electronic fetal monitoring for many women, and need for pain relief may help to improve perception of the experience.[26]
Knowledge of risk factors could allow for increased surveillance or planned birth to be targeted to those at greatest risk. In one tertiary centre in Australia, a policy of earlier monitoring (from 39 weeks) of South Asian-born women, who are at greater risk of stillbirth,[15] has shown promising results of a reduction in composite adverse outcome without increasing obstetric interventions.[26] A similar approach for women with other risk factors could potentially reduce stillbirth by if most pregnancies continued to later gestations, planning earlier birth only when there are appropriate indications. A universal approach to planned early birth could cause more harm than good by increasing the risk
of morbidity associated with early birth.

Informed, shared decision-making is central to high-quality, woman-centred maternity care. Shared decision-making is "an approach where clinicians and patients share the best available evidence when faced with the task of making decisions, and where patients are supported to consider options, to achieve informed preferences".[27] A systematic review found decisional conflict, limited information, and limited involvement

in decision-making predicted patient regret about medical decisions.[28]

RISK FACTORS FOR STILLBIRTH ADDRESSED IN THIS STATEMENT

The scope of this position statement is limited to the antenatal care of women without major pregnancy complications and pre-existing medical conditions, but where closer monitoring and/or planned birth may help to avoid stillbirth. Minor risk factors for stillbirth include: maternal age over 35 years; maternal smoking in late pregnancy; overweight and obesity; nulliparity; conception achieved with ART; alcohol and other drug use. These risk factors have been included based on evidence of an association with stillbirth and the fact that almost all of these risk factors can be assessed at the first antenatal care visit.

Furthermore, socioeconomic and ethnic factors are associated with increased risk of stillbirth. In Australia Aboriginal and Torres Strait Islander ethnicity;[12] Pacific ethnicity,[13] African ethnicity,[14] and South Asian ethnicities (India, Pakistan, Sri Lanka, Afghanistan, Bangladesh amongst others) are associated with stillbirth.[15] Although it is acknowledged that and there are complex interactions between socioeconomic and structural determinants of health, especially in the case of ethnicity.

Outside the scope of this statement are risk factors that have not consistently shown association with stillbirth, and established risk factors such as pre-existing maternal or fetal risks (e.g. pre-existing maternal diabetes, maternal hypertension, previous fetal growth restriction (FGR)), and risks which develop during the pregnancy, such as maternal hypertension or suspected FGR where care is already guided by established polices or clinical practice guidelines.

Please see Appendix 1: Risk factors for stillbirth

THE '5 STEPS' APPROACH TO TIMING OF BIRTH

An important principle behind this position statement is that an objective, structured approach to risk assessment and consideration of timing of birth should lead to more appropriately targeted interventions. All women should be given accurate information about their risks, which for the majority of women at term is very low (approximately 1 in 1000), and a realistic understanding of the potential consequences of planned birth. This also includes provides reassurance for women without risk factors regarding their risk of stillbirth which is extremely low (1 in 1000). The aim is for all women to await spontaneous labour if there are no maternal or fetal indications for planned birth before 41 weeks.[29]

The '5 STEPS' approach is recommended to assist health care providers in providing optimal care for women without major pregnancy complications throughout pregnancy based on the presence of risk factors as follows:

1. Stillbirth risk assessment in early pregnancy
2. Tests and further investigation as indicated
3. Evaluate and reassess risk at 34-36+6 weeks
4. Plan for increased surveillance where indicated
5. Support informed, shared decision-making on timing of birth

*The 5 steps are discussed in more detail below.

#1. Stillbirth risk assessment in early pregnancy

A discussion about the risk factors for stillbirth should occur with every woman as early as possible in pregnancy. The information from this early assessment should be discussed with the woman in a careful and sensitive way so as not to increase anxiety. The information provided should be easy to understand and culturally appropriate. Care providers should also clarify the woman's understanding of the information provided to her.[30] An initial provisional timing of birth plan should be discussed and documented in the woman's antenatal care records. Risk factors should be reassessed during pregnancy and the timing of birth plan should then be revisited at 34-36^{+6} weeks' gestation (see Step 3 below).

#2. Tests and further investigation as indicated

A woman with risk factors for stillbirth should have a discussion with her maternity care provider about the consideration for additional monitoring. The nature and frequency of these investigations will be informed by the risk factor(s) identified and the severity of the risk. Surveillance will vary between hospitals and clinicians, but some examples of this approach are:

- BMI > 35k/m^2: additional fetal growth and wellbeing scans at 26-28 and 34-36 weeks
- BMI > 40k/m^2: fetal growth and wellbeing scans every 4 weeks from 24 weeks
- Smoking continuation > 20 weeks: fetal growth and wellbeing scans at 26-28 and 34-36 weeks

#3. Evaluate and reassess risk at 34-36+6 weeks

There should be a reassessment of the risk of stillbirth between 34-36^{+6} weeks' gestation to inform shared decision-making about the final timing of birth plan. This can be done as part of a routine antenatal appointment using the same process as used at the first antenatal visit and considering any significant events during the pregnancy which may alter risk.

#4. Plan for increased surveillance if indicated

For some women, increased fetal surveillance towards the end of pregnancy may be indicated based on the accumulation of risk factors. This could consist of a range of options including weekly antenatal visits with careful inquiry about fetal movements, weekly or bi-weekly cardiotocograph (CTGs), and/or serial ultrasound assessment. It is acknowledged that the evidence in favour of any specific method of fetal surveillance is lacking. Also, what can be provided may vary depending on local service capabilities. The aim of surveillance is to inform shared decision-making about timing of birth, and to provide reassurance to women and their care-providers whilst supporting women to continue their pregnancy. There is a strong recommendation for continuity of care and carer to avoid fragmentation of care and improve communication, particularly during periods of increased surveillance.

#5. Support informed, shared decision-making on timing of birth

The fifth step is to make a shared decision about timing of birth, taking into account the available evidence and the woman's needs and wants. Decision-making about timing of birth for women at term is often a preference-sensitive decision, and materials are needed to enable women to make an informed decision based on a clear understanding of their individualised risks and benefits, and which supports their preferences and values. All women should be provided with written and verbal explanations of the risks and benefits associated with timing of birth options. Women's fears and anxieties need to be addressed as they arise, and women need to be supported, preferably by the same caregivers over time.

A useful link for information for women can be found at http://everyweekcounts.com.au which provides a range of information for women about fetal development in the later stages of pregnancy.

IMPLEMENTATION, EDUCATION AND AUDIT

Resources for clinicians (both eLearning and a face-to-face workshop) have been developed to meet the educational needs of clinicians providing maternity care in Australia. As this program is derived from the most recent evidence-based information, all those involved in maternity care are advised to access them via the Safer Baby Bundle website.

EVIDENCE GAPS AND ONGOING RESEARCH

Awareness of the risk factors that increase the risk of stillbirth is a necessary first step in improving care. There are numerous possible ways of improving the accuracy of assessing an individual's risk of stillbirth. The simplest is providing women and maternity care providers with a list of the risk factors with an estimate of the adjusted Odds Ratio (aOR), leading to a categorisation of the increased risk into either low, medium or high. The next level of sophistication would be incorporating these data into a risk matrix, and this approach can be further developed into a risk scoring system that gives a more quantitative estimate. The most advanced approach would be to perform an individualised risk calculation to produce an estimated probability of stillbirth occurring for any woman based on her own personalised risk assessment and the gestational age of her pregnancy. The approach to timing of birth, based on shared decision-making, could then vary depending on the level of risk, with recommendations for birth earlier than 39 weeks being restricted to those women with a risk above a certain level.

Each of these approaches has merit in terms of improved and transparent information for women, but also carries with it the chance of causing harm by increasing anxiety and leading to earlier planned birth. Work is currently underway within the Stillbirth CRE to use local pregnancy outcome data to assess the accuracy of the currently available aORs from a range of international studies. We are also working on various possible risk assessment tools to try to develop a clinically useful approach which is both valid and acceptable to women. We are undertaking pilot implementation and evaluation of the resources at select maternity care settings across Australia which were involved in the Safer Baby Bundle roll out.

In addition to the above initiatives, the Working Group has identified the following areas for future research:

- Development of robust risk estimates to improve shared decision-making including individualised stillbirth, maternal and newborn risks per week of gestation associated with expectant versus planned birth for Australian women.
- Identifying the information and counselling needs of women on stillbirth risk during pregnancy.
- Identifying optimal interventions to improve shared decision-making on planned birth for women who have risk factors, including decision-support tools and clinician education programs.
- Implementation of balance measures to monitor unintended adverse effects such as iatrogenic preterm birth.

FURTHER INFORMATION AND RESOURCES

Australia

Stillbirth CRE website: www.stillbirthcre.org.au

Safer Baby Bundle eLearning module and resources: www.learn.stillbirthcre.org.au

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APPENDIX

1. Risk factors for stillbirth

This table provides adjusted odds ratios (aORs) for stillbirth risk across gestational ages. The data presented here will be updated to reflect stillbirth risk at term (i.e. from 37 weeks' gestation) once national-level data are available.

Risk factors addressed in this statement	aOR (95% CI)	PAR* (%)
Maternal age[¥]		
35-39 years	1.5 (1.2-1.7)	-
40-44 years	1.8 (1.4-2.3)	-
≥45 years	2.9 (1.9-4.4)	-
>35 years	1.7 (1.6-1.7)	12
BMI (kg/m^2)[€]		
25-30	1.2 (1.1-1.4)	-
>30	1.6 (1.4-2.0)	-
>25	-	8-18
Aboriginal and Torres Strait Islander ethnicity	1.9 (1.5–2.3)[°]	-
African ethnicity	2.6 (2.0-3.5)[ᵛ]	-
South Asian ethnicity	1.3 (1.0-1.5)[⊕]	-
Pacific ethnicity	1.9 (1.2-2.9)[^]	-
Assisted reproductive technology, singleton pregnancy	2.7 (1.6-4.7)	3.1
Nulliparity	1.4 (1.3-1.5)	15
Smoking	1.4 (1.3-1.5)	4-7
Drug use	1.9 (1.2-3.0)	2.1
Other risk factors		
No antenatal care	3.3 (3.1-3.6)	0.7
Low education	1.7 (1.4-2.0)	4.9
Low socioeconomic status	1.2 (1.0-1.4)	9.0
Previous stillbirth	3.4 (2.6-4.4)[¤]	1[¤]
Pre-existing diabetes	2.9 (2.1-4.1)	2-3
Pre-existing hypertension	2.6 (2.1-3.1)	5-10
Pre-eclampsia	1.6 (1.1-2.2)	3.1

Other risk factors (continued)	aOR (95% CI)	PAR* (%)
Eclampsia	2.2 (1.5-3.2)	0.1
Small for gestational age (<10 centile)	3.9 (3.0-5.1)	23.3
Post-term pregnancy (≥42 weeks)	1.3 (1.1-1.7)	0.3
Rhesus disease	2.6 (2.0-3.2)[±]	0.6[±]

Notes

High-income countries for aOR and PAR calculations include Australia, Canada, USA, UK and the Netherlands.

[Σ] aOR=adjusted odds ratio (95% confidence interval).

*PAR=population attributable risk (the proportion of cases that would not occur *in a population* if the factor were eliminated). Calculated using a prevalece of 0.05%.

[¥] Reference < 35 years of age.

[€] Reference BMI < 25. Source: Unless otherwise stated: Flenady V, Koopmans L, Middleton P, et al. Major risk factors for stillbirth in high-income countries: a systematic review and meta-analysis. *Lancet* 2011; 377(9774): 1331-40. See https://www.sciencedirect.com/science/article/pii/S0140673610622337?via%3Dihub#sec1

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