

# SUDDEN INFANT DEATH (SIDS) FACTS FOR NURSES

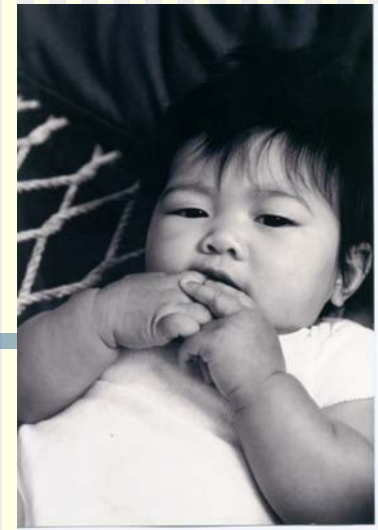
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# Parent Quote

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- "The hardest thing for us is that we were not given the information. You can only go by what you are provided with." 28

# Sudden Infant Deaths

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- 4500 annually in United States
- Half SIDS, half sudden unexpected infant death
- 90 SIDS in Virginia in 2005
- 13 undetermined sudden infant deaths

# RISK FACTORS FOR SIDS

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- Decreasing gestational age 2
- Lower birthweight 2
- Placed prone or sidelying 15
- Between 2-4 months age 2,10,19,22,38
- Native American, African American and Hispanic 10,18,22,24,33
- Neonatal Intensive Care Unit (NICU) admission 9
- Occurrence-60% males/40% females 37



# WHICH INFANTS ARE AT GREATEST RISK?



- The lower the gestational age the higher the risk of SIDS <sup>29,38</sup>
- The lower the birthweight the higher the risk of SIDS <sup>29,38</sup>
- A combination of these increases the risk by more than each factor alone <sup>29</sup>

# INCREASING THE ODDS

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- A preterm infant <37 weeks sleeping prone is 85 times more likely to die of SIDS <sup>29</sup>
- A preterm infant sidelying is 40 times more likely to die of SIDS <sup>29</sup>



# HIGH ALERT!

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- Low birthweight and early gestation infants are at the highest risk for SIDS. <sup>29</sup>
- These infants are more likely to be placed prone at 2-4 months during the peak incidence for SIDS. <sup>1</sup>

# WEIGHT MATTERS TOO!

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- Low birthweight infant <2500 grams sleeping prone is 83 times more likely to die of SIDS <sup>29</sup>
- Low birthweight infant sidelying is 36 times more likely to die of SIDS<sup>29</sup>



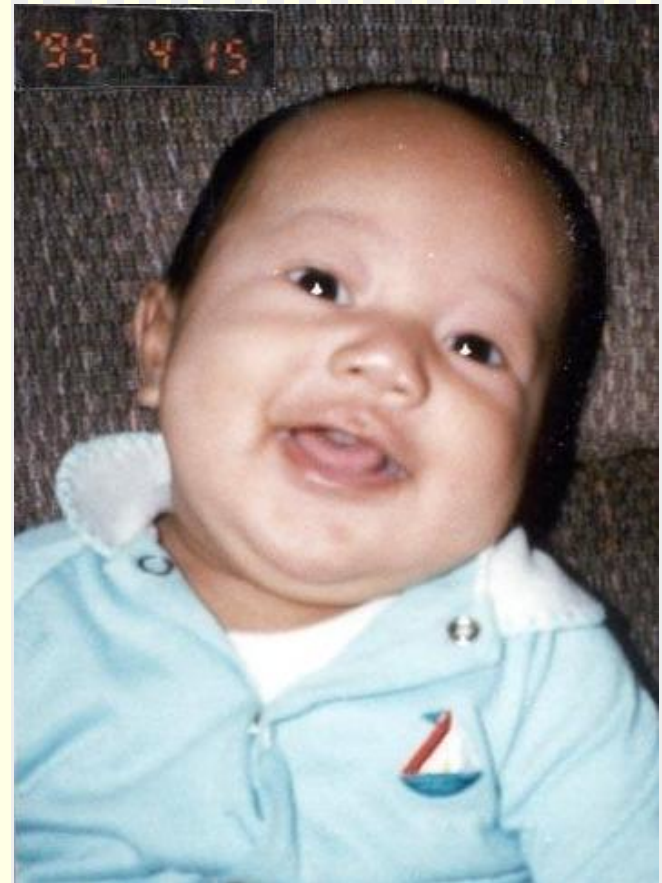
# Answer questions 1-2

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- 1. Name one risk factor that is associated with SIDS.
  - a. Placed supine
  - b. Between 12-14 months age
  - c. Native American, Native American or Hispanic
  
- 2. Which infants are at greatest risk?
  - a. A low birth weight infant or infant born prematurely sleeping on his side or prone
  - b. A premature infant sleeping on his side or prone
  - c. An infant born with an anomaly
  - d. a & b
  - e. All

# Parent Quote

- “The main reason parents, and why I didn’t put my baby on his back to sleep is because he would choke. That is not true. He has the same reflexes as an adult or toddler to turn his head.” 28





# WHO STILL NEEDS TO BE CONVINCED ABOUT THE FACTS?

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- African American, Hispanic, and American Indian SIDS rates have not decreased as much as the Caucasian population 10,18,22,24
- These populations may not be receiving the vital message of placing their infants on their back to sleep 22,24
- Evidence shows that nurses and other health care professionals are inconsistent with teaching current recommendations for safe sleep. 5,14

# NICU ADMISSIONS


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- While we know that preterm infants are at higher risk for SIDS, full term infants were more than twice as likely to die of SIDS if they were admitted to a NICU. 9

# WHEN DOES SIDS OCCUR?

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- SIDS can occur between 21 days and 9 months of age (Recent proposal for classification). 
- Peak incidence between 2 and 4 months. 2,22,38
- More SIDS deaths occur in fall & winter months.
- The risk is higher and the incidence could potentially extend to one year for premature infants. 2

# Answer questions 3-5

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- 3. African Americans, Hispanic and Native Americans have lower rates of SIDS.

T or F

- 4. If an infant was admitted to a NICU they are more at risk for SIDS.

T or F

- 5. Peak incidence of SIDS is at:
  - a. 1-2 months
  - b. 2-4 months
  - c. 6-7 months

# THEORIES THE EXPERTS THINK MAY CAUSE SIDS

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- Impaired cardiorespiratory control 2,12
- Hyperthermia 12,29,39
- Rebreathing expired CO<sub>2</sub> 12,14,39
- Neurologic Maldevelopment 13,30
- Infection and Immunity 11,26
- Genetic factors 17,27
- Brain abnormality leading to reduced serotonin levels and inability to rouse from sleep—most recent studies



# SOME NURSES MAY THINK SUPINE SLEEP HAS RISKS, BUT THERE ARE ...

- No significant risks of supine sleep
  - No increase in apnea 12,20,38
  - No increase in bradycardia 12,20,38
  - No increase in problems related to reflux/aspiration 2,14,15,16Less Central apnea!
- No difference in total sleep time or percentage of quiet sleep in prone vs. supine position 3,12,16
- More sleep awakenings which may be protective 3,12,38



# KEEP IN MIND THAT SUPINE SLEEP CAN CAUSE

- Mild delay in developmental milestones (muscle tone) <sup>19</sup>
  - Developmental delays can be minimized with "tummy time"<sup>2,15,19</sup>
  - Delays are not significant by 18 months <sup>2</sup>
  - Cradle cap, diaper rash and flat occiput <sup>1,16,19</sup>



# Answer questions 6-7

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- 6. Placing an infant in the supine position for sleep causes an increase in bradycardia.

T or F

- 7. Placing the infant on their abdomen while awake and supervised for short periods of “tummy time” may help increase muscle tone.

T or F

# Parent Quote

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“If a baby is on his back I thought it was not a comfortable way to sleep. I thought he would be nice and warm on his tummy. It is not true. If that was told to me I would have never done that.”<sup>28</sup>

# SOMETIMES PRONE IS THE BEST POSITION FOR..

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- Acutely ill neonates <sup>1,9,15</sup>
- Developmentally supportive care of premature infants <sup>19</sup>
- Airway anomalies <sup>35</sup>
- Life threatening reflux



# HOW CAN PRONE POSITION BE BENEFICIAL FOR ACUTELY ILL NEONATES?

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- Improved lung mechanics <sup>1,36</sup>
- Improved oxygenation <sup>1,8,9</sup>
- Decreased energy expenditure <sup>1,36</sup>
- Less ventilation/perfusion mismatching
- Higher lung volumes <sup>1,36</sup>



# WHEN IS PRONE RECOMMENDED?



- Upper airway anomalies or life threatening gastroesophageal reflux may be rare exceptions to supine positioning.<sup>35</sup>
- The American Society of Gastroenterology indicates that prone positioning as therapy for mild or moderate reflux is no longer generally recommended because of the increased SIDS risk. <sup>3,35</sup>

# Answer questions 8-9

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- 8. The prone sleep position for sleep is recommended for infants with life threatening reflux.

T or F

- 9. Prone sleep position is the best sleep position for acutely ill neonates who are in the NICU.

T or F

# RISK REDUCTION MEASURES

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- Never put an infant in the side lying or prone position to sleep 14,39
- Never put loose bedding or stuffed animals in crib 2
- Never place crib bumpers or positioners in crib 2
- Never place baby to sleep on a soft surface 2
- Avoid exposure to smoking 2
- Avoid overheating-keep room temperature between 65-71 degrees and avoid over-bundling 2,37
- Never co-bed baby with adults/kids; room sharing is protective 2,10



# NURSE'S DISCHARGE INSTRUCTIONS WILL SAVE LIVES



- Encourage only supine sleeping for entire first year <sup>5</sup>
- Discourage prone or side lying sleep <sup>5</sup>
- Parents should require supine sleeping for their infant from all caretakers <sup>25</sup>
- Teach parents about risk reduction measures
  - no smoking
  - no soft bedding or co-bedding
  - avoid overdressing/overheating

# WHAT YOU DO WILL MAKE A DIFFERENCE!

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- Parents replicate at home what is demonstrated in the hospital<sup>7,9,14,33</sup>
- Demonstrate proper practice <sup>7</sup>



# Answer questions 10-12

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10. As health care professionals we should teach parents to:
  - a. Never put an infant in non-supine sleep positions
  - b. Never put loose bedding or stuffed animals in crib
  - c. Never place baby to sleep on a soft surface
  - d. All of the above
  
11. Health Care providers should inform parents about the dangers of:
  - a. Exposure to smoke
  - b. Overheating (avoid over dressing, keep room at temperature at 65-71 degrees)
  - c. Never co-bed baby with adults/kids
  - d. All of the above
  
12. As health care professionals we should set an example for the parents.  
T or F

# STICK TO THE FACTS STAY CURRENT

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- Parents place infants in positions recommended and modeled by medical and nursing professionals<sup>7,38</sup>
- Teach, teach, teach
- Handouts/brochures

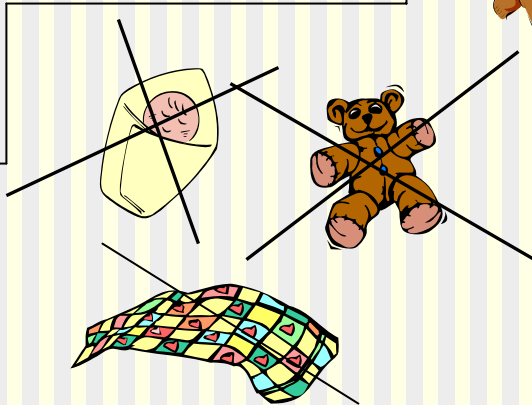


# Steps to Home..

Step 1: Baby is placed on back to sleep when in open crib or one week prior to going home.



Step 2: Do not bundle baby while asleep or keep the room too warm. The best temperature is 65-71 degrees. Do not put loose bedding, bumper pads or stuffed toys in the crib.



Step 3: Baby can be on tummy for playtime while always being watched.



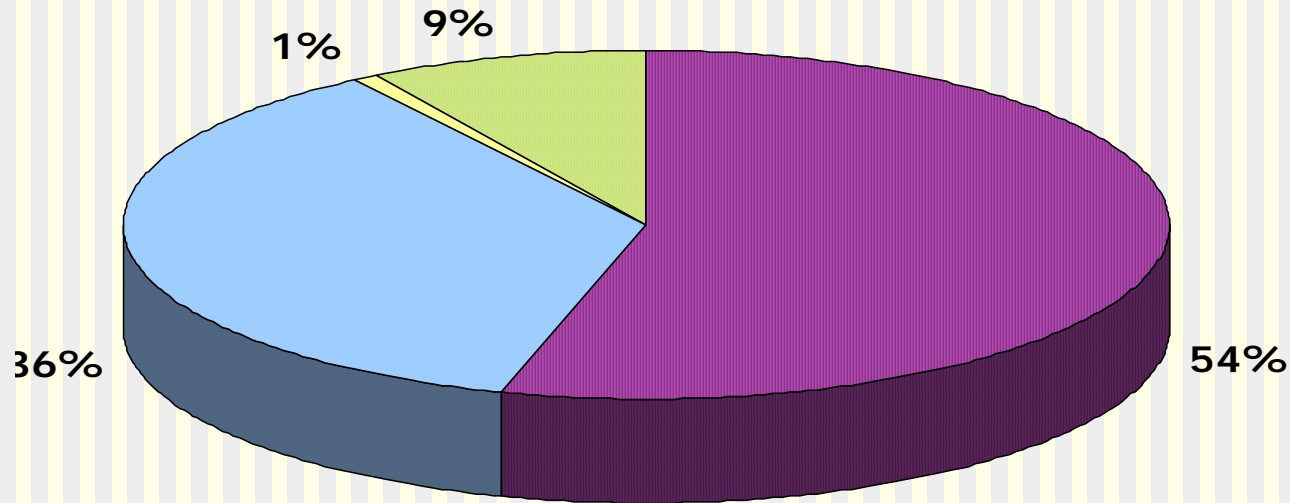
Step 4: Parents need to tell all caregivers that baby sleeps on back only.





# CURRENT NURSING RESEARCH

547 surveys were sent to NICU nurses in 8 institutions and 237 (43%) responded. Discharge instruction of sleep position is illustrated in the chart below:



- Always place infant to sleep on back
- Back or side for sleep
- Whatever position the infant is most comfortable in
- Side with positioning rolls

# FUTURE DIRECTION

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- More research is needed to determine optimal gestational age to begin supine sleep position in pre-term infants.
- More research on SIDS etiology
- Evaluation of current practices before and after discharge

# NURSES HOLD THE KEY TO SAVING LIVES

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- Nursing is key to getting accurate information to parents. Use evidence based practice-not opinion or traditional practice.
- Nurses are essential role models for parents.
- Nurses are in a powerful position to make a difference.

# Parent Quote



“ I talked to a lot of doctors and asked them why they don't tell parents about SIDS. They say they don't want to scare mothers. They don't want them to think their baby is going to die from SIDS. I say, I would rather be scared for a year than to be sad for the rest of my life because my baby died.”<sup>28</sup>

# Please tell parents

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- No bedsharing  
Better and safer  
for breastfeeding  
to place bassinet  
or pack n play  
next to mom's bed



# Please tell parents

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- No Positioning devices
- Memory foam body conforms to shape of baby
- Can Cause suffocation



Swaddling or SleepSacks  
much better than  
positioners for any baby



## References

- . Adams, M.M., Kugener, B., Mirmiran, M., & Ariagno, R.L. (1998). Survey of sleeping position after hospital discharge in healthy preterm infants. *Journal of Perinatology*, 18 (3), 168-172.
- . American Academy of Pediatrics, Task Force on Infant Sleep Position and Sudden Infant Death Syndrome. (2000). Changing Concepts of Sudden Infant Death Syndrome: Implications for Infant Sleeping Environment and Sleep Position. *Pediatrics*, 105 (3), 650-656.
- . Ariagno, R.L., Mirmiran, M., Adams, M.M., Saporito, A.G., Dubin, A.M., & Baldwin, R.B. (2003). Effect of position on sleep, heart rate variability, and QT interval in preterm infants at 1 and 3 months' corrected age. *Pediatrics*, 111 (3), 622-625.
- . Bhat, R.Y., Leipala, J.A., Singh, N.R., Rafferty, G.F., Hannam, S., & Greenough, A. (2003). Effect of posture on oxygenation, lung volume, and respiratory mechanics in premature infants studied before discharge. *Pediatrics*, 112 (1), 29-32.
- . Bhat, R.Y., Leipala, J.A., Rafferty, G.F., Hannam, S., & Greenough, A. (2003). Survey of sleeping position recommendations for prematurely born infants on neonatal intensive care unit discharge. *European Journal of Pediatrics*, 162 (6), 426-427.
- . Blair, P., Ward-Plantt, M., Fleming, P., & CESDI SUDI Research Group Institute of Child Health, UBHT Education Centre, Bristol BS2 8AE, UK. (2003). Sleeping position amongst preterm infants after discharge: are we getting the message across? *Early Human Development*, 74, 57-82.
- . Bullock, L., Mickey, K., Green, J., Heine, A. (2004). Are Nurses Acting as Role Models for the Prevention of SIDS? *American Journal of Maternal Child Nursing*, 29 (3), 172-177.
- . Dimitriou, G., Greenough, A., Pink, L., McGhee, A., Hickey, A., & Rafferty, G.F. (2002). Effect of posture on oxygenation and respiratory muscle strength in convalescent infants. *Archives of Disease in Childhood*, 86(3), F147-F150.
- . Fleming, P.J., & Blair, P.S. (2003). Sudden unexpected deaths after discharge from the neonatal intensive care unit. *Seminars in Neonatology*, 8, 159-167.
0. Gibson, E., Dembofsky, C.A., Rubin, S., & Greenspan, J.S. (2000). Infant sleep position practices 2 years into the "back to sleep" campaign. *Clinical Pediatrics*, 39(5), 285-289.

16. Hunt, C.E., Lesko, S.M., Vezina, R.M., McCoy, R., Corwin, M.J., Mandell, F., Willinger, M Hoffman, H.J., & Mitchell, A.A. (2003). Infant sleep position and associated health outcomes. *Archives of Pediatric Adolescent Medicine*, 157, 469-474.
17. Hunt, C.E., Gene-Environment Interactions: Implications for Sudden Infant Death Syndrome, from the SIDS International Conference Booklet in Edmonton, Alberta, Canada, July 2-6,47-49.
18. Iyasu, S., Randall, L.L., Welty, T.K., Hsia, J., Kinney, H.C., Mandell, F., McClain, M., Randall, B., Habbe, D., Wilson, H., & Willinger, M. (2002). Risk factors for sudden infant death syndrome among Northern Plains Indians. *JAMA*, 288(21), 2717-2723.
19. Jones, M., & McMurray, J.L. (2003). The other side of “Back to Sleep”. *Neonatal Network*, 22 (4), 49-53.
20. Keene, D.J., Wimmer Jr., J.E., & Mathew, O.P. (2000). Does supine positioning increase apnea, bradycardia, and desaturation in preterm infants? *Journal of Perinatology*, 1, 17-20.
21. Kinney, H.C., Filiano, J.J., Sleeper, L.A., Mandell, F., Valdes-Dapena, M., & White, W.F. (1995). Decreased muscarinic receptor binding in the arcuate nucleus in SIDS. *Science*, 269, 1446-1450.
22. Lesko, S.M., Corwin, M.J., Vezina, R.M., Hunt, C.E., Mandell, F., McClain, M., Heeren, T., Mitchell, A.A. (1998). Changes in sleep position during infancy: A prospective longitudinal assessment. *JAMA*, 280 (4), 336-340.
23. Lockridge, T., Taquino, L.T., & Knight, A. (1999). Back to sleep: Is there room in that crib for both AAP recommendations and developmentally supportive care? *Neonatal Network*, 18 (5), 29-31.
24. Malloy, M.H., editorial. (1998). Effectively delivering the message on infant sleep position. *JAMA*, 280 (4), 373-374.
25. Moon, R.Y. & Oden, R.P. (2003). Back to sleep: Can we influence child care providers? *Pediatrics*, 112 (4), 878-882.
26. Morris, J.A., The common bacterial toxin hypothesis for SIDS, from the SIDS International Conference Booklet in Edmonton, Alberta, Canada, July 3-6, 69-70, 118.
27. Narita, N., Narita, M., Takashimas, S., Nakayama, M., Nagai, T., & Okado, N. (2001). Serotonin transporter gene variation is a risk factor for SIDS in the Japanese population. *Pediatrics*, 107 (4), 690-692.

28. New York State Center for Sudden Infant Death. (n.d.) *SIDS Risk Reduction: Self Study Module*.
29. Oyen et al. (1997). Combined effects of sleeping position and prenatal risk factors in sudden infant death syndrome: The Nordic Epidemiological SIDS Study. *Pediatrics*, 100 (4), 613-621.
30. Panigraphy et al. (1997). Decreased kainate receptor binding in the arcuate nucleus of the SIDS. *Journal of Neuropathology and Experimental Neurology*, 56 (11), 1256-1261.
31. Pastore, G., Guala, A., Zaffaroni, M., & Bona, G. (2003). Back to sleep: Risk factors for SIDS as targets for public health campaigns. *The Journal of Pediatrics*, 109(4), 453-454.
32. Pollack, H., Frohna, J. (2002). Infant Sleep Placement After the Back to Sleep Campaign. *Pediatrics*, 109(4), 608-614.
33. Peeke, K., Hershberger, M., Kuehn, D., & Levett, J. (1999). Infant sleep position: Nursing practice and knowledge. *MCN*, 24 (6), 301-304.
34. Poets, C.F. (2004). Gastroesophageal reflux: A critical review of its role in preterm infants. *Pediatrics*, 113 (2) e128-e132.
35. Rudolph et al. (2001). Guidelines for evaluation and treatment of gastroesophageal reflux in infants and children: Recommendations of the North American Society of Pediatric Gastroenterology and Nutrition. *Journal of Pediatric Gastroenterology and Nutrition*, 32 (2), S1-S31.
36. Sahni, R., Schulze, K.F., Kashyap, S., Ohira-Kist, K., Myers, M.M., & Fifer, W.P. (1999). Body position, sleep states, and cardiorespiratory activity in developing low birth weight infants. *Early Human* , 54, 197-206.
37. SIDS facts. (n.d.). Retrieved September 16, 2004, from [http://www.firstcandle.org/expectantparents/exp\\_reduce\\_sids.html](http://www.firstcandle.org/expectantparents/exp_reduce_sids.html)
38. Vernacchio et al. (2003). Sleep position of low birth weight infants. *Pediatrics*, 111(3), 633-40.
39. Willinger, M., Ko, C., Hoffman, H., Kessler, R., & Corwin. (2000). Factors associated with caregivers choice of infant sleep position, 1994-1998: The National Infant Sleep Position Study. *JAMA*, 283 (16), 2135-2142.