

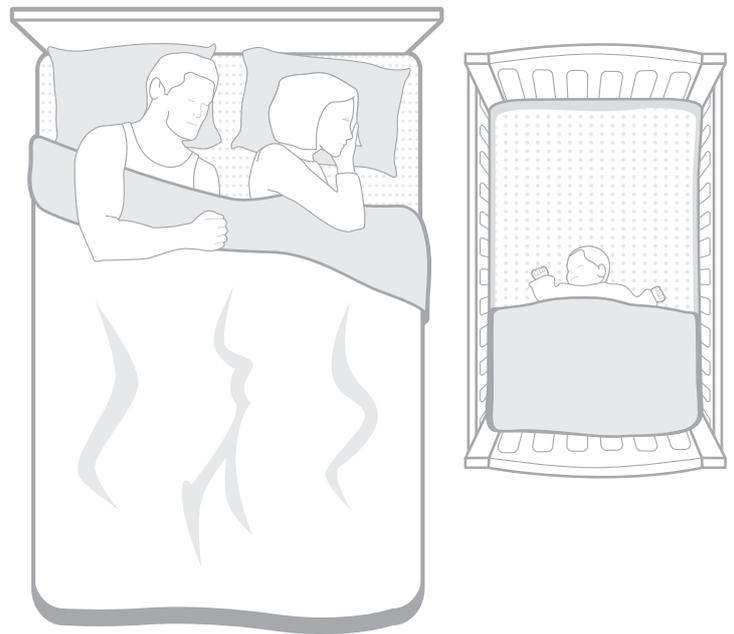
# Sharing a Sleep Surface with a Baby

Sharing a sleep surface with a baby can increase the risk of Sudden Unexpected Death in Infancy (SUDI), including Sudden Infant Death Syndrome (SIDS) and fatal sleep accidents, in some circumstances.

The safest place to sleep a baby is in their own safe sleeping place in the same room as an adult care-giver.

Red Nose recommends sleeping a baby in a cot next to the parents' bed for the first six to twelve months of life as this has been shown to lower the risk of SUDI.<sup>1-3</sup>

- There is much debate in the literature about the practice of, and definitions for, bed-sharing and co-sleeping. Sharing a sleep surface with a baby is a complex issue that encompasses many factors<sup>6</sup> such as parenting preferences, cultural beliefs or unavoidable living circumstances. For the purpose of this statement the term 'sharing a sleep surface' is used to include bed-sharing and co-sleeping practices.
- Bed-sharing refers to bringing the baby onto a sleep surface where co-sleeping is possible, whether intended or not.
- Co-sleeping is defined as a mother and/or her partner (or any other person) being asleep on the same sleep surface as the baby. It is a common night-time settling strategy.
- Sharing a sleep surface with a baby can increase the risk of SUDI. A considerable proportion of SUDI occur on a shared sleeping surface.
- Babies most at risk of SUDI when sharing a sleep surface are those less than 3 months postnatal



age<sup>4-5</sup>, babies who were born preterm or small for gestational age.

- The risks are always much greater if parents smoke or are under the influence of alcohol or drugs (prescription or illicit) that cause sedation and impair their ability to respond to their baby.
- There is a very high risk of infant death, including deaths attributed to fatal sleeping accidents, when a baby shares a sofa or couch with an adult during sleep.
- There is no increased risk of SUDI whilst sharing a sleep surface with a baby during feeding, cuddling and playing providing the baby is returned to a cot or their own safe sleeping surface before the parent goes to sleep.
- Strategies can be used to reduce the risks.

# Risks associated with sharing a sleep surface

Studies have identified circumstances where sharing a sleep surface with a baby increases the risk of SUDI.

## Sofa sharing

The majority of studies have demonstrated that there is a very high risk of infant death, including deaths attributed to fatal sleeping accidents, when a baby shares a sofa or couch with an adult during sleep<sup>6-11</sup>. Often parents/carers will fall asleep unintentionally on a sofa or couch and there is a very high risk of a sleeping accident in this situation as the baby may become wedged into cushions or the back of the sofa.

## Sleeping baby on the parent's chest

Sleeping baby on their tummy on the parent's chest, often skin to skin, is an excellent strategy for settling an infant, and can help them self-regulate their temperature, as long as the baby and their airway are being observed (either by the nursing parent or another adult care-giver).

A parent falling asleep with a baby prone (on the tummy) on the parent's chest and unobserved can be problematic as prone positioning reduces baby's arousal mechanisms that protect baby's airway; baby's nose may become obstructed by clothing, or parent's body or breast; or an unobserved baby may become positioned with his/her chin to chest, which will also obstruct baby's airway<sup>12</sup>.

## Adult sleep environments

Adult sleeping environments were not designed with infant safety in mind, and may contain hazards that can be fatal for babies. The 11 case studies included in the Carpenter meta-analyses<sup>5</sup> found an increased risk for SUDI in bed-sharing situations. The risks are significantly increased particularly if the parents smoke, but studies have also identified an increased risk when parents do not smoke<sup>4,13</sup>.

Babies under three months of age are at significantly greater risk than older babies<sup>13-15</sup>. These risks include overlaying of the baby by another individual who may be under the influence of alcohol or sedating drugs; entrapment or wedging between the mattress and another object such as a wall; head entrapment in bed railings, and suffocation from pillows and blankets<sup>16-18</sup>. Babies in a bed-sharing situation had more frequent head covering episodes and spent more time sleeping on their sides than when they slept in a cot<sup>19</sup>.

## Exposure to smoke

Most studies show that sudden unexpected infant deaths attributable to sharing a sleep surface are predominantly amongst babies whose parents smoke. Most studies have shown no increased risk from babies bed sharing with

non-smoking mothers<sup>20,23-24</sup>, though a large multi-centre European study showed a small risk<sup>21</sup> and a Scottish study showed a larger risk<sup>14</sup>, particularly for younger babies, although no account was taken of parental alcohol intake or sedating drugs<sup>6,8,14,21</sup>.

An analysis of five historical SIDS studies by Carpenter et al (2013) reported that breastfed infants under two months, whose mothers did not smoke, drink alcohol or take drugs are at an increased risk of SIDS compared to infants sleeping in a cot in the parental bedroom. This analysis did not find an increased risk for infants older than three months for parents who did not smoke. Published criticisms of this paper included that this analysis was based on data between 15-26 years old, compiled ad hoc from a heterogeneous collection of studies performed in different countries at different time points, using different methods and different definitions for data collection, and imputed over 60% of data that was missing relating to alcohol consumption.

The most recent analysis from two case-control studies conducted in the UK included data collection relating to breastfeeding, smoking, alcohol consumption, drug and medication use, and sofa sharing<sup>11</sup>. For babies less than three months of age, the same proportion of SIDS and control infants bed-shared in the absence of hazardous conditions and the difference was not significant. However, for infants older than 3 months, bed-sharing in the absence of other hazards was significantly protective<sup>11</sup>.



\*Source: Bonds

## The risk is significantly increased in the following circumstances:

- Where babies are less than three months of age<sup>4-5,13,20-21</sup>
- Where babies were born preterm or small for gestational age<sup>6-7,15,20</sup>
- Where the baby shares the sleep surface with a smoker<sup>3,5-7,11,20-22</sup>
- Where the parent is under the influence of alcohol<sup>4,11</sup>
- Where the parent is overly tired (difficult to arouse)<sup>17</sup>
- Where the parent is under the influence of drugs (prescription or illicit) that cause sedation<sup>17</sup>
- Where the parent/s is/are obese
- Where there is adult bedding, doonas or pillows that may cover the baby<sup>7,17</sup>
- Where the baby can be trapped between the wall and bed, can fall out of bed, or could be rolled on
- Where babies are sharing beds with other children or pets<sup>2,7</sup>
- Where the baby is placed to sleep on a sofa, armchair, beanbag, waterbed or sagging mattress alone or with another person<sup>17-18</sup>

## Benefits associated with sharing a sleep surface with a baby

Many studies have reported the benefits of bed-sharing and close mother-infant contact particularly at night. These benefits include:

### Improved breastfeeding outcomes

Several studies have demonstrated that babies who sleep in close proximity to their mothers have better outcomes relating to successful initiation and duration of breastfeeding<sup>7-9,25-9</sup>. Bed-sharing is associated with more frequent night-time breastfeeding<sup>19,30-31,46,56,59</sup>, which is important to maintaining milk supply, as prolactin, the milk-making hormone, has a diurnal pattern with higher levels noted at night<sup>33</sup>. Bed-sharing is associated with reduced formula supplementation<sup>34</sup>.

### Improved maternal sleep

Sleeping with a baby has been reported to make nocturnal breastfeeding less disruptive. Many mothers who bed-share and breastfeed report that they get more sleep compared to mothers who breastfeed and sleep separately from their baby, and compared to mothers who bottle-feed<sup>30,35-36</sup>.

### Increased infant arousals

Babies who bed-share experience more frequent arousals from sleep, and more frequent arousals are associated with a reduced risk of SIDS<sup>19,31,37-39,46</sup>. Interestingly, parents who bed-share as a chosen parenting practice frequently perceive fewer infant sleep problems<sup>40-42</sup>.

### Enhanced maternal bonding and responsiveness

Bed-sharing and co-sleeping are practices associated with enhanced maternal-infant bonding and maternal responsiveness<sup>27,43</sup>, particularly if parents had intended to bed-share as part of their parenting approach, referred to as non-reactive co-sleeping<sup>40</sup>. Parents have reported that sleeping with their baby improves their bond with their baby and permitted them to closely monitor their babies throughout the night and to respond if their baby adopted a non-recommended sleep position or had become ill<sup>44</sup>.

### Improved infant settling with less crying and reduced stress response

Bed-sharing and co-sleeping are practices associated with improved settling with reduced startling and crying<sup>31,39,45-46</sup>. Startling and crying releases adrenaline, which increases heart rate and blood pressure, interferes with restful sleep and may lead to long term sleep anxiety. Breastfeeding and co-sleeping have also been associated with positive cortisol regulation in infancy, which has been suggested as being important for reducing the risk of maladaptive stress responses in later life<sup>47</sup>.

### Higher self-esteem, better social skills and emotional outcomes as young people and adults

Research, including longitudinal population studies, have suggested that those who shared the parental bed as infants become young people and adults who demonstrate earlier establishment of independence, less anxiety and improved school behaviour<sup>40,48</sup>, higher self-esteem<sup>49-50</sup>, better social skills<sup>50-51</sup>, are more comfortable with affection<sup>52</sup> and have less psychiatric problems<sup>49,51</sup>.

### Protective maternal behaviours

Breastfeeding mothers have been observed to adapt sleep environments when sleeping with their baby, including physical orientation facing towards her baby, often in physical contact, positioned so the baby cannot be rolled on to, or baby cannot move up or down the sleeping surface under bedding<sup>31-32,46</sup>.

While studies have shown that mothers who were higher risk (eg Indigenous, single, young, smokers, preterm delivery) were often more likely to bed-share, co-sleeping with a baby has also been significantly associated with childcare practices that reduce risk including breastfeeding, supine position and rapid responsiveness to infant behaviours<sup>39,54</sup>. These findings indicate that there are differences in characteristics between different co-sleeping groups that impact risk<sup>6</sup>.

## In summary, sharing sleep with a baby has many benefits which include:

- Improved breastfeeding outcomes: duration of breastfeeding and frequency of night time breastfeeding<sup>25-29,55-56</sup>
- Reduced formula supplementation<sup>34</sup>
- Improved maternal sleep<sup>30,35-37</sup>
- Increased infant arousals during sleep<sup>19,31,37-39,56</sup>
- Fewer infant sleep problems reported by parents<sup>40-42</sup>
- Enhanced maternal bonding and responsiveness<sup>27,40,43-44</sup>
- Improved infant settling with less crying and reduced stress response<sup>29,31,39,46-47</sup>
- Higher self-esteem, better social skills and emotional outcomes in later life<sup>40,49,50-52</sup>
- Protective maternal behaviours: orientation, contact, positioning<sup>57</sup>
- Increased likelihood of recommended supine position for sleep<sup>6,39,54</sup>

Before you share a sleep surface with your baby, consider whether you are happy it is safe for YOUR baby

## Red Nose supports a risk minimisation approach

Based on the best available research, Red Nose promotes a risk minimisation approach that helps to facilitate informed choice to suit a family's cultural beliefs and environmental circumstances.

In some circumstances parents have no option but to share a sleep surface with their baby because no other sleep surface is available.

Bed-sharing and co-sleeping is a common and culturally valued practice, and many babies are brought into bed to feed, settle, sleep or be more closely observed by their parents and care-givers. Most parents who co-sleep may not originally plan to share a sleep surface, but will

choose to do so as a night-time infant care strategy, most frequently to assist breastfeeding and increase parental sleep (84.1% reported by McKenna and Volpe 2007)<sup>44</sup>.

Parents may unintentionally fall asleep with their baby. McBean and Montgomery (2015) reported that 51.8% of mothers with babies aged 0-6 months reported falling asleep while feeding, and were most likely to fall asleep if they were either exclusively or partially breastfeeding, and if lying down<sup>58</sup>. In all of the above circumstances, it is very important to give consideration to strategies to reduce risk in shared sleeping environments.

## Strategies to reduce risk in a shared sleeping environment include:

- Place baby on the back to sleep (not on the tummy or side).
- Make sure the mattress is clean and firm.
- Make sure that bedding and sheets cannot cover baby's face.
- Keep pillows and adult bedding away from baby
- Use a safe sleep bag with a fitted neck, arms holes but no hood – do not wrap or swaddle baby as this restricts arm and leg movement and will lead to overheating
- Place the baby at the side of one parent - not in between two parents, as this would increase the likelihood of the baby becoming covered or slipping underneath adult bedding as well as overheating
- Ensure the baby is not too close to the edge of the bed where he/she can fall off. Do not place pillows at the side of the baby to prevent rolling off. A safer alternative is to place the adult mattress on the floor.
- Avoid pushing the bed up against the wall. Babies have died after becoming trapped between the bed and the wall.
- Tie up long hair and remove jewellery including teething necklaces, to prevent infant entanglement around the infant's neck.
- Ensure the baby is never left unattended on a sofa or bed. The safest place to sleep baby is in a cot that meets the current AS/NZS Mandatory Standard<sup>9,20,23,25</sup>.

# Portable sleep spaces

To date there has been limited published research evaluating practical portable infant sleep spaces that allow for close parent-baby proximity on the same or immediately adjacent sleep surface.

## Side-car cribs

Ball et al (2011) conducted several studies examining the use of side-car cribs in post-natal hospital environments and have reported on outcomes including breastfeeding, infant safety, staff contact and maternal perceptions<sup>56,59-61</sup>.

For women with unassisted, un-medicated vaginal deliveries, babies randomly assigned to a side-car breastfed significantly more frequently on the postnatal ward, and for longer after leaving hospital, compared to babies assigned a standard cot. However, these outcomes were not seen for mothers receiving opioid analgesia or obstetric intervention during labour and delivery<sup>59,61</sup>.

No studies have reported risk associated with side-car cots for infants. Tully and Ball (2012) observed risks associated with standard cots particularly for mothers who had impaired mobility following caesarean section, including mothers lifting babies from cots without head support, tipping the cot while attempting to place the infant, dropping the baby into the cot and placing baby prone in the cot. Tully and Ball (2012) also reported that staff spent significantly less time with mother-infant dyads allocated to side-care crib compared to the standard cot.

Maternal perceptions were reported to be positive with a preference for side-car cribs compared to standard cots while on the postnatal ward due to visual and physical access to their baby, facilitation of breastfeeding, ease of settling, and reduced need to call staff for assistance<sup>61</sup>. In some hospitals in the United Kingdom and Belgium, use of side cars has become standard care<sup>62</sup>. There have been no studies on the safety of these devices in the home environment.



### **There has been a reported death in the home using a side-car crib<sup>63</sup>.**

Currently in Australia there are no AS/NZS Standards for side-car cribs or portable sleep spaces, with trials ongoing. If a parent is thinking about using products where there are no AS/NZS Standards, they need to ascertain not only whether the product may be effective but also is it safe to use under all circumstances and where the baby may be unsupervised. It is also important to consider whether there any potential hazards such as entrapment, strangulation, suffocation or fall risks associated with using this product.

**The safety of baby needs to be ensured at all times.**

## Finnish Baby Box:

In Finland, since 1938, parents have been provided with a government-funded maternity package, which includes clothing, bathing products, and a box with a mattress and bedding. Finland had a high infant mortality in the 1930s, 65 per 1000 live births, however mortality declined markedly in the decades that followed. Declines have been attributed to improved prenatal care, a national health insurance scheme, central hospital network and the maternity box, which promotes safe sleeping and breastfeeding<sup>64</sup>. It appears that these boxes can be used as portable sleep spaces, in bed, or adjacent to the parent sleeping environment, however there are currently no published studies describing box use by parents.

## Wahakura:

Many cultures around the world have used devices or spaces to keep their infants close at all times, including during sleep. In New Zealand, the Wahakura is a flax woven portable infant sleeping basket, traditionally used in Maori culture. More recently, use of the Wahakura together with safe sleep messages has been promoted. There are no data examining the safety of the Wahakura, however a randomised controlled trial is currently underway in New Zealand assessing the risks and benefits of this device amongst a sample of predominantly Maori participants<sup>65</sup>.

Measures will include: sleep studies, breastfeeding; smoke exposure (cotinine); salivary oxytocin; and parental and infant psychological evaluations with comparisons between infants randomised into a Wahakura use group and that of infants in a bassinet in the same room as parents being reported<sup>65-66</sup>.

## Pépi-pod Sleep Space and the Pépi-pod Program

### New Zealand:

The Pépi-pod Program originated in New Zealand where it was trialed in 2011 as an emergency response amongst a sample of families displaced during the Christchurch earthquakes<sup>67</sup>.

Modelled on the Wahakura, the Pépi-pod represented a more cost effective and viable safe sleep space alternative using a general purpose polypropylene box that is transformed into an infant bed through the addition of a fabric cover and an upholstery-density water proof tight fitting mattress<sup>67</sup>.

The Pépi-pod Program comprises the safe sleep space, parent education and a family commitment to share their knowledge relating to safe infant sleeping and keeping babies safe. Parent-reported benefits of this program

Red Nose recommends that all babies sleep on their back on a firm, clean and well-fitted mattress that is flat [not tilted or elevated] to reduce the risk of SUDI, including SIDS and fatal sleep accidents.

included: having the baby close; peace of mind; safe bed-sharing; portability; and assistance with infant settling. Evidence of the success of the program in reducing infant death amongst the target population after the program commenced has been sustained since the program commenced in 2011<sup>66</sup> with many NZ health boards now providing the Pépi-pod Program as part of service delivery.

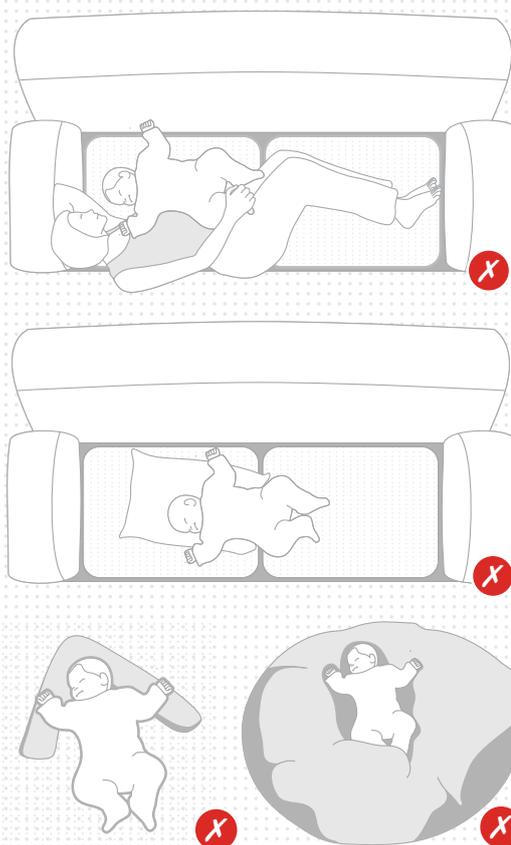
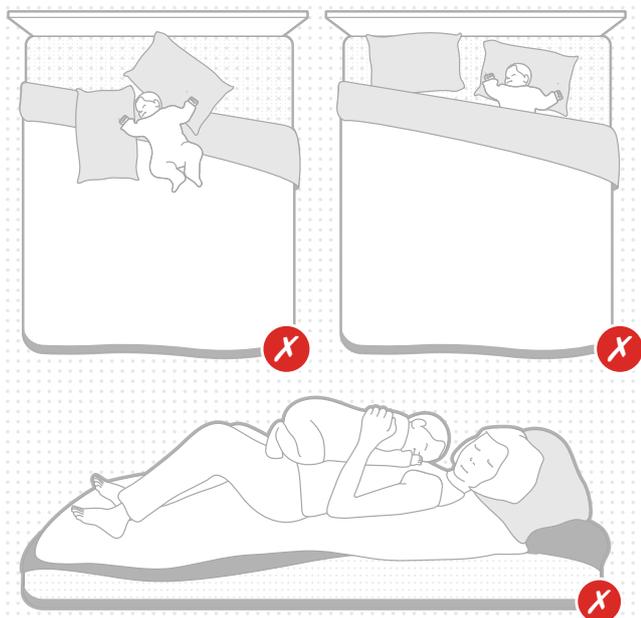
### Australia:

A trial of the Pépi-pod Program, based on original

New Zealand Program, commenced in Queensland in 2013 with participating government and non-government health services providing care for Aboriginal and Torres Strait Islander families. Preliminary results report benefits relating to safety, convenience and portability and integration of the Pépi-pod Program into several health services suggests that the Pépi-pod Program is sustainable long-term<sup>68</sup>. It is also similar to the Coolamon, a shallow, wooden vessel that many Aboriginal families used traditionally to sleep newborns next to their parents.

## Unsafe sleeping places

Pictures with a 'X' are **NOT** safe sleeping places



## Summary and conclusion

**Red Nose recommends that the safest place for a baby to sleep is in a safe cot next to the parents/ adult-caregivers' bed for the first six to twelve months of life as this has been shown to reduce the risk of SUDI, including SIDS and fatal sleeping accidents.**

Red Nose supports a risk minimisation approach to sharing a sleep surface with your baby.

Bed-sharing and co-sleeping are associated with many benefits for babies and their families and is a common and frequently culturally valued practice.

It is important to be aware that there is evidence that sharing a sleep surface with a baby can increase the risk of SUDI and fatal sleeping accidents in some circumstances.

Strategies can be used to reduce the risk of infant death associated with shared sleep environments for all parents; those who choose to bed-share or co-sleep, those who unintentionally fall asleep with their baby and those who may have no other option.

The recommendations made in this Red Nose Information Statement relating to sharing a sleep surface with a baby are consistent with Safe Sleeping Policy Directives now in place in NSW and Queensland<sup>69-70</sup>.

The term 'parent' is used for the purpose of this information sheet; however, Red Nose acknowledges that within families, babies may be cared for by different care-givers.

# Glossary

Definitions of terms used in this position statement and supporting documents:

Term definition/explanation/details	Source
<b>Bed-sharing</b> Bed-sharing refers to bringing baby onto a sleep surface when co-sleeping is possible, whether intended or not.	Young, J., Watson, K., Ellis, L & Raven, L. (2012). Responding to evidence: Breastfeed baby if you can – the sixth public health recommendation to reduce the risk of sudden and unexpected death in infancy. <i>Breastfeeding Review</i> , 20(1): 7-15.
<b>Co-sleeping</b> Co-sleeping is defined as a mother and/or her partner (or any other person) being asleep on the same sleep surface as the baby.	UNICEF Leaflet “Sharing a bed with your baby: A guide for breastfeeding mothers” (May 2008) Retrieved from UNICEF U.K. Baby Friendly Initiative (2004). Babies sharing their mothers’ bed while in hospital: A sample policy. UNICEF UK Baby Friendly Initiative, London. Infant Sleep Information Source (2013) Definitions of terms used on this site. Retrieved from <a href="http://www.isisonline.org/hcp/research_evidence/definitions/">http://www.isisonline.org/hcp/research_evidence/definitions/</a>
<b>Sharing the same sleep surface</b> Includes the practices of bed-sharing and co-sleeping on the same sleep surface. This terminology allows differentiation of the risks associated with solitary sleeping (baby sleeping in a separate room), room-sharing, and environments in which the baby and care-giver share the same sleep surface.	SIDS and Kids (2014) Information Statement: Sleeping with a baby. Original. September, 2007. Melbourne: SIDS and Kids. Retrieved from <a href="http://www.sidsandkids.org">www.sidsandkids.org</a> Queensland Health. (2008) Safe infant care to reduce the risk of sudden unexpected deaths in infancy: Policy statement and minimum practice standards. Brisbane: Maternity, Child Health and Safety Branch, Queensland Health. [ISBN: 9781921447280] Retrieved from <a href="http://www.sidsandkids.org/wp-content/uploads/Safe-Infant-Sleeping-Policy-Statement-and-Guidelines.pdf">http://www.sidsandkids.org/wp-content/uploads/Safe-Infant-Sleeping-Policy-Statement-and-Guidelines.pdf</a>
<b>Room-sharing</b> Refers to sleeping the baby in a cot or other separate sleeping surface in the same room as the parents.	SIDS and Kids (2008) Information Statement: Room-sharing. September, 2008. Melbourne: SIDS and Kids. Retrieved from <a href="http://www.sidsandkids.org">www.sidsandkids.org</a>

The Red Nose Safe Sleeping program is based on scientific evidence and was developed by Australian SUDI researchers, paediatricians, pathologists, and child health experts with input from overseas experts in the field. The 85% reduction in SIDS deaths which has saved more than 10,000 lives is testament to the effectiveness of the program.



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## To reduce the risks of SIDS and fatal sleep accidents

1. Sleep baby on the back from birth, not on the tummy or side
2. Sleep baby with head and face uncovered
3. Keep baby smoke free before birth and after
4. Provide a safe sleeping environment night and day
5. Sleep baby in their own safe sleeping place in the same room as an adult care-giver for the first six to twelve months
6. Breastfeed baby



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1300 998 698 | [rednose.org.au](http://rednose.org.au)  
[education@rednose.org.au](mailto:education@rednose.org.au)



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