POSITION STATEMENT

MOTHER'S GOING-TO-SLEEP POSITION IN LATE PREGNANCY

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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. Better attention to modifiable risk factors may reduce the risk of late pregnancy stillbirth (≥28 weeks' gestation).
4. Supine going-to-sleep position in late pregnancy is a modifiable risk factor for late stillbirth.
5. Women report a willingness to change their going-to-sleep position to reduce the risk.
6. From 28 weeks of pregnancy, women are advised to settle to sleep on their side for any episode of sleep, including:
    - Going to sleep at night
    - Returning to sleep after any awakenings
    - Day-time naps

    As the going-to-sleep position is likely to be the one held longest during the night, women should not worry if they wake up on their back, but should just roll back on to their side to continue sleeping.[3]
7. Further research is needed to determine whether advice about going-to-sleep position changes women's behaviour and improves pregnancy outcomes.

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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 fourth element of care: Mothers' going-to-sleep position in late pregnancy.

The purpose of this position statement is to summarise the latest evidence on maternal going-to-sleep position from 28 weeks of pregnancy and ensure provision of appropriate advice to women to reduce the risk of stillbirth.

TARGET AUDIENCE

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

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] Stillbirth in late pregnancy (≥28 weeks) can occur unexpectedly in normally developed babies whose mothers have had uncomplicated pregnancies, thus offering real potential for prevention. There is now a global health focus on prevention of stillbirth.[6] 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.[7]

Late pregnancy stillbirth (≥28 weeks of pregnancy) currently results in the loss of around 950 babies every year in Australia and New Zealand.[1,8] While rates of late-stillbirth in Australia and New Zealand are declining slightly with Australia's rate reported as 2.6/1000 births in 2019 and New Zealand's rate as 2.4/1000 in 2018, both countries have rates double that of the best performing countries.[7] The between country variations suggest it is possible to further reduce late-gestation stillbirth. Such reductions can only be achieved by identifying readily modifiable risk factors.[9]

Many such modifiable risk factors for late pregnancy stillbirth rely on clinical management in a health care setting such as induction of labour for post-dates pregnancy or third trimester ultrasound surveillance to identify babies who are growth restricted.
Going-to-sleep in the supine position from 28 weeks of pregnancy is a modifiable risk factor for late stillbirth that women can manage themselves.

Observational data on going-to-sleep position and stillbirth

Accumulating evidence has shown an association between maternal supine going-to-sleep position and stillbirth >28 weeks of pregnancy. Since the first study from New Zealand in 2011,[10] there have been a further three published case control studies [11-13] and one cross sectional study [14] across five countries that have demonstrated an association of supine going-to-sleep position in late pregnancy and stillbirth, with adjusted odds ratios between 2.5 and 8.[10-14] The population attributable risk in the 2017 New Zealand [12] and Australian studies is around 10%.[11] This indicates that 1 in 10 late pregnancy stillbirths could be prevented if all women in the last three months of pregnancy avoided going-to- sleep in the supine position. A 2019 individual participant data (IPD) meta-analysis (funded in 2016 Tran-Tasman grant by RedNose/CureKids), using all the available world-wide data on the topic, [10-13,15] demonstrated an adjusted odds ratio of 2.63 (95% CI 1.72-4.04, p<0.0001) for late stillbirth in women who reported a supine going-to-sleep position.[16] Going-to-sleep on the left or right side appeared equally safe.[16] A secondary analysis of these data demonstrated an association of signs of sleep disordered breathing, sleep duration >9 hours, and daily daytime naps with late stillbirth.[17]

Biological rationale for going-to-sleep position and stillbirth

Physiological and anatomical studies demonstrate a biologic rationale for the association between supine going-to-sleep position and stillbirth. An 85% reduction in vena-caval diameter and around 30% compression of the aorta [18,19] has been demonstrated by magnetic resonance imaging in healthy women in the late third trimester in the supine position compared with the left lateral position. Using Doppler ultrasound, another study demonstrated that blood flow in the uterine artery was less in the supine position than in the left lateral position.[20] Adverse fetal effects of the supine position are also suggested by reduced middle cerebral artery Doppler resistance - a fetal response to hypoxia [21] - and reduced fetal oxygen saturation during labour in the supine position.[22] Furthermore, a New Zealand study has reported that in healthy late pregnancy, when the mother is in the supine position, the fetus spends more time in behavioural state 1 (fetal quiescence) and less time in fetal behavioural state 4 (active awake-high activity), compared to when the mother is on her left side.[23] An Australian in-home overnight sleep study showed that when the mother was not sleeping in the supine position, there was improved maternal oxygen saturation, fewer maternal oxygen desaturations, and fewer fetal heart rate decelerations.[24] Further, a secondary analysis of an IPD study demonstrated significantly lower infant birthweights in women who slept supine compared to non-supine after adjustment for other variables associated with fetal size.[25] These collective data provide additional evidence to support the theory that when a healthy mother is in the supine position in late pregnancy, oxygen delivery to the fetus may be reduced.

PUBLIC HEALTH CAMPAIGNS

New Zealand, the UK, and Australia have recently released public health messages around going-to-sleep on the side and avoiding supine going-to-sleep position to reduce late pregnancy stillbirth (see 'Further information and resources' below). Surveys have shown that women report they could modify their going-to-sleep position in late pregnancy if that was recommended.[26] Furthermore, in New Zealand there have been significant changes in going-to-sleep position since the first publication on late stillbirth and supine going-to sleep position,[10,12] and women in Australia who have changed their going-to-sleep position based on advice reported little or no difficulty in doing so.[27] Further research including the Sleep in Pregnancy Pilot Trial (SliPP; ACTRN12618001462279) will determine whether sleep aids such as pillows are effective in supporting women to settle to sleep on their side in late pregnancy, and also whether advice alone is enough.

KEY RECOMMENDATIONS

All midwives, obstetricians, general practitioners, childbirth educators, and other health professionals who provide pregnancy care should provide women with written and verbal advice about late pregnancy going-to-sleep position as follows:

From 28 weeks of pregnancy, settle to sleep on either side for any episode of sleep, including:

- Going to sleep at night
- Returning to sleep after any awakenings
- Day-time naps

FURTHER INFORMATION AND RESOURCES

Australia

Stillbirth CRE website: www.stillbirthcre.org.au

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

New Zealand

'Sleep on side when baby's inside' campaign: www.sleeponside.org.nz

The UK

Tommy's Sleep on Side pregnancy campaign: www.tommys.org/pregnancy-information/sleep-side-pregnancy-campaign

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