

The Stillbirth CRE has led the development of a bundle of care to address the priority evidence practice gaps in stillbirth prevention for implementation across maternity services.

The Safer Baby Bundle is a collection of change ideas or interventions designed to reduce late

pregnancy stillbirth.

This masterclass summarises the 5 bundle elements, highlights key evidence related to the Safer Baby

Bundle and discusses basic principles for implementation.

Introduction **Contents** Stillbirth in Australia, trends, causes and risk factors Bundles of care – a global picture 10 Safer Baby The Safer Baby Bundle overview 11 Smoking Cessation 12 Fetal Growth Restriction (FGR) 21 Decreased Fetal Movement (DFM) 28 Side Sleeping 36 Timing of Birth 43 Conclusion 50

Before we get started

The **Safer Baby Bundle** is based on the best available evidence at the time of its preparation.

- It is being led by the Stillbirth Centre of Research Excellence (Stillbirth CRE).
- The Stillbirth CRE work in partnership with health departments, parent organisations, professional colleges, researchers, clinicians and women.



Introduction

Smoking

Fetal Growth

Decreased Fetal

Side Sleeping

Timing

Translated

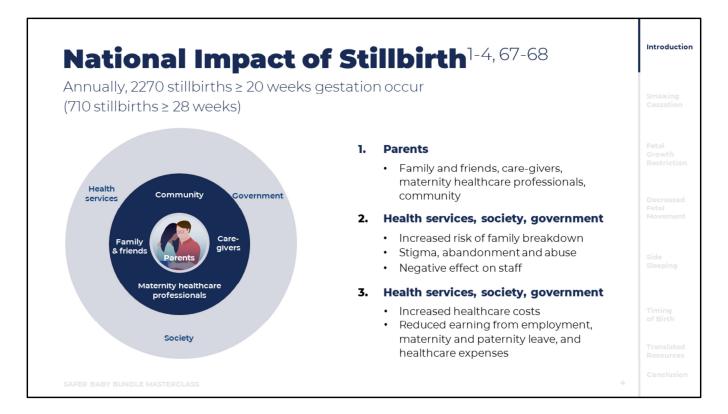
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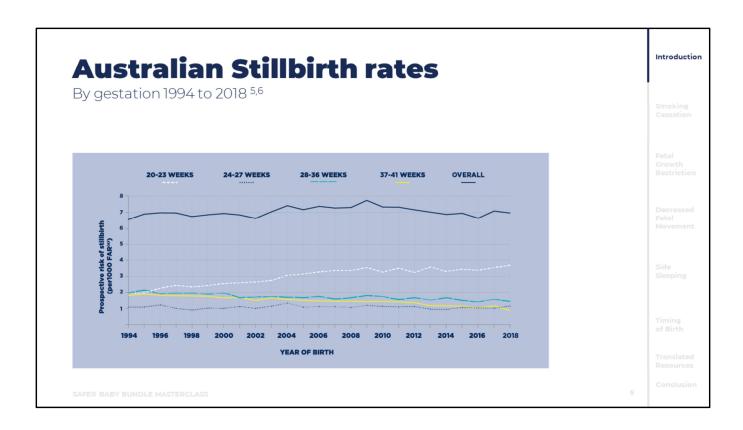
The **Safer Baby Bundle** is intended to provide general advice to maternity healthcare professionals..

It should not be relied on as a substitute for proper assessment with respect to the particular circumstances of each case ands needs of each woman.

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- This immense burden of stillbirth has long-term psychosocial and financial impacts on all involved and wide-ranging economic impacts on health systems and society.
- Parents face unique challenges following stillbirth stigma, social isolation and disenfranchised grief are widespread among parents whose baby is stillborn.
- Research has shown that up to 50% of bereaved parents in Australia and New Zealand feel unable to talk about their stillborn baby because it makes people feel uncomfortable. (Flenady 2016).
- Healthcare workers caring for families during and after grief experience great personal and professional burden
- The cost to government was on average \$3774 more per mother who had a stillbirth compared with mothers who have a live birth (Emily Callendar 2020)



- There has been little improvement in overall stillbirth rates for over 30 years (Flenady 2020 Women and Birth).
- In 2018 the stillbirth rate in Australia was 6.7 per 1000 births, this equals almost 2,200 babies per year (AIHW 2018)
- Some declines have been seen in stillbirth rates after 28 weeks' gestation, but there is still room for significant improvement
- The Safer Baby Bundle aims to reduce late gestation (particularly term/near term) stillbirths. Even though the risk of stillbirth at term is low at approximately 1 per 1,000 births or less, many of these deaths are potentially preventable.

Australian Stillbirth rates

- Stillbirth disproportionately affects
 Aboriginal and/or Torres Strait Islander women⁷
- In 2020 the stillbirth rate for Aboriginal and Torres Strait Islander women was 11.9 per 1000 births⁸
- Vs the rate for non-Indigenous women of **7.4 per 1000**8
- Migrant and refugee populations, rural and remote communities and socioeconomically disadvantaged women also face significantly increased risks⁷



Smoking Cessation

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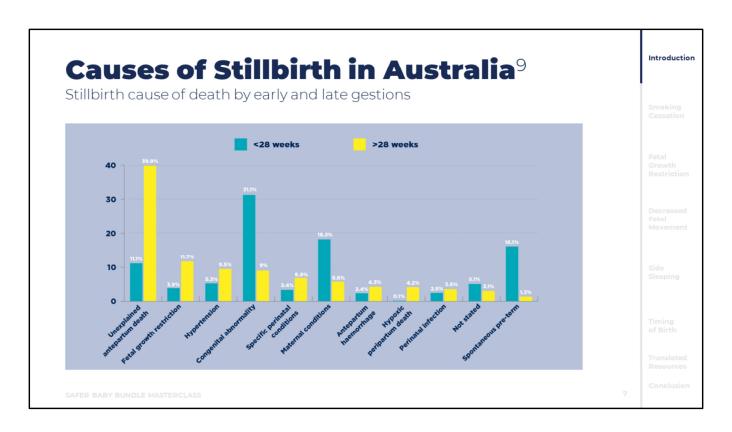
Timing of Birth

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- Aboriginal and Torres Strait islander women
 - The stillbirth rate was 11.9 per 1000 births in 2020
 - These rates increased with increasing remoteness
 - Higher smoking rates contribute to a further increase
 - Perinatal death was twice as common in indigenous women with preexisting diabetes
- Part of our ongoing work at the Stillbirth CRE is to adapt all our education programs and resources to address the specific needs of Aboriginal and Torres Strait Islander, Migrant and Refugee and Rural and Remote communities.
- This is done in partnership with clinicians and women living and working within these communities and is part of a collaborative codesign process.

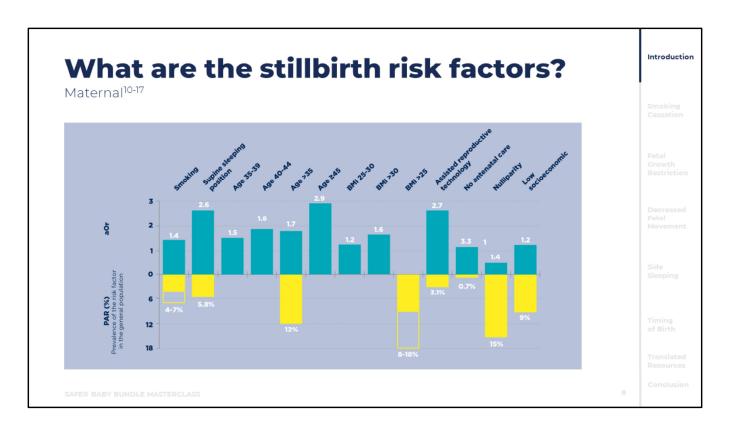


This graph represents causes of stillbirth.

For this presentation we have split these into **before** and **after** 28 weeks

It is important to note the high percentage of unexplained antepartum deaths after 28 weeks – this shows there is still lots of work to be done

Improvements in perinatal mortality audit could help identify some of the causes for this group and we will discuss this a little later in the presentation



Here we see maternal factors that effect stillbirth risk

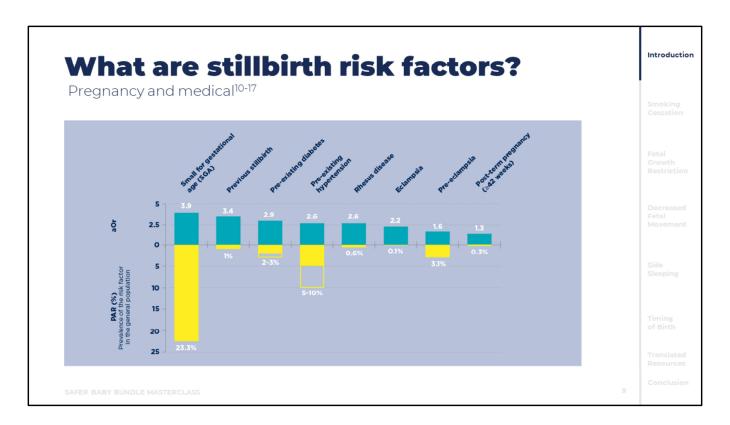
The **aOR** indicates the increased risk for a woman with this risk factor compared with women who do not

The **PAR** is a statistic based on the aOR and the prevalence of the risk factor in the general population

For example women who smoke are 1.4X more likely to experience stillbirth – if all women stopped smoking between 4-7% of stillbirths could be prevented

Some of these risk factors are modifiable and these are factors focused on in the Safer Baby Bundle

It is important to note that due to variances in record keeping throughout Australia it is not possible at this stage to accurately provide PAR for all risk factors. Research into this in ongoing



- Again we see here risk factors represented in terms of their risk to each women (aOR) and how this effects the wider population (PAR)
- See here the huge risk associated with babies that are small for gestational age
- This shows the importance of identifying these babies and managing care appropriately



Key points:

- Both Scotland and England introduced care bundles to reduce SB have been implemented with good success.
- Care bundles are used frequently to improve health outcomes. They
 contain three to five evidence-based elements designed to formalise care
 and/or reduce practice variation.

The UK SBL bundle was launched in early 2015
Stillbirth rates have declined by 20% over the period during which the Saving Babies' Lives Care Bundle (SBLCB) was implemented
The bundle elements are:

- Reducing smoking in pregnancy
- · Risk assessment, prevention and surveillance of FGR
- Raising awareness of reduced FM
- Effective fetal monitoring during labour

Scottish patient safety program launched in 2013 18 units participated Elements are:

- Fetal growth
- Fetal Movement
- Fetal Monitoring

A reduction in stillbirth of 22.5% was seen in Scotland from 2012-2015 although clear links were not made between the safety program and this reduction.



Key points:

This presentation gives an overview of the Safer Baby Bundle and how it should be implemented by health care providers.

Not new concepts, do what we are already doing but doing it consistently and doing it better aligns with best practice.

The five elements of the bundle are: smoking cessation, improved detection of fetal growth restriction, improved awareness and management of decreased fetal movement, the importance of side sleeping from 28 weeks, improving shared decision-making around timing of birth for women with risk factors for stillbirth.

By implementing the Safer Baby Bundle elements of care, the overall goal is to reduce stillbirth in Australia by 20% for women from 28 weeks' gestation and beyond.

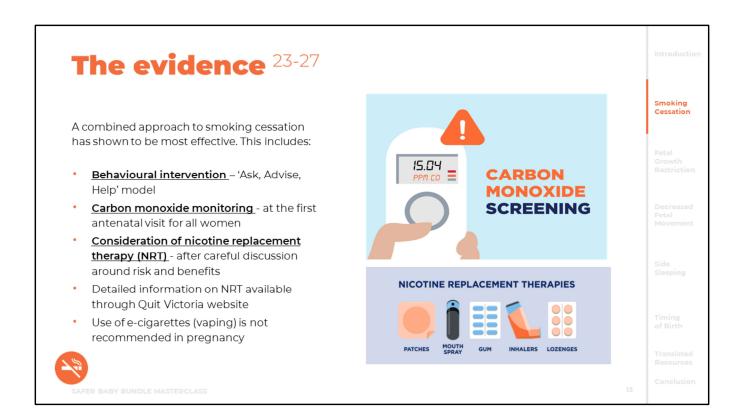


Currently about 1 in 10 pregnant women smoke, with disadvantaged women smoking at rates 3 times other women

Women who smoke are 1.4 times more at risk of stillbirth

Smoking during pregnancy is associated with low birthweight and small for gestational age

Smoking affects how the placenta forms, and reduces the nutrients crossing the placenta to the baby



Ask, Advise, Help (discussed in more detail in the next slides)

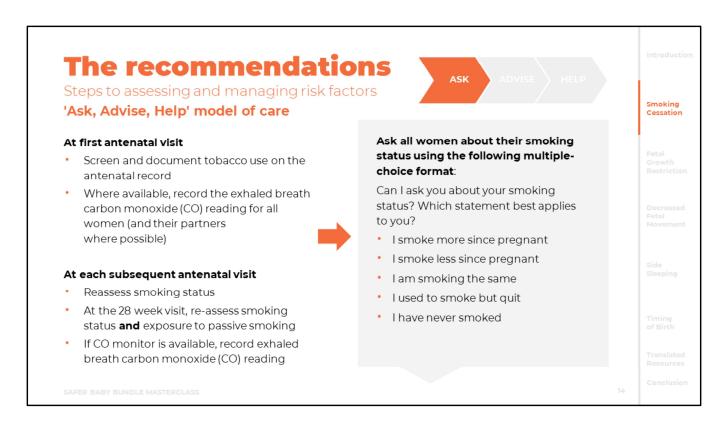
This model is recommended and adopted by Cancer Council Australia. Some other behavioral interventions are much longer. As the healthcare environment is often very busy the Ask, Advise, Help model the favoured model by many.

Carbon monoxide monitoring

The introduction of CO monitoring in the UK and Ireland has been sucessful with increases in referrals and quit rates.

NRT

- Two comprehensive reviews of NRT indicate that NRT used in pregnancy may increase smoking cessation by up to 40% without adverse effects on pregnancy or birth outcomes
- It is however important to note careful discussions around risk/ benefits of NRT are vital.
- This should be done by someone who is qualified to do so often a GP.



Key points:

As discussed in the previous slide the smoking cessation advice follows the 'Ask, Advise, Help' model adopted by Cancer Council Australia and QUIT Victoria.

Ask

Ask about smoking status at the initial appointment and all subsequent appointment.

Always document smoking status in the antenatal record.

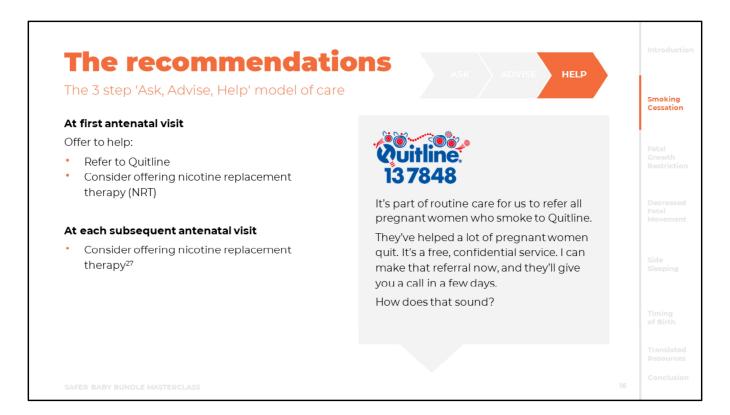


Advise

Advise women on the benefits of quitting for both them and the baby

Reinforce this at each antenatal appointment

It is also important to reinforce that stopping at ANY time is beneficial for babies. There is no such thing as quitting 'too late' in pregnancy.



- Help
- Refer refer to quit line or other local smoking cessation services if identified as a smoker and/or CO level elevated (4ppm or above).
 - · Referral processes will differ in each setting
- Offer NRT This will be done by someone qualified to do so. Often by a GP.
- RACGP and RANZCOG each have guidelines on management of smoking in pregnancy including use of NRT.



A smoking cessation care pathway can be found through the eLearning or on the stillbirth CRE website

The care pathway gives more detail on the recommendations and highlights the process for Quitline referral



Parent resources can be found on Learn.stillbirthCRE.org.au for clinicians to download and print, or alternatively saferbaby.org.au for patents.



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Implementation Questions for discussion: Smoking Cessation What is the process of referring a woman Smoking in to Quitline in your service? pregnancy is one • What resources (e.g. smokerlyzer and of the main causes of stillbirth. SBB resources) or equipment limitations do you have? How can these be overcome? Safer Baby How will you monitor women's engagement with smoking cessation services?

Quitvic



FGR is strongly associated with stillbirth and an increased risk of neonatal morbidity and mortality

It is also linked to long-term adverse outcomes such as impaired neurological/cognitive development, and cardiovascular/ metabolic diseases in adulthood

The evidence

- Improving the detection and management of FGR/ SGA is an important strategy to reduce stillbirth^{30,31}
- If FGR is present, but it is NOT detected, the fetus is eight times more likely to be stillborn^{52,33}
- Less than 1/3 of growth restricted/small for gestational age fetuses are detected antenatally³⁴
- Educational programs for maternity care providers have been shown to improve the detection of SGA/FGR and reduce stillbirth rates³⁵





Fetal
Growth
Restriction

Decreased
Fetal
Movement

Side
Sleeping

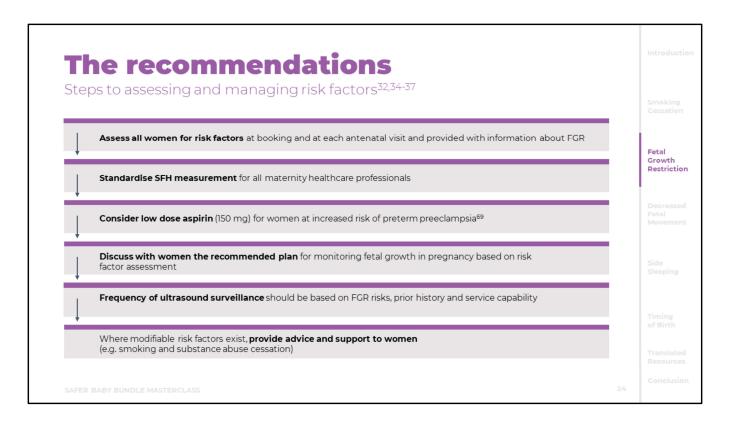
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Definitions

- Fetal Growth Restriction (FGR) A fetus that has not reached its growth potential.
- Small for gestational age (SGA) Estimated fetal weight/birthweight <10th centile.
- In practice, small for gestational age (SGA) is often used as a proxy for FGR. However, not all SGA fetuses are growth restricted, and some growth restricted fetuses are not SGA.



Assess all women for risk factors

Risk assessment for FGR can be undertaken by healthcare providers prior to conception, in early pregnancy, and at each antenatal visit through inquiry about:

- 1. maternal characteristics and medical history
- 2. 2. previous obstetric history
- 3. 3. risk factors that may arise in pregnancy

Risk Factors include:

- Age >35
- IVF
- Nulliparity
- Bmi >30
- Prev SGA/FGR
- Low papp A

Standardise SFH measurement

SFH measurement may not be reliable in some women with a high body mass index, or who have uterine fibroids, in which case ultrasound can be considered for

assessment of fetal size and growth

Consider low dose aspirin

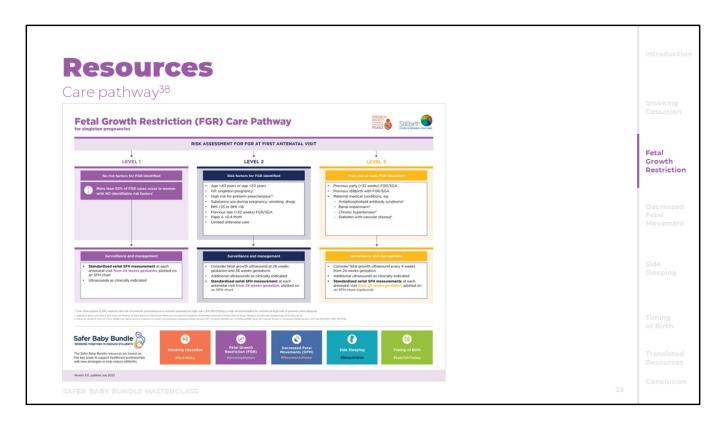
150mg for women with increased risk of preterm preeclampsia

Discuss recommendations with women

Women need to be informed of the recommendations and if further investigations/ monitoring is needed a clear explanation to women and families is necessary

Frequency of ultrasound surveillance

This decision will be based upon the number of FGR risks present, prior history and unit capabilities



There is an FGR care pathway available through the stillbirth CRE website.



Parent resources can be found on Learn.stillbirthCRE.org.au for clinicians to download and print, or alternatively saferbaby.org.au for patents.



Social media tile resources can be found on Learn.stillbirthCRE.org.au for clinicians to download and use

Implementation

Questions for discussion:

- Do you have a checklist for assessing FGR risk factors at every visit?
- Do you have timely and affordable access to ultrasound scanning for women with suspected/confirmed FGR?



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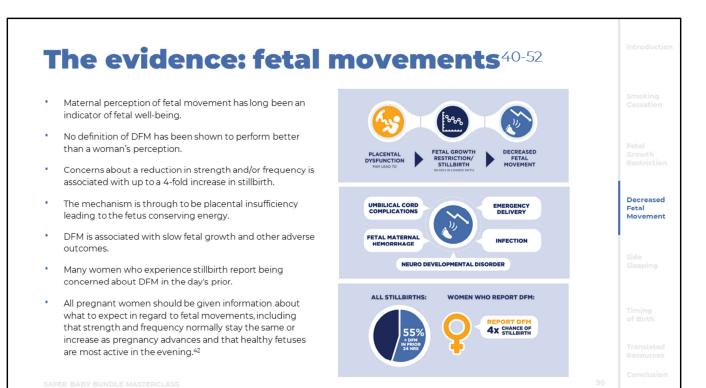
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- Maternal perception of fetal movement has long been an indicator of fetal wellbeing. Asking women about fetal movements =during routine antenatal care is accepted as best practice
- No definition of DFM has been shown to perform better at identifying a baby at risk than a woman's perception
- Concerns about a reduction in strength and/or frequency is associated with a 4 fold increase in stillbirth.
- Many women who experience stillbirth report being concerned about DFM in the days prior – up to 55% reported in the literature
- However women often delays in talking to their health care provider about their concerns — often due to lack of appropriate information provided during antenatal care, often resulting in feeling unsure about their concerns

and not wanting to bother busy midwives and doctors.

 Antenatal education about fetal movement has been shown to reduce the time from maternal perception of DFM to health care-seeking behaviour

The evidence: education to improve outcomes for women with DFM⁴⁰⁻⁵²

- A 2015 Cochrane Review concluded that there was no benefit for kick counting.
- Observational studies of education for women and their health care provider about detection and management of DFM suggests benefit.
- Two subsequent large scale cluster randomised trials of similar interventions have not shown a reduction in stillbirths. However, all existing trials have had limitations and the evidence remains unclear.
- Need for high level evidence to inform the optimal management protocol.
- The large UK AFFIRM trial ⁵⁰ also showed a reduction SGA babies born after 40 weeks associated with an increase in IOL, caesarean section and neonatal admission to special care.
- The MBM trial (Australia and New Zealand) also showed no reduction in stillbirth rates but less intervention than AFFIRM and recommended to continue the MBM approach.
- Safer Baby Bundle resources are based on those used in the MBM trial.



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- The largest trial of kick counting for women showed no reduction in stillbirth overall, **but** it did show a reduction in stillbirths occurring after 28 weeks over the course of the trial – it is postulated that increased awareness of movements contributed to this
- Similar reductions were shown in a non-randomized QI study in Norway when a quality improvement study was introduced – information for women and a management protocol for HCP
- Observational studies suggest that education for women and their health care provider about detection and management of DFM reduces stillbirth
- However, subsequent large scale randomised trials have not shown benefit.
- The large UK AFFIRM trial ⁴⁷ also showed an increase in IOL, caesarean section and neonatal admission to special care.

- A reduction SGA babies born after 40 weeks suggesting the intervention did identify a population of high-risk babies
- More investigation into DFM and potential unintended consequences is needed



Key points:

Initial response

• All women who report a concern of decrease in strength and/or frequency of fetal movements should undergo immediate assessment.

Clinical Assessment

- Listen to FHR by hand held doppler or CTG
- Take detailed clinical history
- Identify any risk factors for stillbirth

CTG

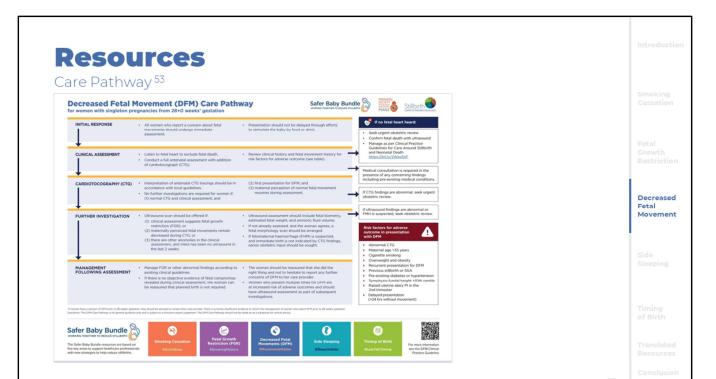
 Interpretation of antenatal CTG traces should be in accordance with local guidelines

Further Investigation

- · Consider fetomaternal haemorrhage testing
- Consider ultrasound

Birth Planning

- Where possible birth should not be planned prior to 39 weeks
- After further investigations it may be necessary to discuss planning for birth earlier
- Decisions should be shared and womens preferences considered





Resources

Social media tiles





















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Questions for discussion

- Are there any challenges to implementing the DFM care pathway in the context of your local site?
- Are there limitations with access to equipment or resources?
- Does your facility have a local practice guideline?



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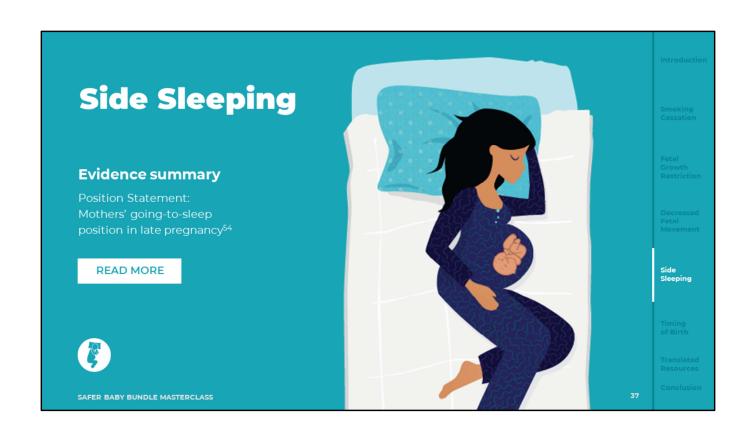
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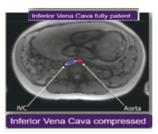
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The evidence

- Accumulating evidence has shown an association between maternal supine going-to-sleep position and stillbirth after 28 weeks in pregnancy.^{10,55,56}
- In an international meta-analysis the population attributable risk is 5.8%. This indicates 1:17 stillbirths could be avoided if women go to sleep on their side from 28 weeks of pregnancy.¹⁰
- Research in New Zealand used MRI technology to assess haemodynamic effects that can compromise fetal wellbeing.⁵⁸





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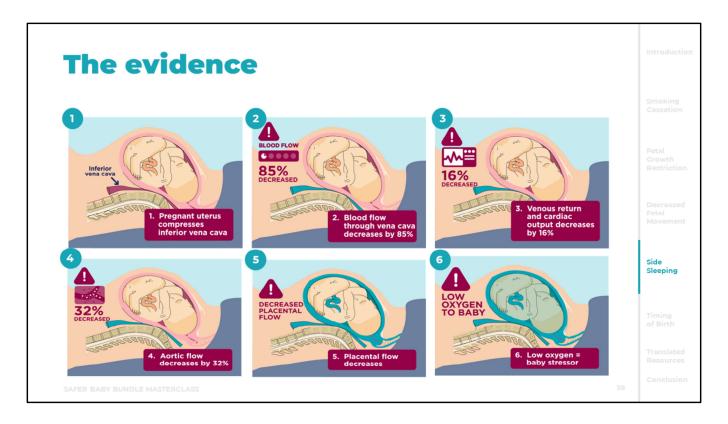
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Currently less than 1 in 5 women are consistently being advised about the importance of side sleeping in the third trimester

Going-to-sleep in the supine position (lying flat on the back) from 28 weeks of pregnancy is an identified and modifiable risk factor for stillbirth

The MRI image seen here shows the compressed Vena Cava with a pregnant women in supine position VS the patent Vena Cava of a pregnant women in the side lying position.



- Here is another visual representation of what happens to the vena cava when women are in the supine position
- Pregnant uterus compresses inferior vena cava
- Blood flow through vena cava decreases by 85%
- Venous return and cardiac output decreases by 16%
- Aortic flow decreases by 32%
- Placental flow decreases
- Low oxygen = baby stressor

The recommendations

Steps to assessing and managing risk factors

- Provide all pregnant women with verbal and written information about stillbirth risk reduction practices.
- Emphasise that going-to-sleep in the supine (on your back) position is a risk factor for late stillbirth.
- Reassure women that it's normal to change position during sleep - the important thing is to start each sleep on their side.
- Current evidence shows that both the left and right side going-to-sleep positions are equally safe.¹⁰

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By starting conversations around sleep positions early in pregnancy and reminding women at 20-24 weeks they can make modifications BEFORE 28 weeks.

It is important to make it clear that falling to sleep on your side is important not just at night but for naps and short sleeps any time of the day.



Resources

Social media tiles























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Implementation

Questions for discussion:

- Are there any challenges or concerns you expect to face from women when advising them about side sleeping?
- What questions might be asked by women about safe sleeping? How would you respond?



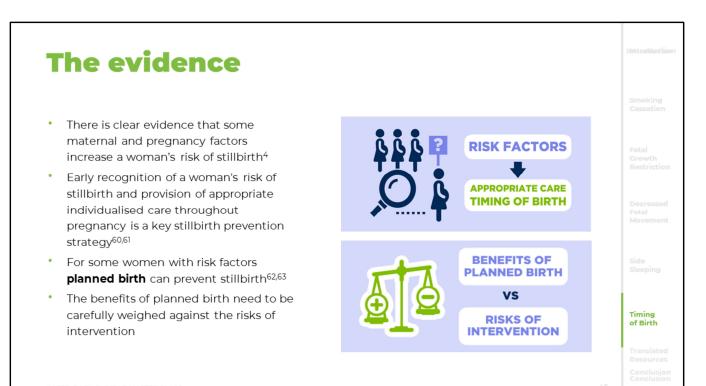




Side Sleeping



Improved decision making around timing of birth is an important strategy to reduce the rate of preventable stillbirth.



- 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 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.
- The timing of birth element is not applicable for women with other major pregnancy complications e.g. GDM, obstetric cholestasis, hypertension. For these women the plan of care will be decided based on evidence relating to that specific condition.

S	Stillbirth risk assessment in early pregnancy	
т	Tests and further investigations as indicated	
Е	Evaluate and re-assess risk at 34 to 36+6 weeks	
Р	Plan for increased surveillance where indicated	
s	Support informed, shared decision-making on timing of birth	
		Timing of Birth

An important principle behind the timing of birth element is that an objective, structured approach to risk assessment and consideration of timing of birth should lead to more appropriately targeted interventions.

The '5 STEPS' approach is recommended.

S – Asses risk of stillbirth at the beginning of pregnancy, let her know you're doing this and be clear if she does have risk factors.

T – Explain and arrange further testing if this is indicated 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' gestation BMI >40: fetal biometry scans every 4 weeks from 24 weeks' gestation Smoking continuation >20 weeks: fetal biometry scan at 28 and 36 weeks' gestation

E – Re evaluate Reassess women for their risk of stillbirth between 34 to 36+6 weeks' gestation to inform shared decision-making around timing of birth.

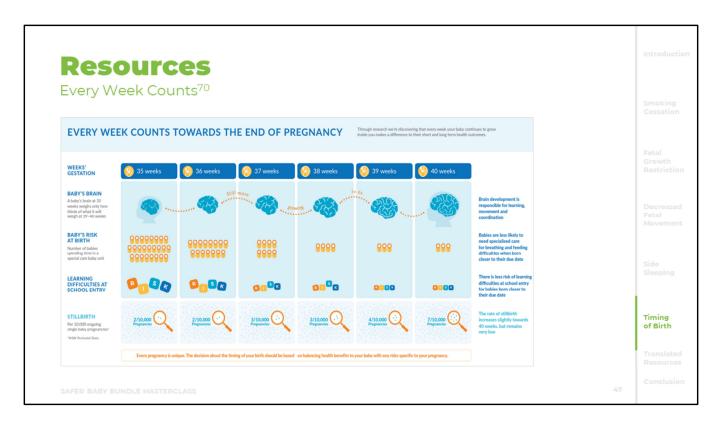
P - For some women, increased fetal surveillance towards the end of

pregnancy may be indicated based on the accumulation of risk factors. This could consist of a range of options including weekly antenatal visits with a careful inquiry about fetal movements, weekly or bi-weekly CTGs, and/or repeat ultrasound assessment.

S - The final step is to make a **shared decision with the woman** 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 individualized risks and benefits, and which reflects their preferences and values.

Resource development is part of the ongoing work at the Stillbirth CRE and tools around shared decision making for timing of birth will be available to women and clinicians from 2021.



- Every week counts is resource developed by The University of Sydney
- It is aid for clinicians and aids discussion around the benefits of remaining pregnant where there are no risk factors
- It had recently been updated to include stillbirth rates per 10000 pregnancies and shows us in a **low risk** pregnancy, although the risk of stillbirth increases with gestation the risk is still very small (7 per 10 000 at 40 weeks)



NC0

Let's Talk Timing Video Natasha Cocker, 2023-08-17T03:23:45.117







Slide 51

NCO SDM resources added

Natasha Cocker, 2023-08-17T03:23:19.286





Embedded in the e-learning we have video examples of Midwives/ Obstetricians communicating risk with women in their care

Implementation

Questions for discussion:

- How will you implement the '5 STEPS' process contextualised within your local site?
- Are there any practical limitations?
- What policies or guidelines are there to identify stillbirth risk factors at your institution.



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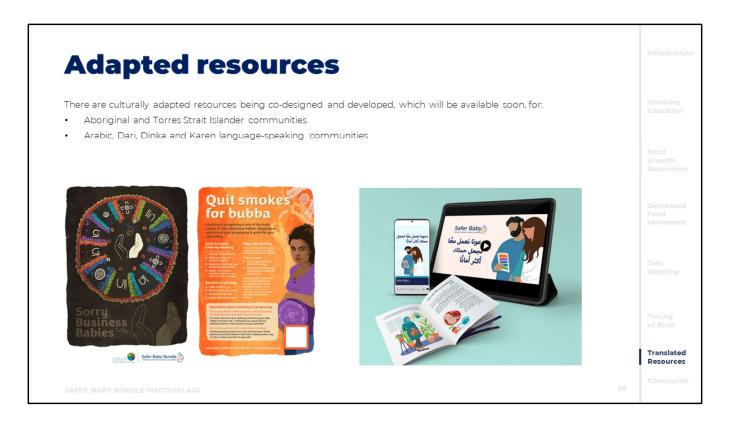
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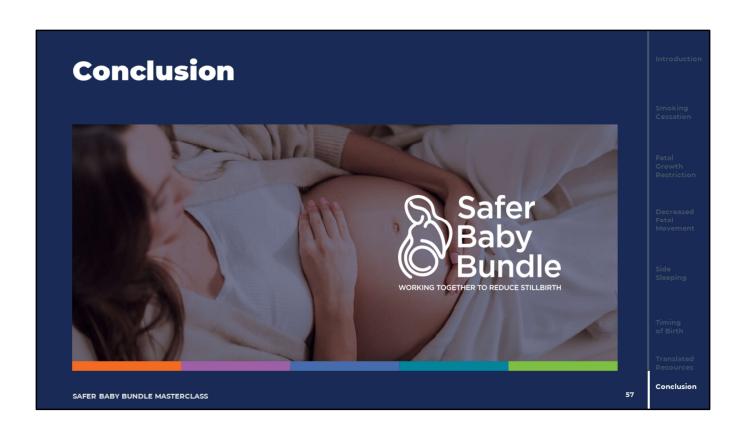
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Resources can be found on Learn.stillbirthCRE.org.au for clinicians to download and print

For parents: strongerbubbaborn.org.au or growingaheathybaby.org.au



Risk Communication

- Communication about stillbirth and risk factors for stillbirth is often insufficient
- Across all elements of the bundle, sensitive evidence-based communication is key
- Discussion around risk factors for stillbirth should be part of standard pregnancy care
- Women have expressed that they want <u>clear</u> and <u>easy to understand</u> information from their health professional about how they can reduce their risk of stillbirth



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Women need to be informed of any risk factors they may have in early pregnancy and that they will be monitored and reassessed throughout pregnancy.

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

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.

What new mothers say

"The word stillbirth is incredibly important to include. Plenty of information is out there telling you to sleep on your side but none explain why.... no one expects their baby to die but we need a warning!"





"I think it is important to mention stillbirth as the risk because otherwise many women may not take the message as seriously as they should."

"We know it happens, we just think it won't happen to us. But we need to know what we can do to prevent it."





"Please just give pregnant women all the information there is about preventing stillbirth."

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This slide shows what families who have experienced stillbirth have told us about the care they received.

Many women and families express they are given information around these recommendations but the link to stillbirth was often not made clear.

Families have expressed many times that although conversations around stillbirth are hard and sometimes confronting for families **but** they HAVE to happen.

"No conversation is harder than experiencing the tragedy of stillbirth, please just have these difficult conversations so that we, as parents, understand how to minimise the chance of this happening to us" Bereaved father

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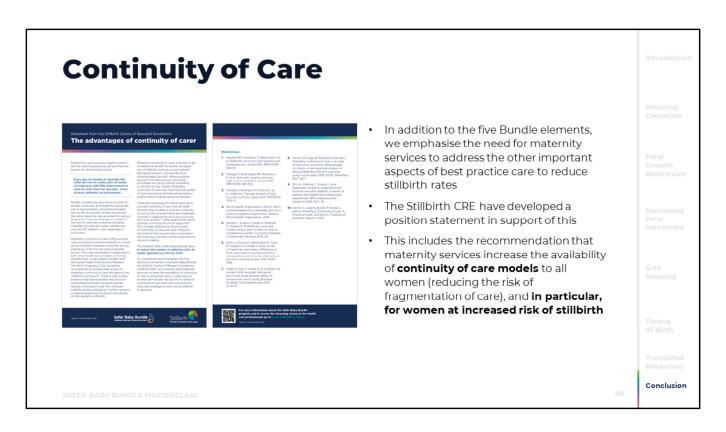
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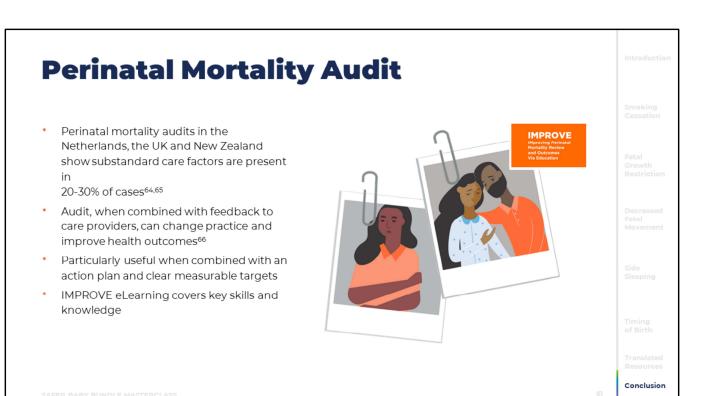
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The five bundle elements have been chosen as commonly reported care factors that can be moderated and measured.

It is equally important that we continue to focus on other aspects of best practice care, including an emphasis on increasing the availability of continuity of care models to all women, in particular for those with an increased risk of stillbirth.



Perinatal mortality audit is:

- A process to document the medical causes of each death and contributing systemic failures in order to identify solutions and take action.
- It is not a solution in itself. It is a systematic way of improving quality of care through collecting and analysing data, linking solutions and ensuring accountability for changes in care"

IMPROVE

IMproving Perinatal Mortality Review and Outcomes Via Education

- The IMPROVE eLeaning program has been developed to give all maternity care professionals the skills and knowledge they need to provide the best possible care to bereaved families.
- It is made up of 6 modules each taking 20 minutes to complete.

COVID-19 and the Safer Baby Bundle

- During the COVID-19 pandemic the Safer Baby Bundle messaging remains largely the same and as important as ever
- For pregnant women concerns around being exposed to COVID-19 may lead them to avoid seeking care to reduce their risk of contracting the infection
- We have developed resources for both clinicians and women to highlight changes in practice during COVID-19



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- Continue to talk to women about smoking cessation Following national advice we recommend stopping the use of CO Monitors during the COVID-19 pandemic. Local advice my differ. Please seek further advice from your local health department.
- Continue to encourage women to seek help if they have any questions or concerns about fetal movements or the growth of their baby
- Continue to promote side sleeping after 28 weeks
- Continue discussions around timing of birth
- All resources can be found on the CRE website.

Safer Baby resources available for parents

- Safer Baby resources are available for clinicians to share with pregnant women.
 These are designed using easy to understand language to educate women about the risks of stillbirth and the five elements of care to reduce stillbirth risks.
- Resources available include waiting room poster, flyer for women and website www.saferbaby.org.au



Waiting room poster and flyer for women

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Safer Baby Bundle eLearning Module

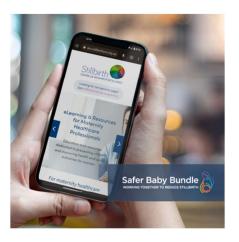


For further detail and evidence base behind the Safer Baby Bundle, all downloadable resources and care pathways visit **learn.stillbirthcre.org.au**

- FREE educational training
- Accredited CPD points
- Six 20-minute chapters, accessible on all devices
- Interactive learning including videos, quiz style questions and case studies
- Downloadable resources



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- The Safer Baby Bundle eLearning can be accessed online via learn.stillbirthcre.org.au
- CPD points are available through ACM, ACCRM and RACGP.
- Obstetricians can also self claim for CPD points through RANZCOG.



Key points:

The following organisations have formally endorsed the Safer Baby Bundle, and many others will be involved in its delivery over the coming years.

We would like to particularly thank all of these organisations for their involvement in developing the Safer Baby Bundle and endorsing its implementation.

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