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EDUCATION AND RESEARCH UPDATE



sids
SUDDEN INFANT DEATH SERVICES
of illinois, inc.

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CONCERNS RAISED REGARDING CURRENT AAP STATEMENT: BED SHARING AS A RISK FACTOR FOR SIDS

Task Force on Sudden Infant Death Syndrome
American Academy of Pediatrics
Pediatrics. 2005; 116:1245-1255

A number of pediatricians sent letters to the Editor of *Pediatrics* with concerns about the AAP Task Force on SIDS recommendation about bed sharing and SIDS risk. Many are calling for a revision to the current recommendations to include cultural practices and the benefits of parents and infants sharing a sleeping surface. The following is an excerpt of their response to the many letters received.

There are many cultures for which bed sharing is the norm and SIDS rates are low. However, the bed sharing practiced in those cultures is generally very different from that in the US (eg, with firm mats on the floor, separate mats for the infant, and/or absence of soft bedding). It has not yet been determined what constitutes "safe" bed sharing. In the United States, approximately half of the infants that die from sudden,

unexpected death do so while sleeping with their parents. Although the reasons for the protective effect of room sharing without bed sharing are not fully known, it is likely that when the infant is in a crib or bassinet next to the parents' bed, it allows for maternal-infant sensory exchanges and increased infant arousals, similar to those that would be present during bed sharing. In addition, room sharing allows for easy access to the infant for breastfeeding. We too believe that breastfeeding and parent-infant bonding are extremely important, but bed sharing is not imperative for success of either or both. We encourage parents to interact, cuddle, and bond with their infants during awake times.

Members of the AAP Task Force on Sudden Infant Death Syndrome
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INFANT SLEEPING POSITION AND THE SUDDEN INFANT DEATH SYNDROME: SYSTEMATIC REVIEW OF OBSERVATIONAL STUDIES AND HISTORICAL REVIEW OF RECOMMENDATIONS FROM 1940-2002

Ruth Gilbert, Georgia Salanti, Melissa Harden and Sarah See
International Journal of Epidemiology, Vol. 34, No. 4

Before the early 1990's, all parents were advised to place their infants to sleep prone even though there was evidence from clinical research that supported supine sleeping for safety.

According to the authors who reviewed records and looked at sleep positions of infants classified as SIDS, they found that by 1970 there was a statistically significant increase of SIDS for infants placed prone for sleep. In baby care books, prone sleeping was recommended from 1943-1988 and the theory was based on extrapolation from untested theories. Advice that was given to parents for nearly 50 years was contrary to the evidence available from 1970 that prone sleeping was likely to increase the risk of sudden infant death. The authors believe that if there had been a systematic review of data, information regarding sleep position and its relationship to SIDS would have been identified sooner and possibly prevented over 10,000 infant deaths in the UK and at least 50,000 in Europe, Australia and the United States.



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SCIENTISTS PROVIDE NEW EVIDENCE FOR CELLULAR CAUSE OF SIDS

By John Eaton, University of Chicago Chronicle

University of Chicago researchers and colleagues have found strong support that a disturbance of a specific neurochemical can lead to sudden infant death syndrome, the primary cause of death before age 1 in the United States. Approximately 3,000 infants die each year from SIDS, according to the Centers for Disease Control and Prevention.

In the March 8, 2006, issue of the *Journal of Neuroscience*, researchers describe what happens during hypoxia when levels of the hormone serotonin are disturbed in pacemaker cells — the specific group of neurons they previously showed to be responsible for gasping, which resets the normal breathing pattern for babies. Scientists found that normal serotonin levels are needed in these respiratory pacemakers to induce gasping and ignite auto-resuscitation.

“This confirms our previous studies,” said Jan-Marino Ramirez, one of the authors of the study and professor of organismal biology and anatomy. “Now we’ve just better defined the players in the system.”

In a paper published last year in the journal *Neuron*, Ramirez’s work found that sodium-driven pacemaker cells controlled gasping. This work in tissue slices was confirmed in a study published last month by University of Bristol researchers who found the same results in rats.

Scientists knew that SIDS victims had disturbed levels of serotonin in areas critical for respiration. Since serotonin regulates the sodium channels in pacemaker cells, Ramirez’s research team examined more closely serotonin levels in sodium-driven pacemaker neurons in the breathing center.

When researchers removed serotonin from these pacemaker cells, the gasping drastically decreased, from typically about 20 gasps to just two or three gasps — not enough for the baby to awaken.

“It indicates that if there’s a problem with serotonin, the gasping is gone,” Ramirez said. “And when these children don’t gasp, they don’t wake up.”

According to the researcher, when the body senses a lack of oxygen, it shuts down most of the cellular respiratory network and focuses its energy on gasping, which is modulated solely by sodium-driven pacemaker neurons. If that specific neuron is blocked, for whatever reason, the body cannot gasp.

This means there may be nothing wrong with a baby’s breathing under normal conditions, but if the baby goes into hypoxia from a blocked airway or because the baby sleeps on its tummy and does not receive sufficient oxygen, the child needs the sodium-driven pacemakers in order to gasp, which wakes the baby and initiates movement or crying.

“Gasping is an important arousal or auto-resuscitation mechanism,” Ramirez said. It resets a baby’s normal breathing rhythm and also alerts the baby as well as the mother that something is wrong.

“During normal breathing, it’s a complicated network. However, the network becomes more vulnerable to situations like hypoxia, because under these conditions, respiration relies on only one group of pacemakers that become the critical drivers of [breathing] rhythm,” Ramirez said.

Disturbed serotonin levels are also implicated in many psychiatric conditions, such as depression, bipolar disorder and attention deficit disorder. According to Ramirez, adults suffering with these types of conditions may be survivors of SIDS.

Ramirez and his colleagues now are looking more closely at the effects of different levels of serotonin, as well as the hormone norepinephrine, and exactly how much of each is necessary to keep auto-resuscitation in tact.

This study was funded by a grant from the National Institutes of Health. Other authors of the paper are: Andrew Tryba of the Medical College of Wisconsin, first author, and Fernando Pena of Departamento de Farmacobiología, Cinvestav-Coapa, Mexico, co-author.

SAFER MATTRESSES FOR ADULTS AND INFANTS

Did you know that each year about 350 people die in fires caused by a candle, cigarette lighter or other open flame igniting a mattress? Last week the U.S.

Consumer Product Safety Commission approved a new regulation, requiring mattresses to be more resistant to a fire started by an open flame. The new standard limits the heat and spread of a mattress fire giving you more time to escape from the house and more time for fire fighters to save your house.

When the standard becomes fully effective, CPSC estimates that it is likely to save as many as 270 lives, preventing 78 percent of the deaths, and 1,330, or 84 percent of the injuries currently occurring every year.

Although the standard doesn’t officially become effective until July 2007, there are mattresses on the market now that meet these new fire safety requirements. Check with your local mattress retailer to see if they are selling the new mattresses.

Parents and caregivers are also reminded to keep cigarette lighters out of the reach of children and to ensure that all candles are placed on a flat surface, away from combustible materials, and out of the reach of children.



AVOIDING A FLAT HEAD

How can I keep my baby from having a flat head?

In order to have a nice round head, a baby needs to be placed in a variety of positions. Babies should be on their backs for sleep. But when they are awake, they need to have supervised “Tummy Time”.

Even from the first day baby is brought home from the hospital, they can have tummy time 3 times per day for about a minute each time. As they become stronger and can hold their heads up, you can have increasingly longer periods of supervised tummy time.

It is also important for the baby to have his/her position in the crib changed. For example, when baby goes down for a nap, place him on his back with his feet at the foot of the crib. For his next sleep period, place baby with his feet at the head of the crib. The baby will turn his head toward the door to be able to see and hear you when you come in to the room.

Do not overuse the car seat carriers, bouncy chairs or swings. When baby spends too much time in these seats, they can slump forward into an unsafe position that makes it more difficult for baby to breathe deeply. It also does not help babies develop muscle strength in their upper body. Carry your baby in your arms instead of using the carrier all the time. This will also help prevent your baby from getting a flat head.

If you bottle feed your baby, make certain that you alternate the way you hold your baby from feeding to feeding. Sometimes hold baby in left arm, sometimes in the right.

It is important for baby’s normal growth and development that they have to turn their head in different directions. If you have any questions, ask your doctor or call SIDS of Illinois at 1-800-432-SIDS (7437).

REQUEST FOR BROCHURES/VIDEOS ILLINOIS ORDER FORM

MAIL FORM TO: Sudden Infant Death Services of Illinois, Inc.
710 E. Ogden Ave Suite 550, Naperville, IL 60563
www.sidsillinois.org

FAX TO: 630-305-4773

SEND MATERIALS TO:

Your Name & Organization: _____

Your Address: _____

City: _____ **State:** _____ **Zip:** _____

Telephone: _____

Credit Card Type: Visa Mastercard Discover AMEX

Credit Card # _____ **Exp. Date** _____

REQUESTED MATERIALS	COST	QUANTITY
Risk Reduction Brochures:		
<i>Safe Sleep, Safe Crib</i> - Reducing the Risks for SIDS brochure – English – Limit 100	Free	
<i>Safe Sleep, Safe Crib</i> – Reducing the Risks for SIDS brochure – Spanish – Limit 100	Free	
<i>Safe Sleep for my Grandbaby</i> Brochure – English – Limit 100	Free	
<i>Safe Sleep for my Grandbaby</i> Brochure – Spanish – Limit 100	Free	
<i>SIDS and the Childcare Provider</i> Brochure – English – Limit 100	Free	
<i>SIDS and the Childcare Provider</i> Brochure – Spanish – Limit 100	Free	
<i>Surviving the Death of an Infant</i> -Bereavement brochure – English – Limit 10	Free	
Videos		
<i>SIDS Reduce Your Baby's Risk</i> 10 minute video Practical information for parents and caregivers by Loyola University Med. Center & SIDS of IL	\$5.00	
<i>Sudden Pediatric Death, from a Parent's Perspective</i> 50 minute video for professionals who may deal with newly bereaved parents presented by Nancy Maruyama, RN	\$5.00	
<i>Healing Presence</i> – Professional Companion to You Are Not Alone video 34 minutes	\$20.00	
<i>You Are Not Alone – Surviving Infant Death</i> – Bereavement video for parents 24minutes	\$20.00	
<i>Caregivers Hurt Too</i> –Bereavement Video for Childcare providers - English & Spanish on same Video	\$45.00	
Halo SleepSacks™ Call for more information	\$20.00	
“This Side Up” Infant T-Shirt – Size 0-6 mos.	\$5.00	
If quantity exceeds order limits, shipping and handling charges will apply		
Total		

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Additional forms are available for printing at www.sidsillinois.org

For Questions: Phone- 630-305-7300

Toll Free-1-800-432-SIDS (Illinois only)

LIMITED QUANTITIES OF PRINTED MATERIALS ARE AT NO CHARGE FOR ILLINOIS ADDRESSES

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MISSION STATEMENT

Sudden Infant Death Services of Illinois, Inc. is a not-for-profit organization dedicated to the elimination of Sudden Infant Death Syndrome (SIDS) and other infant deaths, serving the State of Illinois since 1972.

VISION STATEMENT

Sudden Infant Death Services of Illinois, Inc. is a statewide not-for-profit organization dedicated to:

- Supporting family members and others who have been touched by the tragedy of Sudden Infant Death Syndrome (SIDS) or other infant death;
- Educating both the public and professionals about bereavement support and infant mortality reduction;
- Creating community awareness on the subject of SIDS and other infant death; and
- Eliminating SIDS and other infant death through the support and implementation of appropriate research.

RECENT NATIONAL TRENDS IN SUDDEN, UNEXPECTED INFANT DEATHS: MORE EVIDENCE SUPPORTING A CHANGE IN CLASSIFICATION OR REPORTING.

Shapiro-Mendoza CK et al. American Journal of Epidemiology 2006 163(8):762-769

These CDC authors hypothesize that the recent US decline in sudden infant death syndrome (SIDS) rates may be explained by a shift in how these deaths are classified or reported. To examine this hypothesis, the authors compared cause-specific mortality rates for SIDS, other sudden, unexpected infant deaths, and cause unknown/unspecified, and they evaluated trends in the age and month of death for these causes using 1989-2001 US linked birth/death certificate data. Reported deaths in state and national data were compared to assess under reporting or over reporting. They found that SIDS rates declined significantly from 1989-1991 to 1995-1998, while deaths reported as cause unknown/unspecified and other sudden, unexpected infant deaths, such as accidental suffocation and strangulation in bed (ASSB), remained stable. From 1999-2001, the decline in SIDS rates was offset by increasing rates of cause unknown/unspecified and ASSB. The authors say that changes in the cause-specific age at death and month of death distributions suggest that cases once reported as SIDS are now being reported as ASSB and cause unknown/unspecified. The authors also conclude that most of the decline in SIDS rates since 1999 is likely due to increased reporting of cause unknown/unspecified and ASSB. They say that standardizing data collection at death scenes and improving the reporting of cause of death on death certificates should improve national vital records data and enhance prevention efforts.

- The AAP Policy that promotes room sharing (not bed-sharing) with baby in a crib next to the parent's bed is the message **ALL HEALTHY INFANTS CAN LIVE WITH.**
- The proportion of infants sharing a bed with an adult at night grew from 5.5% to 12.8% between 1993 and 2000, according to the National Infant Sleep Position Study.
- **INFANT MORTALITY DATA FROM CDC**
 Infant, neonatal and postneonatal annual mortality rates in the United States mostly declined during 1940-2003. The most recent data indicate that, from 2002 to 2003, the infant mortality rate (IMR) declined from 6.97 per 1000 live births to 6.85, and the postneonatal mortality rate declined from 2.31 to 2.23. The neonatal rate did not change significantly.