



POSITION STATEMENT

Improving decision-making about the timing of birth for women with risk factors for stillbirth

Endorsed by:

[ENDORISING ORGANISATION LOGOS TO BE ADDED HERE]

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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Key messages

- Stillbirth is a serious public health problem with far reaching psychosocial and financial burden for families and society, and with little improvement in rates in Australia and New Zealand for more than two decades.
- Early recognition of a woman's risk of stillbirth and provision of appropriate individualised care throughout pregnancy is a key prevention strategy.
- Sensitive, evidence-based communication with pregnant women about the risk factors for stillbirth should be part of standard pregnancy care.
- Planned birth to reduce the risk of stillbirth should be targeted according to a woman's individualised risk, taking into consideration the possible adverse consequences of planned birth before 39 week's gestation.

- The '5 STEPS' approach is recommended for care of women who have risk factors for stillbirth at term:
 - 1) **S 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**

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Purpose of this statement

This position statement is part of the National ‘Safer Baby Bundle’, comprising five elements to reduce late-gestation stillbirths in Australia. This statement addresses the fifth element of care: Improving decision-making about the timing of birth for women with risk factors for stillbirth.

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 onset of labour, whether via induction of labour or planned caesarean section)

Target audience

Midwives, obstetricians, general practitioners, and other health professionals who provide pregnancy care across Australia and New Zealand.

Introduction

Stillbirth is a serious public health problem with far reaching psychosocial and financial burden for families and societies, with little improvement in rates for more than two decades.¹ The 2016 Lancet *Ending Preventable Stillbirths* series highlighted differences in rates of late stillbirth (≥ 28 weeks) between high-income countries ranging from 1.7/1,000 to 8.8/1,000 births, with Australia and New Zealand at 2.7 and 2.3/1,000 births respectively.¹ For Aboriginal and Torres Strait Islander women, and

other disadvantaged women, the stillbirth rate is often doubled.^{1,2} Areas for prevention are clear. In up to 50% of stillbirths, substandard care factors are identified, and in 20-30%, the death was potentially avoidable. Failure to identify and appropriately care for women with risk factors for stillbirth is amongst the most commonly reported substandard care factors.^{3,4}

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.⁵ As there are no reliable screening tests to identify all babies at risk of stillbirth, antenatal care of women based on the presence of risk factors, followed by appropriate timing of birth, is the mainstay of management to reduce preventable stillbirths. Research has identified factors which increase a woman's risk of stillbirth⁶ where closer monitoring to inform the timing of birth is needed to avoid stillbirth. These factors include: maternal age over 35 years; maternal smoking in late pregnancy; overweight and obesity; nulliparity; assisted reproductive technologies (ART), alcohol and other drug use, previous history of stillbirth; social disadvantage;⁶ Aboriginal and Torres Strait Islander ethnicity;⁶ Pacific ethnicity,⁷ African ethnicity,⁸ and South Asian ethnicity (India, Pakistan, Sri Lanka, Afghanistan and Bangladesh and others).⁹

High level evidence in support of induction of labour for women who are beyond 41 weeks' gestation to reduce perinatal death¹⁰ has resulted in increasing uptake into practice globally. To date there is little comparable evidence to support the non-targeted use of early or term induction to prevent stillbirth, but knowledge of risk factors should allow for planned birth to be targeted to those at greatest risk.

The benefits of planned birth need to be carefully weighed against the risks of intervention at any given 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 (36-37 weeks' gestation) and early term birth (37-38 weeks' gestation) are also associated with increased short and longer-term mortality and morbidity¹¹ and worse developmental outcomes.¹² 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. Maternal complications associated with planned birth are also an important consideration.¹³ There may also be increased costs for health and educational services associated with increasing the rate of planned birth.

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,⁹ has shown promising early results of a reduction in stillbirth without increasing obstetric interventions.¹⁴ A similar approach for women with other risk factors could potentially reduce stillbirth by increasing early birth only when there are appropriate indications, while a universal approach may cause more harm than good by increasing the risk of morbidity associated with early birth, whilst having little or no impact on stillbirth rates.

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".¹⁵ A systematic review found decisional conflict, limited information, and limited involvement in decision-making predicted patient regret about medical decisions.¹⁶

Risk factors for stillbirth addressed in this statement

The scope of this position statement is the antenatal care of women with the following easily identifiable stillbirth risk factors, where closer monitoring to inform the timing of birth is needed to avoid stillbirth. These factors are: maternal age over 35 years; maternal smoking in late pregnancy; overweight and obesity; nulliparity; ART; alcohol and other drug use; Aboriginal and Torres Strait Islander ethnicity;⁶ Pacific ethnicity,⁷ African ethnicity,⁸ and South Asian ethnicity (India, Pakistan, Sri Lanka, Afghanistan and Bangladesh).⁹ These risk factors have been included based on clear evidence showing a meaningful influence on stillbirth risk. The majority of the risk factors included can be assessed at the first antenatal care visit (the 'booking visit'). Outside the scope of this statement are risk factors that have not clearly and consistently been shown to be associated with stillbirth, as well as serious pre-existing maternal or fetal risks (e.g. pre-existing maternal diabetes, previous maternal hypertension, previous fetal growth restriction (FGR)), and risks which develop during the pregnancy, such as maternal hypertension or suspected FGR. These risk factors clearly impact on decision-making about timing of birth and, in general, these women will be cared for by maternity services according to other relevant established policies or 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 and a realistic understanding of the potential consequences of planned birth. The aim is for women to await spontaneous labour if there are no maternal or fetal indications for planned birth.

The '**5 STEPS**' approach is recommended to assist health care providers in providing optimal care for the management of women at or near term based on the presence of risk factors as follows:

- 1) **S Stillbirth risk assessment in early pregnancy**
- 2) **T Tests and further investigation as indicated**
- 3) **E Evaluate and reassess risk at 34-36+6 weeks**
- 4) **P Plan for increased surveillance where indicated**
- 5) **S 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

Every woman should be assessed for risk factors for stillbirth as early as possible in pregnancy. This early assessment should form part of the booking visit at each woman's chosen place of birth. 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.¹⁷ An initial provisional timing of birth plan should be discussed and documented in the woman's antenatal care records. 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 who is deemed to be at increased risk of stillbirth should have a plan of additional investigations, such as regular fetal ultrasound. The 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 > 30: additional fetal biometry scans at 28 and 36 weeks
- BMI > 40: fetal biometry scans every 4 weeks from 24 weeks
- Smoking continuation > 20 weeks: fetal biometry scans at 28 and 36 weeks

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

Women should be reassessed for their risk of stillbirth between 34-36⁺⁶ weeks' gestation to inform shared decision-making about the timing of birth. This can be done as part of a routine antenatal appointment using the same process as used at the antenatal booking visit, and taking into account any significant events during the pregnancy which may alter risk (e.g. antepartum haemorrhage).

#4. Plan for increased surveillance where 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 CTGs, and/or serial ultrasound assessment. It is acknowledged that the evidence in favour of any specific method of fetal surveillance is lacking, and what can be provided will 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 this increased surveillance period.

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

The final step is to make a shared decision about the agreed timing of birth, taking into account the available evidence. 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 reflects their preferences and values. All women should be provided with written and verbal explanations of the risks and benefits associated with timing of birth decisions. 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 at or near term is a necessary first step in improving care. However, there are numerous possible ways of increasing the accuracy of this assessment. 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 both 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 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. Once we are satisfied that such a tool is closer to being ready for use it will be trialled in a number of sites 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:

1. Development of 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.
2. Identifying the information and counselling needs of women on stillbirth risk during pregnancy.
3. 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.

Further information and resources

Stillbirth CRE website: www.stillbirthcre.org.au

Safer Baby Bundle website and resources: <https://saferbabybundle.org.au> (publicly available from 15th October 2019)

Working group

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Appendices

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 (estimated for 2020).

Factor	aOR (95% CI)	PAR* (%)
<i>Risk factors addressed in this statement</i>		
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) [∇]	-
South Asian ethnicity	1.3 (1.0-1.5) [⊕]	-
Indian ethnicity (specific to New Zealand)	1.85 (1.18-2.91) [⊖]	-
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
<i>Other risk factors</i>		
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) ^π	1 ^π
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
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 prevalence 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

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