POLICY STATEMENT Organizational Principles to Guide and Define the Child Health Care System and/or Improve the Health of all Children

American Academy of Pediatrics

DEDICATED TO THE HEALTH OF ALL CHILDREN™

Sleep-Related Infant Deaths: Updated 2022 Recommendations for Reducing Infant Deaths in the Sleep Environment

Rachel Y. Moon, MD, FAAP,[a] Rebecca F. Carlin, MD, FAAP,[b] Ivan Hand, MD, FAAP,[c]
THE TASK FORCE ON SUDDEN INFANT DEATH SYNDROME AND THE COMMITTEE ON FETUS AND NEWBORN

Each year in the United States, ~3500 infants die of sleep-related infant deaths, including sudden infant death syndrome (SIDS) (International Classification of Diseases, 10th Revision [ICD-10] R95), ill-defined deaths (ICD-10 R99), and accidental suffocation and strangulation in bed (ICD-10 W75). After a substantial decline in sleep-related deaths in the 1990s, the overall death rate attributable to sleep-related infant deaths has remained stagnant since 2000, and disparities persist. The triple risk model proposes that SIDS occurs when an infant with intrinsic vulnerability (often manifested by impaired arousal, cardiorespiratory, and/or autonomic responses) undergoes an exogenous trigger event (eg, exposure to an unsafe sleeping environment) during a critical developmental period. The American Academy of Pediatrics recommends a safe sleep environment to reduce the risk of all sleep-related deaths. This includes supine positioning; use of a firm, noninclined sleep surface; room sharing without bed sharing; and avoidance of soft bedding and overheating. Additional recommendations for SIDS risk reduction include human milk feeding; avoidance of exposure to nicotine, alcohol, marijuana, opioids, and illicit drugs; routine immunization; and use of a pacifier. New recommendations are presented regarding noninclined sleep surfaces, short-term emergency sleep locations, use of cardboard boxes as a sleep location, bed sharing, substance use, home cardiorespiratory monitors, and tummy time. Additional information to assist parents, physicians, and nonphysician clinicians in assessing the risk of specific bed-sharing situations is also included. The recommendations and strength of evidence for each recommendation are included in this policy statement. The rationale for these recommendations is discussed in detail in the accompanying technical report.

abstract

[a]Department of Pediatrics, University of Virginia School of Medicine, Charlottesville, Virginia; [b]Department of Pediatrics, Division of Pediatric Critical Care and Hospital Medicine, Columbia University Irving Medical Center, NewYork-Presbyterian Hospital, New York, New York, New York; and [c]Department of Pediatrics, SUNY-Downstate College of Medicine, NYC Health + Hospitals | Kings County, Brooklyn, New York

Drs Moon, Carlin, and Hand approved the final manuscript as submitted and agree to be accountable for all aspects of the work.

DOI: https://doi.org/10.1542/peds.2022-057990

Address correspondence to Rachel Y. Moon, MD, FAAP. E-mail: rymoon@virginia.edu

PEDIATRICS (ISSN Numbers: Print, 0031-4005; Online, 1098-4275).

To cite: Moon RY, Carlin RF, Hand I; AAP Task Force on Sudden Infant Death Syndrome; AAP Committee on Fetus and Newborn. Sleep-Related Infant Deaths: Updated 2022 Recommendations for Reducing Infant Deaths in the Sleep Environment. *Pediatrics*. 2022;150(1):e2022057990

TABLE 3 Safe Sleep Guidelines That Have Been Substantially Revised Since 2016

Topic	2016 Guidelines	Revised 2022 Guidelines
Sleep surface	Use a firm sleep surface.	Use a firm, flat, noninclined sleep surface. Sleep surfaces with inclines of >10 degrees are unsafe for infant sleep. Some American Indian/Alaska Native communities have promoted the use of cradleboards as an infant sleep surface. There are no data regarding the safety of cradleboards for sleep, but the NICHD suggests cradleboards as a culturally appropriate infant sleep surface. Care should be taken so that infants do not overheat (because of overbundling) in the cradleboard. At a minimum, to be considered a safe option, any alternative sleep surface should adhere to the June 2021 CPSC rule that any infant sleep product must meet existing federal safety standards for cribs, bassinets, play yards, and bedside sleepers. This includes inclined sleep products, hammocks, baby boxes, in-bed sleepers, baby nests and pods, compact bassinets without a stand or legs, travel bassinets, and baby tents. Products that do not meet the federal safety standard are likely not safe for infant sleep, and their use is not recommended. In an emergency, an alternative device with a firm, flat, noninclined surface (eg, box, basket, or dresser drawer) with thin, firm padding may be used temporarily. However, this alternative device should be replaced as soon as a CPSC-approved surface is available.
Breastfeeding	Breastfeeding is associated with a reduced risk of SIDS. Unless contraindicated, mothers should breastfeed exclusively or feed with expressed milk (ie, not offer any formula or other nonhuman milk-based supplements) for 6 mo, in alignment with recommendations of the AAP.	Feeding of human milk is recommended because it is associated with a reduced risk of SIDS. Unless it is contraindicated or the parent is unable to do so, it is recommended that infants be fed with human milk (ie, not offered any formula or other nonhuman milk-based supplements) exclusively for ~6 mo, with continuation of human milk feeding for 1 y or longer as mutually desired by parent and infant, in alignment with recommendations of the AAP. Because preterm and low birth weight infants are at higher risk of dying from SIDS, it is particularly important to emphasize the benefits of human milk, engage with families to understand the barriers and facilitators to provision of human milk, and provide more intensive assistance during prolonged NICU hospitalization for these groups. Some parents are unable to or choose not to feed human milk. When discussing breastfeeding, culturally appropriate, respectful, and nonjudgmental communication between health care professionals and parents is recommended. These families should still be counseled on the importance of following the other safe sleep recommendations.
Sleep location	It is recommended that infants sleep in the parents' room, close to the parents' bed, but on a separate surface designed for infants, ideally for the first year of life, but at least for the first 6 mo. There are specific circumstances that, in case-control studies and case series, have been shown to substantially increase the risk of SIDS or unintentional injury or death while bed sharing, and these should be avoided at all times:	It is recommended that infants sleep in the parents' room, close to the parents' bed, but on a separate surface designed for infants, ideally for at least the first 6 mo. The AAP understands and respects that many parents choose to routinely bed share for a variety of reasons, including facilitation of breastfeeding, cultural preferences, and belief that it is better and safer for their infant. However, based on the

TABLE 3 Continued

Topic	2016 Guidelines	Revised 2022 Guidelines
	• Bed sharing with a term normal weight infant aged <4 mo and infants born preterm and/or with low birth weight, regardless of parental smoking status. Even for breastfed infants, there is an increased risk of SIDS when bed sharing if aged <4 mo. This appears to be a particularly vulnerable time, so if parents choose to feed their infants aged <4 mo in bed, they should be especially vigilant to not fall asleep. • Bed sharing with a current smoker (even if he or she does not smoke in bed) or if the mother smoked during pregnancy. • Bed sharing with someone who is impaired in his or her alertness or ability to arouse because of fatigue or use of sedating medications (eg, certain antidepressants, pain medications) or substances (eg, alcohol, illicit drugs). • Bed sharing with anyone who is not the infant's parent, including nonparental caregivers and other children. • Bed sharing on a soft surface, such as a waterbed, old mattress, sofa, couch, or armchair. • Bed sharing with soft bedding accessories, such as pillows or blankets.	evidence, we are unable to recommend bed sharing under any circumstances. Having the infant close by their bedside in a crib or bassinet will allow parents to feed, comfort, and respond to their infant's needs. It is also important for parents, pediatricians, other physicians, and nonphysician clinicians to know that the following factors increase the magnitude of risk when bed sharing or surface sharing: More than 10 times the baseline risk of parent–infant bed sharing: • Bed sharing with someone who is impaired in their alertness or ability to arouse because of fatigue or use of sedating medications (eg, certain antidepressants, pain medications) or substances (eg, alcohol, illicit drugs). • Bed sharing with a current smoker (even if the smoker does not smoke in bed) or if the pregnant parent smoked during pregnancy. • Bed sharing on a soft surface, such as a waterbed, old mattress, sofa, couch, or armchair. 5–10 times the baseline risk of parent–infant bed sharing: • Term, normal weight infant aged <4 mo, even if neither parent smokes and even if the infant is breastfed. This is a particularly vulnerable time, so parents who choose to feed their infants aged <4 mo in bed need to be especially vigilant to avoid falling asleep. • Bed sharing with anyone who is not the infant's parent, including nonparental caregivers and other children. 2–5 times the baseline risk of parent–infant bed sharing: • Preterm or low birth weight infant, even if neither parent smokes. • Bed sharing with soft bedding accessories, such as pillows or blankets.
	The safest place for a baby to sleep is on a separate sleep surface designed for infants close to the parents' bed. However, the AAP acknowledges that parents frequently fall asleep while feeding the infant. Evidence suggests that it is less hazardous to fall asleep with the infant in the adult bed than on a sofa or armchair, should the parent fall asleep.	Bed sharing can occur unintentionally if parents fall asleep while feeding their infant, or at times when parents are particularly tired or infants are fussy. Evidence suggests that it is relatively less hazardous (but still not recommended) to fall asleep with the infant in the adult bed than on a sofa or armchair, should the parent fall asleep.
	The safety and benefits of cobedding for twins and higher-order multiples have not been established.	Any potential benefits of cobedding for twins and higher-order multiples are outweighed by the risk of cobedding.
Soft bedding		It is recommended that weighted blankets, weighted sleepers, weighted swaddles, or other weighted objects not be placed on or near the sleeping infant.
	Infant sleep clothing, such as a wearable blanket, is preferable to blankets and other coverings to keep the infant warm while reducing the chance of head covering or entrapment that could result from blanket use.	Dressing the infant with layers of clothing is preferable to blankets and other coverings to keep the infant warm while reducing the chance of head covering or entrapment that could result from blanket use. Wearable blankets can also be used.

TABLE 3 Continued

Topic	2016 Guidelines	Revised 2022 Guidelines
Pacifier use	For breastfed infants, pacifier introduction should be delayed until breastfeeding is firmly established.	For breastfed infants, delay pacifier introduction until breastfeeding is firmly established. This is defined as having sufficient milk supply; consistent, comfortable, and effective latch for milk transfer; and appropriate infant weight gain as defined by established normative growth curves. The time required to establish breastfeeding is variable.
Prenatal and postnatal exposure to tobacco, alcohol, and other substances	Avoid smoke exposure during pregnancy and after birth.	Avoid smoke and nicotine exposure during pregnancy and after birth.
	Avoid alcohol and illicit drug use during pregnancy and after birth.	Avoid alcohol, marijuana, opioids, and illicit drug use during pregnancy and after birth.
Overheating and head covering		Given the questionable benefit of hat use for the prevention of hypothermia and the risk of overheating, it is advised not to place hats on infants when indoors except in the first hours of life or in the NICU.
Use of home cardiorespiratory monitors	There are no data that other commercial devices that are designed to monitor infant vital signs reduce the risk of SIDS.	Direct-to-consumer heart rate and pulse oximetry monitoring devices, including wearable monitors, are sold as consumer wellness devices. A consumer wellness device is defined by the FDA as one intended "for maintaining or encouraging a healthy lifestyle and is unrelated to the diagnosis, cure, mitigation, prevention, or treatment of a disease or condition." Thus, these devices are not required to meet the same regulatory requirements as medical devices and, by the nature of their FDA designation, are not to be used to prevent sleep-related deaths. Although use of these monitors may give parents peace of mind, and there is no contraindication to using these monitors, data are lacking that would support their use to reduce the risk of these deaths. There is also concern that use of these monitors will lead to parent complacency and decreased adherence to safe sleep guidelines. A family's decision to use monitors at home should not be considered a substitute for following AAP safe sleep guidelines.
Tummy time	Although there are no data to make specific recommendations as to how often and how long it should be undertaken, the AAP reiterates its previous recommendation that "a certain amount of prone positioning, or 'tummy time,' while the infant is awake and being observed is recommended to help prevent the development of flattening of the occiput and to facilitate development of the upper shoulder girdle strength necessary for timely attainment of certain motor milestones."	Parents are encouraged to place the infant in tummy time while awake and supervised for short periods of time beginning soon after hospital discharge, increasing incrementally to at least 15–30 min total daily by age 7 wk.
Swaddling		Weighted swaddle clothing or weighted objects within swaddles are not safe and therefore not recommended.
	When an infant exhibits signs of attempting to roll, swaddling should no longer be used.	When an infant exhibits signs of attempting to roll (which usually occurs at 3–4 mo but may occur earlier), swaddling is no longer appropriate because it could increase the risk of suffocation if the swaddled infant rolls to the prone position

TABLE 3 Continued

Topic	2016 Guidelines	Revised 2022 Guidelines
Health professionals and child care providers	Health care professionals, staff in newborn nurseries, and child care providers should endorse and model the SIDS risk reduction recommendations from birth.	It is essential that physicians, nonphysician clinicians, hospital staff, and child care providers endorse and model safe infant sleep guidelines from the beginning of pregnancy.
Media and manufacturers	Media and manufacturers should follow safe sleep guidelines in their messaging and advertising.	It is advised that media and manufacturers follow safe sleep guidelines in their messaging, advertising, production, and sales to promote safe sleep practices as the social norm.
Education		Culturally appropriate, respectful, and nonjudgmental communication between clinicians and parents is important when discussing safe infant sleep. Language interpreters should be used as needed. Education that is integrated with other health messaging, such as discussion of the risk of falls and potential skull fractures if infants fall from an adult's arms or a sleep surface, can be helpful. Strategies to avoid inadvertent bed sharing could include setting of alarms or alternative activities (books, television shows, etc) to avoid falling asleep. Education campaigns need to be well funded, strategically implemented, and evaluated, and innovative, socioculturally appropriate intervention methods need to be encouraged and funded.
Research and surveillance		Research on the social determinants of health, health care delivery system inequalities, and the impact of structural racism and implicit bias as related to health care access, education, and outcomes that contribute to health disparities, and understanding how to best address these disparities in a socioculturally appropriate manner, should be continued and funded. It is important to provide training for hospital personnel in the evaluation and response when an infant who has been found unresponsive and has potentially died suddenly and unexpectedly is brought for medical attention in the emergency department or other medical facilities, as well as information about how to support families during this difficult time.

This table does not reflect all of the safe sleep guidelines but only those portions of the guidelines that have been substantially revised. NICHD, Eunice Kennedy Shriver National Institute of Health and Human Development.

the accompanying technical report, "Evidence Base for 2022 Updated Recommendations for a Safe Infant Sleeping Environment to Reduce the Risk of Sleep-Related Infant Deaths".[13]

RECOMMENDATIONS TO REDUCE THE RISK OF SLEEP-RELATED INFANT DEATHS

1. Back to sleep for every sleep. To reduce the risk of sleep-related death, it is recommended that infants be placed for sleep in a supine (back) position for every sleep by every caregiver until the child reaches 1 year of age.[14–18] Side sleeping is not safe and is not advised.[15,17]
   a. The supine sleep position on a flat, noninclined surface does not increase the risk of choking and aspiration in infants and is recommended for every sleep, even for infants with gastroesophageal reflux (GER). The infant airway anatomy and protective mechanisms (eg, gag reflex) protect against aspiration[19,20] (see Fig 1 and video [https://www.youtube.com/watch?v=zm0YQbAsDnk], both of which may be helpful in educating parents and caregivers). The American Academy of Pediatrics (AAP) concurs with the North American Society for Pediatric Gastroenterology and Nutrition that " … no position other than supine position is recommended for infants because of the risk of SIDS." Further, "the working group recommends