



Anne Greenough

MD, FRCP, FRCPCH, DCH,
Professor of Neonatology
and Clinical Respiratory
Physiology,
Head,
King's College London,
School of Medicine,
Newborn Unit,
King's College Hospital

Prematurely born infants and sudden infant death syndrome

Prematurely born infants are at increased risk of sudden infant death syndrome (SIDS). The proportion of infants dying of SIDS who are born prematurely is rising; a population-based study demonstrated that there was an increase from 12 to 34% between 1988 and 2003. The Foundation for the Study of Infant Deaths' premature baby campaign aimed at reducing the risk of SIDS in prematurely born infants is, therefore, very welcome.

The increased risk of SIDS in infants placed in the prone compared to the supine position is well documented, the odds ratio for prone sleeping being 13.9. The adverse effect of prone sleeping is even greater in prematurely born infants; the odds ratio for SIDS and prone sleeping in prematurely born infants is 48.4. The *Reduce the Risk of Cot Death* campaign has successfully promoted supine sleeping with a corresponding decrease in SIDS rates. Yet, studies have demonstrated that some babies, including those born prematurely, are still being slept prone at the high-risk age for SIDS.

Several studies have highlighted that parents are strongly influenced by practitioners with regard to their choice of sleeping position for their infant. Results of a survey of parents of 100 healthy infants, highlighted that perceptions by parents of instructions from a doctor or nurse regarding the position in which infants should be placed in a nursery were associated with the position parents reported placing their infants to sleep at home¹. Similarly, in another study², mothers of prone sleeping, very low birthweight infants frequently reported the influence of medical professionals and nursery practices as most important in their choice of sleeping practice. It is, therefore, of concern that our recent survey³ demonstrated that only 38% of neonatal units actively discouraged prone sleeping after discharge from the neonatal unit and disappointing that active discouragement of prone sleeping was less common than when a similar survey had been performed in 2001-2002. Our survey highlighted that only 33% of units had a written policy for their staff. Accordingly FSID has produced a professional leaflet entitled *Time to get back to sleep*, containing information for professionals on reducing the risk of cot death for prematurely born infants. This leaflet is available to download now from the FSID website (www.fsid.org.uk) and will be mailed out to units. It should be available to all staff on all neonatal

units, so that they can appropriately advise parents about their infant's sleeping position on discharge home.

Some parents may sleep their babies prone because they have concerns regarding the supine sleeping position, so practitioners need to fully discuss these worries and reassure parents. A survey of 400 mothers of infants aged six weeks to four months⁴ highlighted that one third had concerns about their infant's head shape; other concerns were aspiration of vomit and poor quality sleep. The information in such documents as *Protecting your baby's head shape*⁵ should be made available and the message "Back to sleep, front for play and upright for cuddles and hugs" emphasised, as in Hutchinson et al's discussion of their survey results⁴. Equally parents need to be informed that there is no evidence of a raised risk of aspiration-related deaths in infants who are slept supine⁶.

One of the reasons some practitioners gave for continuation of prone sleeping for prematurely born infants was the perceived increased risk of gastro-oesophageal reflux in the supine position and the likelihood that associated problems, such as apnoea, might be less in the prone position³. The results of our study of 21 prematurely born, asymptomatic infants being prepared for discharge did not demonstrate such adverse effects of the prone position⁷. Although, the acid reflux index was significantly higher in the supine compared to the prone position, it was low in both positions (median 3% versus 0%), 15% being the usual level at which treatment is considered. In addition, we demonstrated no statistically significant correlation between the amount of acid gastro-oesophageal reflux and the number of either obstructive or total apnoeas in either the prone or the supine positions⁷.

It has been observed that prematurely born infants may sleep for longer if they are slept prone rather than supine. However in convalescent prematurely born infants studied at a post-menstrual age of 37 weeks, the greater sleep efficiency in the prone compared to the supine position, was associated with significantly more central apnoeas and less awakenings and arousals⁸. A reduced ability to arouse may contribute to prematurely born infants' vulnerability to SIDS in the prone position.

Unless there are exceptional circumstances, such

as certain upper airway problems that necessitate prone sleeping, practitioners should be recommending supine sleeping for all prematurely born infants when discharged home. Chronically oxygen dependent infants may require greater concentrations of supplementary oxygen when slept supine⁹ and parents need to be advised accordingly and counselled that this does not mean their infant's lung disease has worsened. Supine sleeping should be started several weeks before discharge from the neonatal unit so that parents are reassured that this practice is safe and recommended by neonatal practitioners.

References

1. **Colson E.R., Bergman D.M., Shapiro E., Leventhal J.H.** Position for newborn sleep: associations with parents' perceptions of their nursery experience. *Birth* 2001; **28**: 249-53.
2. **Vernacchio L., Corwin M.J., Lesko S.M. et al.** Sleep position of very low birthweight infants. *Pediatrics* 2003; **111**: 633-40.
3. **Rao H., May C., Hannam S., Rafferty G.F., Greenough A.** Survey of sleeping position recommendations for prematurely born infants on neonatal intensive care unit discharge. *Eur J Pediatr* 2007; **166**: 809-11.
4. **Hutchison L., Stewart A., Mitchell E.** Infant sleep position, head shape concerns and sleep positioning devices. *J Pediatr Child Health* 2007; **43**: 243-48.
5. **Education for Change.** Protecting your baby's head shape. New Zealand: Christchurch, 2000. Available from: <http://www.health.govt.nz/uploads/docs/Prot%20Baby%20Head.pdf>
6. **Malloy M.H.** Trends in postneonatal aspiration deaths and reclassification of sudden infant death syndrome: impact of the 'Back to Sleep' program. *Pediatrics* 2002; **109**: 661-65.
7. **Bhat R.Y., Rafferty G., Hannam S., Greenough A.** Acid gastro-esophageal reflux in convalescent preterm infants – effect of posture and relationship to apneas. *Pediatr Res* 2007; **62**: 620-23.
8. **Bhat R.Y., Hannam S., Pressler R., Rafferty G.F., Peacock J.L., Greenough A.** Effect of prone and supine position on sleep, apneas and arousal in preterm infants. *Pediatrics* 2006; **118**: 101-07.
9. **Bhat R.Y., Leipala J.A., Singh N.R., Rafferty G.F., Hannam S., Greenough A.** Effect of posture on oxygenation, lung volume, and respiratory mechanics in premature infants studied before discharge. *Pediatrics* 2003; **112**: 29-32.

In memory of a well-loved colleague

Stevie Boyd's name will be well known to readers of *Infant*, the *Journal of Neonatal Nursing* and the *Nursing Times* to which she contributed many articles and news items over the past few years. It is with sadness that we have to report that Stevie died in Addenbrookes hospital in April.

It was typical of Stevie that she sent me a message just as she was about to be admitted for surgery "that she would be unable to meet a publishing deadline". I have known Stevie since she was a student at The Hospital for Sick Children, Great Ormond Street, as a 'GT' (as those students already trained in adult nursing care were known). Previously she had qualified at the Norfolk and Norwich hospital as an SRN, but she had always been interested in working with the newborn and realised that she needed a paediatric qualification for this.

During the subsequent years our paths crossed a few times by which time she was married with a young family of her own and living in her home town again. She now worked in the neonatal unit at the Norfolk and Norwich hospital. Stevie also continued with her own professional development acquiring a BSc in Nursing.

When next we met up, Stevie was bursting with enthusiasm for her work with neonates, embracing new technology with a commitment that was impressive to one who is rather a 'technological luddite'. Stevie was able to help me many times with computer problems and when I had finally achieved what I needed to do, she would say "Now that was easy, wasn't it?"

Stevie published many original papers from the use of infant car seats to latex allergy in the newborn and also contributed chapters to the first edition 'Neonatal Intensive Care Nursing' (Routledge, 2000). She also had her own regular feature in *Infant* entitled 'Hot topics from the web'. She was totally reliable in meeting publication deadlines and was thoroughly professional in her presentation and acknowledgements and always a good read. We will miss her!

Barbara F Weller
Nursing Editor
May 2008

