# information statement



# bedding amount recommended for safe sleep

Sudden Unexpected Death in Infancy (SUDI) refers to all cases of sudden and unexpected death in infancy and includes deaths from Sudden Infant Death Syndrome (SIDS) and fatal sleeping accidents. Safe sleeping recommendations target known risk factors associated with SUDI. Where studies specifically define the population as SIDS, this specific term will be used to describe the study findings.

Thermal stress (overheating) has been implicated in SIDS and SUDI for many years and avoiding overheating has been one of the strategies to reduce risk of SUDI

#### Key points on how much bedding should be placed on baby in a sleeping environment

- Dress baby and use layers as you would dress or use layers yourself: to be comfortable, neither too hot nor too cold.
- Research has shown that baby's risk of dying suddenly and unexpectedly is increased if baby is sleeping on the tummy and that risk is even further increased if baby

is sleeping on the tummy under heavy bedding or if baby's head becomes covered by bedding in any position. Babies manage heat loss very efficiently when placed on the back to sleep with the head uncovered. Sleep baby on the back and keep baby's head uncovered during sleep to reduce baby's risk of sudden unexpected death.

• Make up baby's bed so baby sleeps at the bottom of the cot and the blankets can only reach as far as baby's chest, ensuring baby cannot move down during sleep and get his/her head covered by bedding.

- Consider using a safe baby sleeping bag (one with fitted neck, armholes or sleeves and no hood).
- Dress baby for sleep and add/remove lightweight blankets to ensure baby's back or tummy feels comfortably warm to the touch.
- Remove hats, bonnets, beanies and hooded clothing from baby's head as soon as baby is indoors.



### Safe cot

(should meet current Australian Standard AS2172)

**Safe mattress** firm, clean, flat, right size for cot

**Safe bedding** soft surfaces and bulky bedding increase the risk of sudden infant death





### more details

Since the introduction of public health programs promoting 'back-to-sleep' to reduce the risk of SUDI, there has been a significant reduction in the number of babies dying suddenly and unexpectedly.<sup>1</sup> However, tragically, around 113 babies die suddenly and unexpectedly every year in Australia<sup>2</sup> and it is important to keep following evidence-based recommendations on ways to avoid risk factors related to baby's sleep environment.<sup>3.4</sup>

The association between overheating and SUDI has been known for several years particularly if baby's head is covered.<sup>5-8</sup> Current research confirms that if your baby becomes too hot, the risk of SUDI is increased.<sup>9</sup> Overheating can be caused by room heating, high body temperature, excessive clothing or bedding and head covering.<sup>10</sup> To reduce the risk of this, Red Nose recommend that you, as baby's parent or carer, use your own judgement, taking into account factors such as where you live (climate, whether it is summer or winter), whether you have heating in the house, and whether baby has a cold or minor illness (which may cause their temperature to rise).

A useful guide is to dress baby as you would dress yourself: to be comfortable, neither too hot nor too cold. If baby has a minor illness and has a temperature it is common for parents or carers to overdress baby for sleep" but in fact, fewer bedclothes should be used or, at times, none at all. If parents or carers are worried that baby is ill they should talk to their baby's doctor and have the baby assessed.

Both hyperthermia (unusually high body temperature) and hypothermia (unusually low body temperature) are important to avoid during infancy.<sup>8</sup>

Baby's face and head should always remain uncovered. Baby's head (particularly the face) is the main route for heat loss.<sup>12</sup> Overheating has been found to be related to SUDI and the risk of overheating is increased if baby is sleeping on the tummy.<sup>5</sup> This is especially dangerous if baby is under heavy bedding as, if baby should roll over onto the tummy, then the risk of overheating is even further increased. In fact, research has shown that babies sleeping on the tummy are at ten-fold the risk of SUDI while sleeping in a heated room.<sup>6</sup>

Increased temperature has been shown to alter infant physiology by increasing respiratory and heart rate and in some studies the frequency of central apnoeas. Increased temperature, whether due to head covering or by increasing room temperature depresses arousal responses and reduces autonomic control of heart rate.<sup>13-16</sup> Both impaired respiratory control, arousal from sleep and autonomic cardiovascular control have been implicated in the final mechanism of SIDS.<sup>9,17</sup>

## bedding for babies who have a cold

Research has shown that babies with symptoms of a common cold are often given more bedding than they need due to care giver concerns that babies showing signs of a cold need to be kept very warm.<sup>11</sup> In fact, providing assistance to babies with a common cold to effectively regulate their temperature is very important. This can be best achieved by placing them on the back to sleep with the head uncovered and removing some bedding or clothing. If baby is overly warm to touch, or showing signs of heat stress (irritability, looking unwell, floppy, drier skin, refusing to drink or having fewer wet nappies than usual) then see your doctor or health professional immediately.

# can we say exactly how many blankets to use when baby is placed to bed?

The simple answer is – **No**. Red Nose recommend that rather than state how many bedclothes can be safely placed on a baby, parents can work out the amount of bedding to be used after considering these factors:

- 1. The room temperature where baby is sleeping.
- 2. How hot does the baby feel? A good way to check baby's temperature is to feel baby's back or tummy (don't worry if baby's hands and feet feel cool this is normal).
- 3. Whether the baby has a cold or infection or another special need.
- 4. Consider how many layers that you as the baby's carer are wearing comfortably.

Sleeping baby in a safe baby sleeping bag: one designed especially for baby with fitted neck and armholes and no hood, has a number of features that help baby sleep safely. Research has shown that sleeping bag use will reduce the risk of bedclothes covering the baby's face, will delay baby rolling onto the tummy during sleep until baby is past the

age of peak risk of SUDI, promotes supine sleep as the zipper opens to the front<sup>18</sup> and will keep baby's temperature at a more constant level while sleeping at home.<sup>19</sup>

If blankets are being used instead of a sleeping bag, it is best to use light weight blankets in layers that can be added or removed easily according to the room temperature and which can be tucked underneath the mattress. (For more information on how to prepare baby's cot for sleep, see brochure Making Up Baby's Cot).<sup>20</sup>

Always remove hats or bonnets or beanies from baby as soon as you come indoors or enter a warm car, bus or train, even if it means waking the baby.<sup>21</sup>Never use electric blankets, wheat bags or hot water bottles for babies.

\*For more information on this topic, see the Red Nose Information Statement on Room Temperature.<sup>22</sup>

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 80% drop in SIDS deaths and the more than 9,000 lives that have been saved is testament to the effectiveness of the program.



### references

- 1. Tursan d'Espaignet, E., Bulsara, M., Wolfenden, L., Byard, R. W., & Stanley, F. J. (2008). Trends in Sudden Infant Death Syndrome in Australia from 1980 to 2002. *Forensic Science, Medicine, and Pathology, 4*(2), 83-90.
- 2. Australian Bureau of Statistics (2011-). 3303.0 Causes of Death, Australia, 2009-. Canberra, ABS. Retrieved from http://www.abs.gov.au/ausstats/abs@.nsf/mf/3303.0.
- 3. International Society for the Prevention of Perinatal and Infant Death (2013). How to Keep Your Baby Healthy and Reduce the Risk of Sudden Infant Death (SIDS). Retrieved from http://www.ispid.org/prevention.html.
- 4. Mitchell, E.A. & Blair, P. S. (2012). SIDS prevention: 3000 lives saved but we can do better. *New Zealand Medical Journal*, *125*(1359):50-7.
- Fleming, P.J., Gilbert, R., Azaz, Y., et al. (1990) Interaction between bedding and sleeping position in the Sudden Infant Death Syndrome: A population based case-control study. *British Medical Journal*, 301(6743): 85–89.
- 6. Ponsonby A-L, Dwyer T, Gibbons LE, Cochrane JA, Jones ME, McCall MJ. (1992). Thermal environment and Sudden Infant Death Syndrome: Case-control study. *BMJ.* 304(6822):277–282.
- 7. Ponsonby ,A-L., Dwyer, T., Gibbons, L.E., Cochrane, J.A. & Wang, Y.G. (1993). Factors potentiating the risk of Sudden Infant Death Syndrome associated with the prone position. *N Engl J Med.* 329(6):377–382.
- 8. Stanton, A.N. (1984). Sudden infant death. Overheating and cot death. Lancet, 2(8413):1199-201.
- 9. Kinney, H. C., & Thach, B. T. (2009). The Sudden Infant Death Syndrome. *New England Journal of Medicine,* 361(8), 795-805.
- 10. Byard, R.W. & Krous, H.F. (Eds.) (2001). Sudden Infant Death Syndrome: Problems, Progress and Possibilities. London: Arnold.
- 11. Rognum, T. O. (2001) Definition and pathologic features. In Byard, R. W. & Krous, H. F. (eds). Sudden Infant Death Syndrome: problems, progress, and possibilities. London: Arnold.
- 12. Wailoo MP, Petersen SA, Whittaker H, & Goodenough P. (1989) The thermal environment in which 3-4 month old infants sleep at home. *Arch Dis Child.* 64(4): 600-4.
- Franco, P., Szliwowski, H., Dramaix, M., & Kahn, A. (2000). Influence of ambient temperature on sleep characteristics and autonomic nervous control in healthy infants. *Sleep*, 23(3), 401-407.
- 14. Franco, P., Scaillet, S., Valente, F., Chabanski, S., Groswasser, J., & Kahn, A. (2001). Ambient temperature is associated with changes in infants' arousability from sleep. *Sleep*, *24*(3), 325-329.
- 15. Franco, P., Lipshutz, W., Valente, F., Adams, S., Scaillet, S., & Kahn, A. (2002). Decreased arousals in infants who sleep with the face covered by bedclothes. *Pediatrics*, *109*(6), 1112-1117.
- 16. Franco, P., Lipshut, W., Valente, F., Adams, S., Groswasser, J., & Kahn, A. (2003). Cardiac autonomic characteristics in infants sleeping with their head covered by bedclothes. *Journal of Sleep Research, 12*(2), 125-132.
- 17. Harper, R.M. (2000). Sudden Infant Death Syndrome: A failure of compensatory cerebellar mechanisms? *Pediatric Research, 48*(2): 140-2.
- L'Hoir, M. P., Engelberts, A. C., van Well, G., McClelland, S., Westers, P., Dandachli, T., ... & Huber, J. (1998). Risk and preventive factors for cot death in The Netherlands, a low-incidence country. *European Journal of Pediatrics*, 157(8), 681-688.
- Sauseng, W., Kerbl, R., Thaller, S., Hanzer, M., & Zotter, H. (2011). Baby Sleeping Bag and Conventional Bedding Conditions-Comparative Investigations by Infrared Thermography. *Klinische Pädiatrie, 223*(05), 276-279.
- Fleming PJ, Blair PS, Bacon C, Bensley D, Smith I, Taylor E, Berry J, Golding J, Tripp J. (1996) Environment of infants during sleep and risk of the Sudden Infant Death Syndrome: Results of 1993–95 case-control study for confidential inquiry into stillbirths and deaths in infancy. *British Medical Journal*, 313(7051): 191-195.
- 21. SIDS and Kids. (2014). *Making up baby's cot.* Retrieved from http://www.sidsandkids.org/safe-sleeping/making-up-babys-cot/.
- 22. SIDS and Kids. National Scientific Advisory Group (NSAG).( 2007). Information Statement: Room temperature. Melbourne: National SIDS Council of Australia. Retrieved from http://www.sidsandkids.org/safe-sleeping/ information-statements/.



### 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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