

# Using a fan during sleep lowers SIDS risk by 72 percent

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Infants who slept in a bedroom with a fan ventilating the air had a 72 percent lower risk of Sudden Infant Death Syndrome compared to infants who slept in a bedroom without a fan, according to a new study by the Kaiser Permanente Division of Research. The study appears in the October issue of the *Archives of Pediatric & Adolescent Medicine*.

This is the first study to examine an association between better air ventilation in infants' bedrooms and reduced SIDS risk.

The finding is consistent with previous research that showed factors influencing a baby's sleep environment may change SIDS risk. Among those factors are sleeping on the stomach and soft bedding, both of which may limit air ventilation around an infant's breathing pathway and thus increase the chance of re-breathing exhaled carbon dioxide, said the researchers

They explained that fan use is no substitute for practices known to reduce the risk for sudden infant death syndrome, which include: always placing infants to sleep on their backs, putting infants to sleep on firm mattresses and avoiding soft bedding materials like comforters and quilts, providing a separate sleep environment, preventing infants from overheating, and not smoking around infants.

"Although this is the first finding linking fan use to SIDS, concerned parents can take measures to improve ventilation of infants sleep environment, by adding fans in rooms or opening windows. Other

studies have found that parents can also reduce the chance of re-breathing carbon dioxide by putting infants to sleep on their back, avoiding soft bedding and overheating, and by using a pacifier," said study author Dr. De-Kun Li, a reproductive and perinatal epidemiologist at Kaiser Permanente's Division of Research in Oakland.

The study also found that opening a window in infant's room reduced the risk of SIDS by 36 percent compared to babies who slept in a room with closed windows, though this connection was not statistically significant according to the researchers.

"More studies need to be done to determine the exact relationship between the types of ventilation and the risks of SIDS," said Li, who also authored a 2006 study in the British Medical Journal that found that using a pacifier can reduce SIDS risk by 90 percent.

Funded by the National Institutes of Health, this latest study looked at 185 babies who died from SIDS in 10 Northern California counties and Los Angeles County from 1997 to 2000. They were compared to 312 infants of a similar age and from similar socio-economic and ethnic backgrounds in the same counties. Researchers identified SIDS cases through records from the California Department of Health Services and the Los Angeles County coroner's office and interviewed participating mothers by trained interviewers in English and Spanish with an average of 3.8 months after the baby's death.

The study found that if an infant was in a high-risk sleep environment such as sleeping on their stomach or without a pacifier, or sharing a bed with someone other than parents or in an overheated room, using a fan to improve room ventilation was particularly beneficial.

SIDS is the leading cause of death among infants aged 1 to 12 months, and the third leading cause of overall infant mortality in the United

States. SIDS is defined as sudden death of an infant under the age of 1, which remains unexplained after a thorough case investigation, including an autopsy, examination of the death scene and a review of clinical history.

"Though this needs to be studied further before we can make clinical recommendations, this finding is consistent with the other factors that we know impact the SIDS risk by influencing sleeping environment, such as prone sleep position, soft bedding, and use of a pacifier," said Dr. Fern Hauck of the University of Virginia Health Systems, who is a SIDS researcher and an American Academy of Pediatrics SIDS Task Force member. Hauck was not involved with the Kaiser Permanente study.

"The finding that better ventilation had a greater reduced risk of SIDS in the presence of other risk factors affecting sleep environment (prone sleep position, bed sharing – other than parents -- , high temperature, and not using pacifiers) further supports the hypothesis that environmental factors play a major role in SIDS risk," Hauck said.

Because of the difficult nature of the study (interviewing mothers whose babies had died suddenly), participation was relatively low. Also, in a case-control study, recall bias is always a potential concern.

The study involved infants and their mothers from Alameda, Contra Costa, Fresno, Marin, Monterey, Sacramento, San Francisco, San Joaquin, San Mateo, Santa Clara and Los Angeles counties.

Source: Kaiser Permanente

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