# CRITICAL UPDATE

**April**, 2013



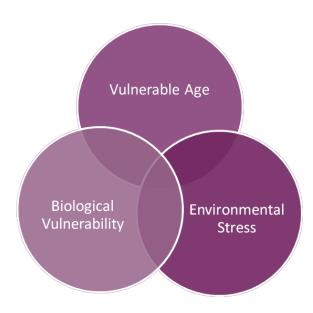
# **Preventing Sleep-Related Infant Death**

More infants 1-12 months old die unexpectedly during sleep than from any other type of injury. Medical examiners used to attribute most sleep-related deaths to Sudden Infant Death Syndrome (SIDS), but use of this term is fading. Doctors and scientists widely agree that sleeping infants die from accidental suffocation or strangulation more often than from an unexplainable syndrome. That is why examiners now describe infant deaths using a greater variety of terms such as "Sleep-Related Infant Death," "Accidental Suffocation and Strangulation," or "Sudden Unexplained Infant Death."

Although medical terms may change, sleep-related deaths continue to occur when parents or other caregivers put infants in risky situations. Child care providers can save lives by eliminating risks from their programs and by educating families to use updated safety practices at home. One of the biggest risks is putting infants to sleep on their stomachs. Caregivers help cut sleep-related deaths significantly by adopting recommendations of the Back to Sleep campaign that began in 1994. Since then, researchers have pinpointed additional risks and precautions. The American Academy of Pediatrics (AAP) endorsed a set of updated safety practices in 2011.<sup>2</sup> These practices include back sleeping, using bare sleep surfaces designed specifically for infants, breastfeeding, pacifier use, and elimination of cigarette smoke.

#### Do You Know?

- Blankets are sleep hazards.
- Pacifiers protect infants during sleep.
- Many parents and caregivers still don't know stomach sleep is more dangerous than back sleep.



# Multiple risks

Sleep-related death occurs when systems inside the infant's body cannot overcome challenges in the infant's environment. Examples of challenges are air pollution, improper air circulation, and bedding that may overheat or entangle the infant. Many deaths occur when multiple risks are present at the same time:

1) a vulnerable period of development, 2) a biological vulnerability, and 3) stress in the environment.

Researchers refer to this as the Triple Risk Model.<sup>3</sup>

These risks most often coincide during the first 1-4 months after birth but may be present throughout the first year. Some infants have abnormalities in their breathing and nervous systems and are less capable of fighting against environmental stress. In some cases, these weaknesses are genetic, but in others, unhealthy pregnancy hinders proper development of an infant's internal defense mechanisms.<sup>4</sup>

One example of a life-saving defense mechanism is light sleeping. Light sleeping allows infants to adjust to environmental challenges that might otherwise kill them. Consider this scenario:

#### **Environmental Challenge**

A caregiver places an infant to sleep on his stomach. The infant's nose and mouth face down toward the mattress. He begins to re-breathe gases he should only be exhaling.



#### Normal Response

An internal reflex triggers the infant to turn his head and maybe wake up. He can now access better air and return to sleep.

#### Compromised Response

If the infant has weakened reflexes, he will not turn his head or wake up. His body does not get the right amount of oxygen and shuts down.

# Eliminate risks!

Although many sleep-related deaths are explained using the Triple Risk Model, some environmental risks are strong enough to overpower infants without biological vulnerabilities. Very healthy infants can still die if they are accidentally suffocated or strangled, for example, by loose blankets, bibs, or by other people sharing the bed. While scientists keep looking for ways to identify internal risks and medical treatments, there are many ways you can protect infants. You can encourage pregnant mothers to have healthy pregnancies, you can implement AAP safety practices described in this brief with every infant in your program, and you can educate families about using these practices at home.

# Recommendations

### Encourage healthy pregnancy

Mothers begin protecting infants during pregnancy. Infants born early or with low birth weight have weaker defenses against environmental threats and are more susceptible to sleep-related death. Physicians can monitor pregnancies, give health advice, treat risks, and educate parents on safe infant care practices. A woman should visit a physician as soon as she suspects she is pregnant and attend all recommended check-ups. Prenatal care reduces low birth weight and preterm births, and it increases breast-feeding and safe sleep practices. <sup>5,6</sup>

Pregnant mothers should not smoke, drink alcohol, or take drugs. These substances can cause complications during pregnancy, premature birth, and low birthweight.<sup>7,8</sup> Smoking increases the odds of infant death more than any other pregnancy risk.<sup>9</sup> If we could prevent moms from smoking during pregnancy, scientists estimate that we would reduce sleep-related deaths 20-30%.<sup>10</sup>

# Use surfaces designed for sleeping infants

When it comes to sleeping, an infant needs an attentive caregiver and a firm surface designed specifically for infant sleep safety. Verify cribs, play yards, and bassinets meet current guidelines of the U.S. Consumer Product Safety Commission. Only insert firm mattresses designed specifically for the product frame. Cover each mattress in a single, tight-fitted sheet. Eliminate dangerous sleep surfaces and bed accessories that can suffocate, entrap, or overheat infants. Some of these items may surprise you!

# **Bare is Best**

#### **Rid from Crib**

**Blankets** 

Bumpers

Hats

**Bolsters** 

Positioners

Toys

Mobiles

Stuffed animals

**Pillows** 

Overhead tents

Car Seats

### **Keep for Sleep**

Infant sleep surfaces approved by the U.S. Consumer Safety Commission

Sleep sacks

**Pacifiers** 



#### Sleep dangers: Couches, chairs, and adult mattresses

Infants die more often when they are sleeping on surfaces designed for older people. These include sofas, chairs, and adult mattresses. Some caregivers use these surfaces to be closer to the infant or to make night feedings easier. Unfortunately, infants may overheat or suffocate when lying next to or on top of cushions or other people. Pillows or rails set up to prevent rolling or falling can entrap or suffocate infants. Even mattresses placed directly on the floor are dangerous.

Discuss with families the importance of staying awake while holding infants. Adults who feel drowsy should immediately move infants to their individual cribs rather than fall asleep holding them on sofas or chairs.



### Sleep dangers: Upright infant seats

Car seats are designed for crash safety, not for sleep safety. Caregivers must not leave sleeping infants in car seats or other sitting devices, such as swings. Infants cannot access as much oxygen when sleeping seated. Therefore, remove sleeping infants from car seats when you reach your destination. If infants doze off while seated, move them to their infant beds. Do not allow families to leave sleeping babies in car seats at drop off to your program. Instead, implement routines that require parents to remove sleeping infants from car seats and place them on their backs in separate cribs.



#### Sleep dangers: Loose blankets, bumpers, layers, and "cozy" items

Bare is best for cribs, bassinets, or play yards when infants are sleeping. The safest way to keep infants warm is to dress them in a single layer, either in sleep sacks or footed pajamas that cannot shift over their heads. The temperature in the sleep room should be comfortable to an adult wearing a single layer of clothing. Remove blankets, hats and head covers. Those items can overheat or accidentally suffocate infants. The sleep surface should be firm and flat, so also remove bumpers and pillows. Only use "cozy" items, such as soft stuffed toys, mobiles, or fuzzy burp cloths when infants are awake. During sleep, they can block air circulation, suffocate, or overheat infants.

### Caregiver in the room, not in the bed

In child care programs, an alert caregiver should attend sleeping infants at all times rather than leave infants alone in separate rooms. Lighting should be adequate to watch for loose bedding or signs of overheating and to verify that infants' heads are not covered. Regardless of location, parents, siblings, and pets should not share beds with infants. Bed sharing can double the odds of sleep-related death.<sup>24</sup> Bed sharing risks are greatest when infants are very young or when parents smoke. <sup>11,13,25-27</sup>

Continue to assure parents that the instinct to remain close to sleeping infants is a good thing. Although bed sharing can be lethal, remaining in the room protects infants.<sup>12</sup> At home, mothers can place cribs or bassinets in arm's reach of the adult bed to make soothing and night feedings more convenient. Stress the importance of staying awake during feeding and putting infants into their own beds when feedings have ended.

Parents often have good motivations for bed sharing. Some mothers share beds to make breastfeeding easier or to cope with depression. Some cannot afford to purchase cribs. Others share beds to protect infants from external threats, such as bugs or gunfire.<sup>28</sup> Advise families that sleep-related death kills more infants than any other threat. Sleep safety should be top priority. Then, help families find practical resources and assistance to address additional concerns. Always be sensitive to a family's culture and their environment when discussing safe sleep.<sup>29</sup>

### Back to Sleep everywhere, all the time

Infants are safest when they sleep on their backs, not on their sides or stomachs. Unfortunately, child care providers cannot assume that everyone knows about or complies with Back to Sleep recommendations. In 2010, 14% of mothers still reported usually placing infants to sleep on the stomach.<sup>30</sup>

Infants who are used to back-sleeping and then are placed on their stomachs are at significantly higher risk for sleep-related death. <sup>31</sup> Therefore, every child care program needs written sleep safety policies based on current AAP guidelines. Discuss these policies with every adult providing or using child care services. Assuming they will read policies is not enough. <sup>32,33,34</sup> Actively train employees and volunteers in safety practices and regularly observe them for 100% compliance. Then orient parents to safe sleep practices at the enrollment of each new infant.

# Always include discussions about these common beliefs and misperceptions:

- Many adults believe infants can choke when sleeping on their backs and may mistake coughing for gagging. Firmly assure parents that back sleeping does not cause choking.
- Another common belief is that infants are more comfortable on their stomachs.<sup>35-38</sup> Tell parents they can use other methods to make their infants comfortable. For instance, infants soothe faster and sleep better when caregivers put them to bed at the same time every day.<sup>39</sup>

# Pair Back to Sleep with these practices

Back sleeping may contribute to flattened head shape and slowed gross motor development, <sup>42</sup> but these side effects can be minimized.

#### **Tummy Time**

Schedule Tummy Time sessions for babies that are awake. Placing infants on their stomachs while awake helps them develop motor control and muscles for head lifting and rolling.

#### **Head Positions**

Alternate infant head positions at naps and feedings. Babies will often face the door when sleeping. By alternating ends of the crib that you place them to sleep, you can help them switch head positions. In addition, you can switch sides that you hold infants from one feeding to the next.<sup>43</sup>

Hospital nursery practices and physicians' advice influence how parents place their infants at home. 40,41 Doctors and nurses sometimes place premature infants to sleep on their stomachs in the hospital, where they are under strict care and observation and attached to monitors that immediately alert hospital staff of a crisis. However, infants born prematurely will be more susceptible to sleep-related deaths when placed on their stomachs at home. 40 Some mothers receive no advice regarding sleep position from their physicians and may even receive inaccurate info. 5 Child care programs should only comply with requests for stomach sleep when the infant's pediatrician provides written, signed explanations and parents sign a release.

### No smoke, alcohol, drugs

Caregivers should never allow smoking around infants. Cigarette smoke inhibits heart and breathing function and suppresses reflexes that would otherwise help infants adjust to their environments. Infants exposed to smoke are much more vulnerable to sleep-related death.<sup>44</sup>

Also, advise families and other care providers to avoid drinking alcohol or using drugs while caring for infants. They dull a caregiver's ability to respond to infant needs. Sleep-related deaths occur at much higher rates among alcohol-consumers than non-alcohol consumers, especially on weekends.<sup>45</sup>

### Yes to breast feeding & pacifiers



Much of your sleep safety routine involves removing things around infants, but two things you can keep are breastfeeding and pacifiers. Breastfed infants are more resistant to sleep-related death, especially when exclusively breastfed until 6 months old. 12,46,47 They arouse from dangerous situations better than formula-fed infants do, and they develop fewer infections that might weaken their defenses against sleep hazards.

Pacifier use at bedtime also appears to decrease sleep-related death. 47,48 Offer a clean, dry pacifier at sleep times once an infant is accustomed to breastfeeding. Pacifiers do not need to be reinserted if they fall out of infants' mouths while sleeping. To eliminate the chance of entanglement or suffocations, never clip or tie pacifiers to an infant's clothing or body.

# **Confront mixed messages**

What we see or hear in our communities about infant safety may not match all of these current AAP recommendations. You may have to demonstrate how magazines, TV, or family suggestions are not up-to-date with scientific evidence. Be ready to confront mixed messages about what keeps infants comfortable and safe!

#### Family and community influences

Mothers pay attention to the advice of secondary caregivers, such as grandparents and child care providers.<sup>49</sup> The more a mother hears accurate safe, sleep messages the more likely she is to use them.<sup>36</sup> Child care providers should engage grandparents and other influencers in safe sleep education.

#### Media images and advertising

Remind parents and child care colleagues that the media tries to sell things infants do not need. For instance, most cradle and crib bedding sets sold by retailers still include bumpers. Some businesses selling sleep positioners, wedges, monitors, and co-sleepers have claimed these products protect against sleep-related death, yet none of these claims are supported by the U.S. Food and Drug Administration. Filter ads and media images you pass on to families. Check to see if posters, brochures, and photos in your program reflect new safe sleep practices. Do parents share photos of sleeping newborns nuzzled against animals or bundled in hats and blankets? If so, they are selling parents outdated ideas about comfort.

#### Immunization opponents

Encourage families to keep up with recommended immunizations (baby shots). Claims that immunizations are more dangerous than protective or that they can trigger sleep-related are incorrect. <sup>51-53</sup> Immunizations protect children from deadly diseases and make infants more resistant to sleep-related death.

# Broaden your approach

Misperceptions about safe, comfortable sleep are everywhere, so consider ways to broadcast safe sleep messages to a wider audience.

- Educate moms and your fellow child care providers first. Then find ways to educate others involved in infant care: fathers, siblings, extended family members, and babysitters.
- Turn to the National Resource Center for Health and Safety in Child Care and Early Education (ncrkids.org) for policy statements you can use in your program.<sup>18</sup>
- Make your conversations more than a list of do's and do not's, and teach caregivers
  why safe sleep recommendations exist. Some people believe that sleep-related
  death strikes randomly at God's will and that prevention is beyond their control.<sup>54</sup>
  Others hear that infants choke when they sleep on their backs,<sup>35</sup> or may have trouble
  associating soft items with danger instead of comfort.<sup>35-37</sup>

To protect more infants, confront these misperceptions every time you talk about sleep safety.

Resources on the following page will help you share safe sleep practices.

# More info & support

#### National SUID/SIDS Resource Center

sidscenter.org

One-stop shop for technical assistance and support you may need to educate staff and families.

# National Resource Center for Health & Safety in Child Care & Early Education

#### nrckids.org

Clearly written, up-to-date sleep safety policies based on AAP standards to incorporate into your employee or parent manuals.

#### Refer to the document:

National Safe Sleep Practices and SIDS/ Suffocation Risk Reduction: Applicable Standards from: Caring for Our Children: National Health and Safety Performance Standards; Guidelines for Early Care and Education Programs Third Edition at http://nrckids.org/SPINOFF/SAFESLEEP/SafeSleep.pdf

#### **Consumer Product Safety Commission**

cpsc.gov

Product hazard and recall info and printable "Bare is Best" flyer to post in your child care program: http://www.cpsc.gov/nsn/bareisbest.pdf

Changes in federal crib safety standards: http://www.cpsc.gov/PageFiles/115716/cribrules.pdf

#### Cribs for Kids

cribsforkids.org

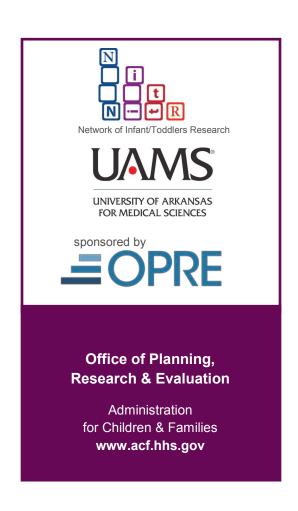
Local chapters help families obtain free or low-cost infant beds. Use the website to locate chapters or to see pediatrician responses to questions about sleep safety.

American Academy of Pediatrics (AAP) www.healthychildcare.org/sids.html
AAP sponsored website for child care.
Includes links to printable Safe Sleep and
Tummy Time brochures for families and providers.

# National Institute of Child Health & Human Development

www.nichd.nih.gov/SIDS

Free downloads of Safe to Sleep campaign materials and a 10-minute educational video on safe sleep to share with parents and staff.



#### **Suggested Citation**

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# References

- 1. Nashelsky MB, Pinckard JK. The death of SIDS. Academic Forensic Pathology. 2011;1(1):92-98.
- 2. Task Force on Sudden Infant Death Syndrome. SIDS and other sleep-related infant deaths: Expansion of recommendations for a safe infant sleeping environment. *Pediatrics*. 2011;128(5):e1341-e1367. doi: 10.1542/peds.2011-2285.
- 3. Filiano J, Kinney H. A perspective on neuropathologic findings in victims of the Sudden Infant Death Syndrome: The triple-risk model. *Neonatology*. 1994;65(3-4):194-197.
- 4. Kinney HC, Thach BT. The Sudden Infant Death Syndrome. *N Engl J Med*. 2009;361(8):795-805.doi: 10.1056/NEJMra0803836.
- 5. Ickovics JR, Kershaw TS, Westdahl C, et al. Group prenatal care and perinatal outcomes: A randomized controlled trial. *Obstet Gynecol.* 2007;110(2 Pt 1):330.
- 6. Broussard D, Sappenfield W, Goodman D. The black and white of infant back sleeping and infant bed sharing in Florida, 2004–2005. *Matern Child Health J.* 2012;16(3):713-724. doi: 10.1007/s10995-011-0768-y.
- 7. Hammoud AO, Bujold E, Sorokin Y, Schild C, Krapp M, Baumann P. Smoking in pregnancy revisited: Findings from a large population-based study. *Obstet Gynecol*. 2005;192(6):1856-1862. doi: 10.1016/j.ajog.2004.12.057.
- 8. Salihu HM, Wilson RE. Epidemiology of prenatal smoking and perinatal outcomes. *Early Hum Dev.* 2007;83 (11):713-720. doi: 10.1016/j.earlhumdev.2007.08.002.
- 9. Brookfield KF, Wilkinson JD, Luke B, Arheart K, Sfakianaki E. Maternal smoking during pregnancy and sudden infant death using the national maternal and infant health survey: A case-case study. *Int J Clin Med*. 2011;2(3):318 -324.
- 10. Dietz PM, England LJ, Shapiro-Mendoza CK, Tong VT, Farr SL, Callaghan WM. Infant morbidity and mortality attributable to prenatal smoking in the U.S. *Am J Prev Med*. 2010;39(1):45-52. doi: 10.1016/j.amepre.2010.03.009.
- 11. Weber MA, Risdon RA, Ashworth MT, Malone M, Sebire NJ. Autopsy findings of co-sleeping-associated sudden unexpected deaths in infancy: Relationship between pathological features and asphyxial mode of death. *J Paediatr Child Health*. 2012;48(4):335-341. doi: 10.1111/j.1440-1754.2011.02228.x.
- 12. Ball HL, Moya E, Fairley L, Westman J, Oddie S, Wright J. Infant care practices related to Sudden Infant Death syndrome in South Asian and white British families in the UK. *Paediatr Perinat Epidemiol*. 2012;26(1):3-12. doi: 10.1111/j.1365-3016.2011.01217.x.
- 13. Tappin D, Ecob R, Brooke H. Bedsharing, roomsharing, and Sudden Infant Death Syndrome in Scotland: A case-control study. *J Pediatr*. 2005;147(1):32. http://ukpmc.ac.uk/abstract/MED/16027691.
- 14. Byard RW, Winskog C. Floor mattresses: Another potentially dangerous infant sleeping environment. *J Paediatr Child Health*. 2011;47(8):554-556. doi: 10.1111/j.1440-1754.2011.02020.x.
- 15. Merchant JR, Worwa C, Porter S, Coleman J, deRegnier RO. Respiratory instability of term and near-term healthy newborn infants in car safety seats. *Pediatrics*. 2001;108(3):647-652. doi: 10.1542/peds.108.3.647.
- 16. Tonkin, SL, Gunn TR, Bennet L., Vogel SA, Gunn AJ. Review of the anatomy of the upper airway in early infancy and its possible relevance to SIDS. *Early Hum Dev.* 2002;66(2):107-121. doi: doi:10.1016/S0378-3782(01) 00242-0".
- 17. Côté A, Bairam A, Deschenes M, Hatzakis G. Sudden infant deaths in sitting devices. *Arch Dis Child*. 2008;93 (5):384-389. doi: 10.1136/adc.2007.119180.
- 18. American Academy of Pediatrics. American Public Health Association. National Resource Center for Health and Safety in Child Care and Early Education. Safe sleep practices and SIDS risk reduction: Applicable standards from: In: Caring for our children: National health and safety performance standards; guidelines for early care and education programs. 3rd ed. Elk Grove Village, IL: American Academy of Pediatrics; 2012. http://dx.doi.org.
- 19. Blair PS, Mitchell EA, Heckstall-Smith EMA, Fleming PJ. Head covering a major modifiable risk factor for Sudden Infant Death Syndrome: A systematic review. *Arch Dis Child* 2008;93(9):778-783. doi: 10.1136/adc.2007.136366.
- 20. Mitchell EA, Thompson JMD, Becroft DMO, et al. Head covering and the risk for SIDS: Findings from the New Zealand and German SIDS case-control studies. *Pediatrics*. June 2008;121(6):e1478-e1483. doi: 10.1542/peds.2007-2749.
- 21. Guntheroth WG, Spiers PS. Thermal stress in sudden infant death: Is there an ambiguity with the rebreathing hypothesis? *Pediatrics*. 2001;107(4):693-698.
- 22. P J Fleming, R Gilbert, Y Azaz, et al. Interaction between bedding and sleeping position in the Sudden Infant Death Syndrome: A population based case-control study. *BMJ*. 1990;301(6743):85-89. doi: 10.1136/bmj.301.6743.85.
- 23. Gilbert R, Rudd P, Berry PJ, et al. Combined effect of infection and heavy wrapping on the risk of sudden unexpected infant death. *Arch Disease Child*. 1992;67(2):171-177. doi: 10.1136/adc.67.2.171.
- 24. Fu LY, Moon RY, Hauck FR. Bed sharing among black infants and Sudden Infant Death Syndrome: Interactions with other known risk factors. *Academic Pediatrics*. 2010;10(6):376-382. doi: 10.1016/j.acap.2010.09.001.

- 25. Lynne Hutchison B, Rea C, Stewart AW, Koelmeyer TD, Tipene-Leach DC, Mitchell EA. Sudden unexpected infant death in Auckland: A retrospective case review. *Acta Paediatrica*. 2011;100(8):1108-1112. doi: 10.1111/j.1651-2227.2011.02221.x.
- 26. Brixey SN, Kopp BC, Schlotthauer AE, Collier A, Corden TE. Use of child death review to inform sudden unexplained infant deaths occurring in a large urban setting. *Inj Prev.* 2011;17(Suppl I):i23-i27. doi: 10.1136/ip.2010.027037.
- 27. Vennemann MM, Hense H, Bajanowski T, et al. Bed sharing and the risk of Sudden Infant Death Syndrome: Can we resolve the debate? *J Pediatr*. 2012;160(1):44-48.e2. doi: 10.1016/j.jpeds.2011.06.052.
- 28. Joyner BL, Oden RP, Ajao TI, Moon RY. Where should my baby sleep: A qualitative study of African American infant sleep location decisions. *J Natl Med Assoc.* 2010;102(10):881.
- 29. Ball HL, Volpe LE. Sudden Infant Death Syndrome (SIDS) risk reduction and infant sleep location moving the discussion forward. *Soc Sci Med*. 2013(79):84-91. doi: 10.1016/j.socscimed.2012.03.025.
- 30. National infant sleep position study data. http://slone-web2.bu.edu/ChimeNisp/NISP\_Data.asp. Accessed 09/25, 2012.
- 31. Moon RY, Patel KM, Shaefer SJM. Sudden Infant Death Syndrome in child care settings. *Pediatrics*. 2000;106(2):295-300
- 32. Moon RY, Weese-Mayer DE, Silvestri JM. Nighttime child care: Inadequate Sudden Infant Death Syndrome risk factor knowledge, practice, and policies. *Pediatrics*. 2003;111(4):795-799.
- 33. Nadel FM, Aronson SS, Giardino AP, Rivers H, Requa A, Shaw KN. Results of an observational study of child care centers in Pennsylvania: Varying approaches to health and safety. *The Open Pediatr Med Journal*. 2010;4:14-22.
- 34. Moon RY, Calabrese T, Aird L. Reducing the risk of Sudden Infant Death Syndrome in child care and changing provider practices: Lessons learned from a demonstration project. *Pediatrics*. 2008; 122(4):788-798.
- 35. Colson ER, Rybin D, Smith LA, Colton T, Lister G, Corwin MJ. Trends and factors associated with infant sleeping position: The National Infant Sleep Position Study, 1993-2007. *Arch Pediatr Adolesc Med.* 2009;163(12):1122-1128. doi: 10.1001/archpediatrics.2009.234.
- 36. Von Kohorn I, Corwin MJ, Rybin DV, Heeren TC, Lister G, Colson ER. Influence of prior advice and beliefs of mothers on infant sleep position. *Arch Pediatr Adolesc Med*. 2010;164(4):363-369. doi: 10.1001/archpediatrics.2010.26.
- 37. Ajao TI, Oden RP, Joyner BL, Moon RY. Decisions of black parents about infant bedding and sleep surfaces: A qualitative study. *Pediatrics*. 2011;128(3):494-502. doi: 10.1542/peds.2011-0072.
- 38. Colson ER, McCabe LK, Fox K, et al. Barriers to following the back-to-sleep recommendations: Insights from focus groups with inner-city caregivers. *Ambul Pediatr.* 2005;5(6):349-354. doi: 10.1367/A04-220R1.1.
- 39. Mindell JA, Telofski LS, Wiegand B, Kurtz ES. A nightly bedtime routine: Impact on sleep in young children and maternal mood. *Sleep: Journal of Sleep and Sleep Disorders Research*. 2009;32(5):599-606.
- 40. Vernacchio L, Corwin MJ, Lesko SM, et al. Sleep position of low birth weight infants. *Pediatrics*. 2003;111(3):633-640. doi: 10.1542/peds.111.3.633.
- 41. Colson ER JS. Changing nursery practice gets inner-city infants in the supine position for sleep. *Arch Pediatr Adolesc Med.* 2002;156(7):717-720. doi: 10.1001/archpedi.156.7.717.
- 42. Miller LC, Johnson A, Duggan L, Behm M. Consequences of the "Back to sleep" program in infants. *J Pediatr Nurs*. 2011;26(4):364-368. doi: 10.1016/j.pedn.2009.10.004.
- 43. Chizawsky LLK, Scott-Findlay S. Tummy time! AWHONN Lifelines. 2005;9(5):382-387. doi: 10.1177/1091592305283633.
- 44. Liebrechts-Akkerman G, Lao O, Liu F, et al. Postnatal parental smoking: An important risk factor for SIDS. *Eur J of Pediatr.* 2011;170(10):1281-1291. doi: 10.1007/s00431-011-1433-6.
- 45. Phillips DP, Brewer KM, Wadensweiler P. Alcohol as a risk factor for Sudden Infant Death Syndrome (SIDS). *Addiction*. 2011;106(3):516-525. doi: 10.1111/j.1360-0443.2010.03199.x.
- 46. Hauck FR, Thompson JMD, Tanabe KO, Moon RY, Vennemann MM. Breastfeeding and reduced risk of Sudden Infant Death Syndrome: A meta-analysis. *Pediatrics*. 2011;128(1):103-110. doi: 10.1542/peds.2010-3000.
- 47. Vennemann MM, Bajanowski T, Brinkmann B, et al. Does breastfeeding reduce the risk of Sudden Infant Death Syndrome? *Pediatrics*. March 2009;123(3):e406-e410. doi: 10.1542/peds.2008-2145.
- 48. Moon R, Tanabe K, Yang D, Young H, Hauck F. Pacifier use and SIDS: Evidence for a consistently reduced risk. *Matern Child Health J.* 2012;16(3):609-614. doi: 10.1007/s10995-011-0793-x.
- 49. Grassley J, Eschiti V. Grandmother breastfeeding support: What do mothers need and want? *Birth.* 2008;35(4):329-335. doi: 10.1111/j.1523-536X.2008.00260.x.
- 50. U.S. Food and Drug Administration. Baby products with SIDS prevention claims. http://www.fda.gov/medicaldevices/productsandmedicalprocedures/sidspreventionclaims/default.htm). Updated 2012. Accessed 10/01/2012.
- 51. Jonville-Béra A, Autret-Leca E, Barbeillon F, Paris-Llado J, the French Reference Centers for SIDS. Sudden unexpected death in infants under 3 months of age and vaccination status: a case-control study. *Br J Clin Pharmacol*. 2001;51(3):271-276. doi: 10.1046/j.1365-2125.2001.00341.x.
- 52. Kuhnert R, Schlaud M, Poethko-Müller C, et al. Reanalyses of case-control studies examining the temporal association between Sudden Infant Death Syndrome and vaccination. *Vaccine*. 2012;30(13):2349-2356. doi: 10.1016/j.vaccine.2012.01.043.
- 53. Vennemann MMT, Höffgen M, Bajanowski T, Hense H, Mitchell EA. Do immunisations reduce the risk for SIDS? A meta-analysis. *Vaccine*. 2007;25(26):4875-4879. doi: 10.1016/j.vaccine.2007.02.077.
- 54. Moon RY, Oden RP, Joyner BL, Ajao TI. Qualitative analysis of beliefs and perceptions about Sudden Infant Death Syndrome in African-American mothers: Implications for safe sleep recommendations. *J Pediatr*. 2010;157(1):92-97.e2. doi: 10.1016/j.jpeds.2010.01.027.