



Complete Summary

GUIDELINE TITLE

Changing concepts of sudden infant death syndrome: implications for infant sleeping environment and sleep position.

BIBLIOGRAPHIC SOURCE(S)

Changing concepts of sudden infant death syndrome: implications for infant sleeping environment and sleep position. American Academy of Pediatrics. Task Force on Infant Sleep Position and Sudden Infant Death Syndrome. Pediatrics 2000 Mar; 105(3 Pt 1):650-6. [120 references]

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INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT

CATEGORIES

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SCOPE

DISEASE/CONDITION(S)

Sudden infant death syndrome (SIDS, also called crib or cot death)

GUIDELINE CATEGORY

Prevention

Risk Assessment

CLINICAL SPECIALTY

Family Practice

Pediatrics

INTENDED USERS

Advanced Practice Nurses

Allied Health Personnel

Health Care Providers
Nurses
Physician Assistants
Physicians
Public Health Departments

GUIDELINE OBJECTIVE(S)

- To reemphasize the importance of infant positioning for sleep as an effective modifiable risk factor for sudden infant death syndrome
- To focus increased attention on other modifiable environmental factors
- To describe complications that may have arisen from modifying risk factors
- To make recommendations about other strategies that may be effective for further reducing the risk of sudden infant death syndrome

TARGET POPULATION

Infants under 1 year of age, especially infants between 2 and 4 months old

INTERVENTIONS AND PRACTICES CONSIDERED

1. Placing infant to sleep in a nonprone position
2. Use of safe bedding practices (crib that conforms to safety standards, avoidance of soft materials and loose bedding in the infant's sleep environment), use of caution in bed sharing or cosleeping)
3. Use of prone positioning when awake (tummy time)
4. Use of devices to maintain sleep position of to reduce risk of rebreathing (considered, but not recommended)
5. Use of electronic respiratory and cardiac monitors
6. Continuation and expansion of campaigns (e.g., Back to Sleep) to promote safe sleeping practices and to reduce potentially modifiable risk factors for sudden infant death syndrome

MAJOR OUTCOMES CONSIDERED

Incidence of sudden infant death syndrome

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

Not stated

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Not stated

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Not applicable

METHODS USED TO ANALYZE THE EVIDENCE

Review

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Not stated

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Not stated

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Not applicable

COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

METHOD OF GUIDELINE VALIDATION

Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

Not stated

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

During the past decade, a variety of strategies have been developed that reduce the risk of sudden infant death syndrome (SIDS). The following list includes a modification and expansion of the recommendations made by the American Academy of Pediatrics Task Force since 1992. It should be emphasized that the recommendations are intended for sleeping infants and primarily for well infants. Individual medical conditions may warrant a physician to recommend otherwise, after weighing the relative risks and benefits.

1. Infants should be placed for sleep in a nonprone position. Supine (wholly on the back) confers the lowest risk and is preferred. However, while side sleeping is not as safe as supine, it also has a significantly lower risk than prone. If the side position is used, caretakers should be advised to bring the dependent arm forward to lessen the likelihood of the infant rolling to the prone position.
2. A crib that conforms to the safety standards of the Consumer Product Safety Commission and the ASTM (formerly the American Society for Testing and Materials) is a desirable sleeping environment for infants. (Although many cradles and bassinets also may provide safe sleeping enclosures, safety standards have not been established for these items.) Sleep surfaces designed for adults often are not free of the aforementioned hazards and may have the additional risk of entrapment between the mattress and the structure of the bed (e.g., the headboard, footboard, side rails, and frame), the wall, or adjacent furniture, as well as between railings in the headboard or footboard. (Nakamura, Wind, & Danello, 1999)
3. Infants should not be put to sleep on waterbeds, sofas, soft mattresses, or other soft surfaces.
4. Avoid soft materials in the infant's sleeping environment.
 - Soft materials or objects, such as pillows, quilts, comforters, or sheepskins, should not be placed under a sleeping infant.
 - Soft objects, such as pillows, quilts, comforters, sheepskins, stuffed toys, and other gas-trapping objects should be kept out of an infant's sleeping environment. Also, loose bedding, such as blankets and sheets, may be hazardous. If blankets are to be used, they should be tucked in around the crib mattress so the infant's face is less likely to become covered by bedding. One strategy is to make up the bedding so that the infant's feet are able to reach the foot of the crib (feet to foot), with the blankets tucked in around the crib mattress and reaching only the level of the infant's chest. Another strategy is to use sleep clothing with no other covering over the infant.
5. Bed sharing or cosleeping may be hazardous under certain conditions. (Scragg et al., 1993; Nakamura, Wind, & Danello, 1999; American Academy of Pediatrics [AAP], 1997; Byard, 1998)
 - As an alternative to bed sharing, parents might consider placing the infant's crib near their bed to allow for more convenient breastfeeding and parent contact.
 - If a mother chooses to have her infant sleep in her bed to breastfeed, care should be taken to observe the aforementioned recommendations (nonprone sleep position, avoidance of soft surfaces or loose covers, and avoidance of entrapment by moving the bed away from the wall and other furniture and avoiding beds that present entrapment possibilities).
 - Adults (other than the parents), children, or other siblings should avoid bed sharing with an infant.*
 - Parents who choose to bed share with their infant* should not smoke or use substances, such as alcohol or drugs, that may impair arousal.
6. Overheating should be avoided. The infant should be lightly clothed for sleep, and the bedroom temperature should be kept comfortable for a lightly clothed adult. (Fleming et al., 1996) Overbundling should be avoided, and the infant should not feel hot to the touch.
7. A certain amount of tummy time while the infant is awake and observed is recommended for developmental reasons and to help prevent flat spots on

- the occiput. Positional plagiocephaly also can be avoided by altering the supine head position during sleep. Techniques for accomplishing this include placing the infant to sleep with the head to 1 side for a week or so and then changing to the other and periodically changing the orientation of the infant to outside activity (e.g., the door of the room).
8. Although various devices have been developed to maintain sleep position or to reduce the risk of rebreathing, such devices are not recommended, because none have been tested sufficiently to show efficacy or safety. (Carolan, Kemp, & Wheeler, In press)
 9. Electronic respiratory and cardiac monitors are available to detect cardiorespiratory arrest and may be of value for home monitoring of selected infants who are deemed to have extreme cardiorespiratory instability. However, there is no evidence that home monitoring with such monitors decreases the incidence of sudden infant death syndrome. Furthermore, there is no evidence that infants at increased risk of sudden infant death syndrome can be identified by in-hospital respiratory or cardiac monitoring. (Malloy and Hoffman, 1996) There are no new data that would lead to a change in the recommendations made in the 1985 statement of the American Academy of Pediatrics on prolonged infantile apnea or the 1986 National Institutes of Health consensus statement on the value of home monitors. (American Academy of Pediatrics [AAP], 1985; National Institutes of Health Consensus Development, 1987)
 10. There is concern that the annual rate of sudden infant death syndrome, which has been decreasing steadily since 1992, now appears to be leveling off, as has the percentage of infants sleeping prone (see Figure 1 in the original guideline document). The national campaign for reducing prone sleeping (Back to Sleep) should continue and be expanded to emphasize the safe characteristics of the sleeping environment, including safe bedding practices, and focus on the portion of the population that continues to place their infants prone. Other potentially modifiable risk factors, such as avoidance of maternal smoking, overheating, and certain forms of bed sharing, should be included as important secondary messages.

* It should be noted that the United States Consumer Product Safety Commission is on record as opposing bed sharing by an infant and an adult, particularly if there is more than 1 adult in the bed. Many cases of infant suffocation have been reported during bed sharing. However, it is recognized that a significant portion of the population practices bed sharing between mother and infant as a strategy to facilitate breastfeeding and that the presence of the father in the bed will be common. It is the consensus of the Task Force that there are insufficient data to conclude that bed sharing under carefully controlled conditions is clearly hazardous or clearly safe.

CLINICAL ALGORITHM(S)

None provided

EVIDENCE SUPPORTING THE RECOMMENDATIONS

REFERENCES SUPPORTING THE RECOMMENDATIONS

[References open in a new window](#)

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of evidence supporting each recommendation is not specifically stated.

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

Prevention of sudden infant death syndrome -- The American Academy of Pediatrics has recommended since 1992 that infants be placed to sleep on their backs to reduce the risk of sudden infant death syndrome. Since that time, the frequency of prone sleeping has decreased from >70% to approximately 20% of US infants, and the sudden infant death syndrome rate has decreased by >40%. However, sudden infant death syndrome remains the highest cause of infant death beyond the neonatal period, and there are still several potentially modifiable risk factors.

POTENTIAL HARMS

When the American Academy of Pediatrics first suggested that infants be placed for sleep in a nonprone position, concerns were expressed that undesirable complications would ensue. Aspiration pneumonia, gastroesophageal reflux, plagiocephaly, and developmental delay were some of the feared complications. Conversely, there is some direct and indirect evidence that infants who vomit are at greater risk of choking if they are sleeping face down. There is no evidence of an increase in aspiration or increased complaints of vomiting since the incidence of supine sleeping has increased dramatically. Although gastroesophageal reflux has been reported to occur less frequently in the prone position, there has been no increase in infant deaths attributable to aspiration in the United Kingdom with the change from prone to supine sleeping for infants. Several reports have suggested an increase of occipital plagiocephaly since prone sleeping has become more frequent, and there has been concern that this increase has led to an increase in unnecessary operations for craniosynostosis, perhaps secondary to a misdiagnosis of plagiocephaly as craniosynostosis. Several studies have evaluated the relationship of developmental milestones and sleep position. Attainment of gross motor milestones seems to occur slightly later in infants who sleep supine than in infants who sleep prone; however, a difference is no longer detectable by 18 months old. There is some concern that caregivers may not be allowing infants to lie prone even while awake. Prone positioning when awake and observed (tummy time) is recommended for development of upper shoulder girdle strength and avoidance of occipital plagiocephaly. These reminders should become a part of routine office anticipatory guidance.

QUALIFYING STATEMENTS

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The recommendations in this statement do not indicate an exclusive course of treatment or serve as a standard of medical care. Variations, taking into account individual circumstances, may be appropriate.

This guideline is intended to consolidate and supplant previous statements made by this Task Force.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Staying Healthy

IOM DOMAIN

Effectiveness
Patient-centeredness
Safety

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

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ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

2000 Mar

GUIDELINE DEVELOPER(S)

American Academy of Pediatrics - Medical Specialty Society

SOURCE(S) OF FUNDING

- American Academy of Pediatrics
- National Institute of Child Health and Human Development

GUIDELINE COMMITTEE

Task Force on Infant Sleep Position and Sudden Infant Death Syndrome

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

Task Force on Infant Positioning and SIDS, 1998–1999: John Kattwinkel, MD, Chairperson; John G. Brooks, MD; Maurice E. Keenan, MD; Michael Malloy, MD.

Consultants: Marian Willinger, PhD (National Institute of Child Health and Human Development); N. J. Scheers, PhD (US Consumer Product Safety Commission)

FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Not stated

ENDORSER(S)

Association of SIDS and Infant Mortality Programs - Professional Association
National Institute of Child Health and Human Development - Federal Government Agency [U.S.]
SIDS Alliance - Professional Association

GUIDELINE STATUS

This is the current release of the guideline.

AAP Policies are reviewed every 3 years by the authoring body, at which time a recommendation is made that the policy be retired, revised, or reaffirmed without change. Until the Board of Directors approves a revision or reaffirmation, or retires a statement, the current policy remains in effect.

GUIDELINE AVAILABILITY

Electronic copies: Available from the [American Academy of Pediatrics \(AAP\) Policy Web site](#).

Print copies: Available from AAP, 141 Northwest Point Blvd., P.O. Box 927, Elk Grove Village, IL 60009-0927.

AVAILABILITY OF COMPANION DOCUMENTS

None available

PATIENT RESOURCES

None available

NGC STATUS

This summary was completed by ECRI on September 17, 2001. The information was verified by the guideline developer as of December 5, 2001.

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