



**National
Association of
Neonatal
Nurses**

Cobedding of Twins or Higher-Order Multiples

Position Statement #3053

NANN Board of Directors
July 2011

Multiple-birth infants represent a significant proportion of the total daily census in many neonatal intensive care units. As the professional voice of neonatal nursing, the National Association of Neonatal Nurses (NANN) recommends that neonatal nurses develop clinical protocols to address the care needs of this growing population to ensure that they receive optimal care.



Association Position

The existing scientific data are insufficient to either support or reject the practice of cobedding multiple-birth infants in the hospital setting. Neonatal unit staffs that choose to implement cobedding should do so after developing a clinical evaluation protocol and using it to collect data on the safety and benefits of the practice. Nurse researchers should continue to build a body of knowledge on the short- and long-term effects of cobedding multiple-birth infants. In the meantime, parents should be encouraged to follow established national guidelines for establishing a safe sleep environment in the home.

Background and Significance

Cobedding is the placement of two or more multiple-birth infants in the same crib, bed, or incubator. The close proximity of a multiple sibling is thought to replicate the intrauterine environment and ease extrauterine transition. Reports of twins sharing a bed in the neonatal intensive care unit (NICU) first appeared in the lay literature about 15 years ago (Elliot, 1996; Sheehan, 1995). An unstable premature twin showed signs of improvement in heart rate, breathing, and sleeping when placed close to her sibling in the same incubator (Sheehan, 1995, 1996). Since its introduction in the United States, the bedding of multiples together in a single crib has been widely accepted as part of developmental care practice in the NICU (Byers, 2003).

Limited scientific evidence supports cobedding for hospitalized multiple-birth infants. The majority of articles appearing in the medical literature are case reports (Altimier & Sherrod, 2001; Swinth, Nelson, Hadeed, & Anderson, 2000), commentaries (Bingham, 1997; Gannon, 1999; Lutes, 1996), small observational studies (Longobucco, Bernstein, & Rossi, 2002; Lutes & Altimier, 2001; Nygvist & Lutes, 1998), guidelines (Dellaporta, Alforismo, & Butler-O'Hara, 1998), and literature reviews (Boyd, 2001; Hayward, 2003; Tomashek, Wallman, & the Committee on the Fetus and Newborn, American Academy of Pediatrics [AAP], 2007). The most recent comprehensive review of the literature examined published studies from 2000 to 2006, including findings from two descriptive studies and eight analytic studies (Tomashek et al.).

Outcome measures identified in the cobedding literature include length of stay (Longobucco et al., 2002; Polizzi, Byers, & Kiehl, 2003), incidence of infection (LaMar & Dowling, 2006; LaMar & Taylor, 2004), physiologic or behavioral changes (Byers, Yovaish, Lowman, & Francis, 2003; Chin, Hope, & Christos, 2006; Longobucco et al.; Orlando, 2007; Stainton, Jozsa, & Fethney, 2005), weight gain and growth (Byers et al.; Chin et al.; Longobucco et al.; Lutes & Altimier, 2001), sleep and respiratory patterns (Touch, Epstein, Pohl, & Greenspan, 2002), and parent satisfaction (Byers et al.; Polizzi et al.; Stainton et al.). Major limitations of these studies include small sample size and nonexperimental design.

Infant safety and risk of sudden infant death syndrome (SIDS) are major concerns among healthcare providers. The relationship between SIDS and cobedding of multiples in the NICU has not been established. However, preterm infants are known to be at an increased risk of SIDS (Thompson & Mitchell, 2006). When gestational age and birth weight are considered, the risk increases for multiple-birth infants who are often born preterm and small for gestational age (Getahun, Demissie, Lu, & Rhoads, 2004; Malloy & Freeman, 1999). No studies examine cobedding in the hospital setting in association with later occurrence of SIDS.

A significant association exists between hospital-based and home sleeping practices (Colson, Bergman, Shapiro, & Levant, 2001; Polizzi et al., 2003). There is concern that parents will model nonsupine sleep positions and cobedding practices observed in the NICU when their infants are in the home environment. No studies conducted in the United States have examined cobedding of multiple-birth infants in the home environment. Ball (2006, 2007) examined postdischarge sleeping arrangements of healthy full-term twins less than 3 months of age in England. The two-phase study included home cobedding and sleep lab conditions. Healthy full-term twins were supine for the majority of sleep time and showed no detrimental effects during monitoring in the sleep lab phase. Hutchison, Stewart, and Mitchell (2010) also examined postdischarge cobedding and SIDS-related child care practices in full-term and preterm twin infants at 6 weeks, 4 months, and 8 months. The authors found cobedding to be very popular at 6 weeks, but they did not endorse the practice because of lack of evidence about its safety in relation to the risk of SIDS. Australian parents reported continuation of cobedding at home from 3 weeks to 9 months following cobedding in the hospital (Stainton et al., 2005).

The relationship between bed sharing by an infant and an adult (also known as cosleeping) and SIDS is controversial (AAP, 2005; Hauck et al., 2003; Horsley et al., 2007). The AAP's Task Force on Sudden Infant Death Syndrome (2005) outlined 11 recommendations for safe sleep. One recommendation is for a separate but proximate sleeping environment: infants may sleep in the same room as the mother but should be in a separate crib, bassinet, or cradle.

Recommendations

1. Further research that examines the short- and long-term effects of cobedding hospitalized multiple-birth infants should be conducted. Data collection and evaluation should be an integral part of cobedding protocols to determine infant response.
2. Parents' input should be considered in the decision to implement cobedding for their hospitalized infants.
3. Nurses should be educated about the latest national guidelines (AAP, 2005) for care of NICU graduates so that they in turn can educate parents about recommended postdischarge practices for safe sleep environments. Neonatal nurses should teach parents how to reduce the risk of SIDS in

the home environment by modeling safe sleep practices (Aris et al., 2006). Modeling safe sleep begins before hospital discharge as preterm infants are transitioned to the recommended sleep position (on their backs). Protocols must include safe-sleep positioning with infants back-lying while cobedding (Grazel, Phalen, & Polomano, 2010).

Conclusions

From the standpoint of developmental theory, the underlying principles of cobedding may be reasonable. No studies on cobedding hospitalized multiple-birth infants have been conducted since publication of NANN's previous position statements on the topic in 2006 and 2008. Research on the short-term benefits of cobedding is limited, and no studies examine long-term effects. Reported benefits have not been substantiated by controlled clinical studies, and the majority of published studies are limited by small sample size and lack of experimental design. The current body of knowledge remains insufficient to permit endorsement or rejection of the practice of cobedding hospitalized multiple-birth infants. Questions remain about the timing and duration of cobedding and the circumstances under which cobedding should be practiced in the NICU.

Interest in determining best practice for care of multiple-birth infants in the NICU environment continues. Multicenter trials are in progress to address the impact of cobedding on the family and coregulation of the infant and to measure infant stress by examining salivary cortisol levels (Hayward et al., 2007; K. Hayward, personal communication, October 9, 2008). Neonatal nurse researchers should continue to focus on conducting well-designed studies that will produce evidence needed to guide best practice in the care of multiple-birth infants.

References

- Altimier, L., & Sherrod, J. (2001). Co-bedding quadruplets. *Newborn and Infant Nursing Reviews*, 1(4), 205–206.
- American Academy of Pediatrics, Task Force on Sudden Infant Death Syndrome. (2005). The changing concept of sudden infant death syndrome: Diagnostic coding shifts, controversies regarding the sleep environment, and new variables to consider in reducing risk. *Pediatrics*, 116(5), 1245–1255.
- Aris, C., Stevens, T., Lemura, C., Lipke, B., McCullen, S., Cote-Arsenault, D., et al. (2006). NICU nurses' knowledge and discharge teaching related to infant sleep position and risk of SIDS. *Advances in Neonatal Care*, 6(5), 281–294.
- Ball, H. L. (2006). Caring for twin infants: Sleeping arrangements and their implications. *Evidence Based Midwifery*, 4(1), 10–16.
- Ball, H. L. (2007). Together or apart? A behavioural and physiological investigation of sleeping arrangements for twin babies. *Midwifery*, 23, 404–412.
- Bingham, R. (1997). Let's spend the night together. *Neonatal Network*, 16(2), 54.

- Boyd, S. (2001). Multiple gestation infants and co-bedding. *Journal of Neonatal Nursing, 7*(3), 95–100.
- Byers, J. F. (2003). Components of developmental care and the evidence for their use in the NICU. *MCN: The American Journal of Maternal Child Nursing, 28*(3), 174–180.
- Byers, J. F., Yovaish, W., Lowman, L. B., & Francis, J. D. (2003). Co-bedding versus single-bedding premature multiple-gestation infants in incubators. *Journal of Obstetric, Gynecologic, and Neonatal Nursing, 32*(3), 340–347.
- Chin, S., Hope, L., & Christos, P. (2006). Randomized controlled trial evaluating the effects of cobedding on weight gain and physiologic regulation in preterm twins in the NICU. *Advances in Neonatal Care, 6*(3), 142–149.
- Colson, E. R., Bergman, D. M., Shapiro, E., & Leventhal, J. (2001). Position for newborn sleep: Associations with parents' perceptions of their nursery experience. *Birth, 28*(4), 249–253.
- Dellaporta, K., Alforismo, D., & Butler-O'Hara, M. (1998). Co-bedding of twins in the neonatal intensive care unit. *Pediatric Nursing, 24*, 529–531.
- Elliot, L. (1996, October). Ahead of their time. *Washingtonian*, pp. 74–79, 121–129.
- Gannon, J. (1999). So happy together. *Neonatal Network, 18*(8), 39–40.
- Getahun, D., Demissie, K., Lu, S., & Rhoads, G. (2004). Sudden infant death syndrome among twin births: United States, 1995–1998. *Journal of Perinatology, 24*, 544–551.
- Grazel, R., Phalen, A. G., & Polomano, R. C. (2010, December). Implementation of the American Academy of Pediatrics recommendations to reduce sudden infant death syndrome in neonatal intensive care units: An evaluation of nursing knowledge and practice. *Advances in Neonatal Care, 10*(6), 332–342.
- Hauck, F. R., Herman, S. M., Donovan, M., Iyasu, S., Moore, C., Donoghue, E., et al. (2003). Sleep environment and the risk of sudden infant death syndrome in an urban population: The Chicago Infant Mortality Study. *Pediatrics, 111*(5), 1207–1214.
- Hayward, K. (2003). Cobedding: A natural extension of the socialization process? *MCN: The American Journal of Maternal Child Nursing, 28*(4), 260–263.
- Hayward, K., Campbell-Yeo, M., Price, S., Morrison, D., Whyte, R., Cake, H., et al. (2007). Co-bedding twins: How pilot study findings guided improvements in planning a larger multicenter trial. *Nursing Research, 56*(2), 137–143.
- Horsley, T., Clifford, T., Barrowman, N., Bennett, S., Yazdi, F., Sampson, D., et al. (2007). Benefits and harms associated with the practice of bed sharing. *Archives of Pediatrics and Adolescent Medicine, 161*, 237–245.
- Hutchison, B. L., Stewart, A. W., & Mitchell, E. A. (2010, December). The prevalence of cobedding and SIDS-related child care practices in twins. *European Journal of Pediatrics, 169*(12), 1477–1485.
- LaMar, K., & Dowling, D. (2006). Incidence of infection for preterm twins cared for in cobedding in the neonatal intensive-care unit. *Journal of Obstetric, Gynecologic and Neonatal Nursing, 35*(2), 193–198.

- LaMar, K., & Taylor, C. (2004). Incidence of infection for coted twin infants. *Journal of Neonatal Nursing, 10*(6), 197–200.
- Longobucco, D., Bernstein, B., & Rossi, D. (2002). To co-bed or not to co-bed? A comparative study of co-bedded versus individually bedded multiple birth infants. *Pediatric Research, 47*, 413A.
- Lutes, L. (1996). Bedding twins/multiples together. *Neonatal Network, 15*(7), 61–62.
- Lutes, L., & Altimier, L. (2001). Co-bedding multiples. *Newborn and Infant Nursing Reviews, 1*, 242–246.
- Malloy, M. H., & Freeman, D. H. (1999). Sudden infant death syndrome among twins. *Archives of Pediatric and Adolescent Medicine, 153*, 736–740.
- Nygvist, K. H., & Lutes, L. M. (1998). Co-bedding twins: A developmentally supportive care strategy. *Journal of Obstetric, Gynecologic and Neonatal Nursing, 27*(4), 450–456.
- Orlando, S. M. (2007). The effects of co-bedding hospitalized multiple birth infants on selected physiologic variables and behavioral cues (Doctoral dissertation, Louisiana State University Health Sciences Center School of Nursing, 2007). *Dissertation Abstracts International, B68/06*.
- Polizzi, J., Byers, J. F., & Kiehl, E. (2003). Co-bedding versus traditional bedding of multiple-gestation infants in the NICU. *Journal for Healthcare Quality, 25*(1), 5–11, 60.
- Sheehan, N. (1995, November 19). Sisters kept close. *Worcester Sunday Telegram*, pp. 1, 10.
- Sheehan, N. (1996). A sister's helping hand. *Reader's Digest, 148*, 155.
- Stainton, C., Jozsa, E., & Fethney, J. (2005). Responses to co-bedding of low birth weight twins in neonatal intensive care. *Neonatal, Paediatric and Child Health Nursing, 8*(2), 4–12.
- Swinth, J. Y., Nelson, L. E., Hadeed, A., & Anderson, G. C. (2000). Shared kangaroo care for triplets. *MCN: The American Journal of Maternal Child Nursing, 25*, 214–216.
- Thompson, J. M., & Mitchell, E. A. (2006). Are the risk factors for SIDS different for preterm and term infants? *Archives of Diseases in Childhood, 91*, 107–111.
- Tomashek, K. M., Wallman, C., & the Committee on the Fetus and Newborn, American Academy of Pediatrics. (2007). Coted twins and higher-order multiples in a hospital setting. *Pediatrics, 120*(6), 1359–1366.
- Touch, S. M., Epstein, M. L., Pohl, C. A., & Greenspan, J. S. (2002). The impact of cotedding on sleep patterns in preterm twins. *Clinical Pediatrics, 41*, 425–431.

Bibliography

- Altimier, L., & Lutes, L. (2000). Changing units for changing times: The evolution of a NICU. *Neonatal Intensive Care, 13*(6), 23–27.

- Blair, P. S., Platt, M. W., Fleming, P., & the CESDI SUDI Research Group. (2006). Sudden infant death syndrome and sleeping position in pre-term and low birth weight infants: An opportunity for targeted intervention. *Archives of Diseases in Childhood*, 91, 101–106.
- Browne, J., Lockwood, L., & Roth, J. (2000, January/February). *Cobedding plural birth infants: Experience of ten Colorado neonatal intensive care units*. Paper presented at “The Physical and Developmental Environment of the High Risk Infant: Research and Science for Care and Caregiving,” Clearwater Beach, FL.
- Hudson-Barr, D. (2003). Should nurses promote cobedding of multiples? Pro. *MCN: The American Journal of Maternal Child Nursing*, 28(6), 348.
- Leonard, L. G. (2002). Prenatal behavior of multiples: Implications for families and nurses. *Journal of Obstetric, Gynecologic, and Neonatal Nursing*, 31(3), 248–255.
- Lewallen, L. P. (2003). Should nurses promote cobedding of multiples? Con. *MCN: American Journal of Maternal Child Nursing*, 28(6), 349.
- Nyqvist, K. H. (2002). Breast-feeding in preterm twins: Development of feeding behavior and milk intake during hospital stay and related caregiving practices. *Journal of Pediatric Nursing*, 17(4), 246–256.
- Starr, K. P., Melick, C. F., & Wong, S. J. (2004, February). A randomized comparison of risk of sepsis, length of stay and hospital cost of cobedded twins and higher order multiples with those separated at birth. Poster session presented at “The Physical and Developmental Environment of the High Risk Infant: Research and Science for Care and Caregiving,” Clearwater Beach, FL.
- Tyralla, E. & Chung, E. (2008). Cobedding twins and higher-order multiples. *Pediatrics*, 121(5), 1073. Response to Tomashek, K. M., Wallman, C., & Committee on Fetus and Newborn, American Academy of Pediatrics. (2007). Cobedding twins and higher-order multiples in a hospital setting. *Pediatrics*, 120(6), 1359–1366.

Copyright © 2011 by the National Association of Neonatal Nurses. No part of this statement may be reproduced without the written consent of the National Association of Neonatal Nurses.



**National
Association of
Neonatal
Nurses**

4700 W. Lake Avenue, Glenview, IL 60025-1485
800.451.3795 • 847.375.3660 • Fax 866.927.5321
www.nann.org