


**BACK TO SLEEP-TUMMY TO PLAY**

Reducing the Risk of Sudden Infant Death Syndrome and Accidental Sleep Related Deaths

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**Iowa SIDS Foundation**

**Our Mission:**

The Iowa Sudden Infant Death Syndrome Foundation is a statewide non-profit health organization dedicated to providing emotional support to SIDS and SUID families, educating professionals and the general public about SIDS, and funding medical research into the causes of SIDS.

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**OBJECTIVES**

- Define Sudden Infant Death Syndrome (SIDS)
  - ✓ What is SIDS and when is SIDS diagnosed?
  - ✓ Facts about what SIDS is
  - ✓ Facts about what SIDS is not
- Describe factors that put babies at risk for SIDS & Other Accidents
  - ✓ Triple Risk Model-New Research Models
  - ✓ Modifiable Environmental Stressors
  - ✓ Identify ways to reduce those risks
- Understanding Your Responsibility
  - ✓ Safe Sleep Policy
  - ✓ Handling the Medical Emergency
  - ✓ After the Emergency

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Please remember that

**MOST BABIES LIVE!!**

My doctor said s/he didn't want to tell me about SIDS because she didn't want to scare me.


I would rather have been worried for a year that my baby might die of SIDS.....

than be sad a lifetime because he did die of SIDS!

**KNOWLEDGE IS POWER!!**

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**WHAT IS SIDS?**


Sudden Infant Death Syndrome (SIDS) is the sudden and unexplained death of an apparently healthy infant younger than one year of age that remains unexplained after a thorough case investigation, including:

1. Performance of a complete autopsy.
2. Examination of death scene.
3. Review of the infant and mother clinical history.

SIDS is a terminal event and is a diagnosis of exclusion.

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**FACTS ABOUT SIDS**

- Despite significant declines, SIDS remains the leading cause of death among US infants. No one can predict which babies will die from SIDS.
- At this time, SIDS is not entirely preventable but the risk of SIDS can be reduced.
- SIDS can happen to any family, regardless of their race, religion, ethnic, or economic group.

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## FACTS ABOUT SIDS

- About 2,200 babies die annually in the United States (First Candle)
- Age Range: The risk of SIDS peaks at 2-4 months of age. Approximately, 90% of SIDS deaths occur before 6 months of age. (HRSA: US Dept. of Health & Human Services)
  - 2-4 months → 75%
  - 4-6 months → 15%
- There is a higher incidence among male infants.
- In some Native American communities, infants are at three times the risk of SIDS.
- African American infants are at a two time greater risk of SIDS than Caucasian infants.

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## SIDS FACTS

- SIDS is:
- NOT caused by external suffocation or pneumonia.
- NOT caused by vomiting and choking or minor illnesses.
- NOT caused by the diphtheria, pertussis, tetanus (DPT) vaccine or other immunizations.
- NOT contagious or caused by a virus. It can not be passed onto other babies or children.
- NOT caused by child abuse or neglect.
- NOT the cause of every sudden unexpected death.
- NOT ANYONE'S FAULT.

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## SIDS in Child Care


- 2/3 of US infants younger than 1 year are in non-parental child care.
- Infants of employed mothers spend an average of 22 hours per week in child care.
- 32% of infants are in child care full time.
- Less than 9% of SIDS deaths should occur in child care. —Ehrle et al, 2001

20.4% of SIDS deaths occurred in regulated child care.

- 60% of those in family child care
- 20% in child care centers   -Moon et al, 2000

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## SIDS in Child Care


- Approximately 1/3 of SIDS deaths in child care occur in the first week, 1/2 of these on the first day.
- Something intrinsic to child care? No
- Unaccustomed tummy sleeping? Yes

Unaccustomed tummy sleeping increases baby's risk of SIDS! (19.3 times)

Why? Later development of upper body strength and less ability to lift head in tummy position.

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## Why Child Care Providers Use Tummy Sleeping

- Misconceptions about risk of sleep position
  - Supine and aspiration, choking
  - Belief that tummy sleeping improves infant comfort
- Parental Preference
  - Lack of information
  - Lack of education
- Lack of Awareness
  - 25% of licensed child care providers say they never hear of the relationship between SIDS and sleep position



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## WHO'S AT RISK

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**INFANTS AT GREATER RISK**

- Low birth weight (<2,500 g)
- Premature (<37 weeks)-10% of births but 20% of SIDS deaths
- Maternal smoking during pregnancy & smoke exposure after birth
- Multiple births
- Maternal age younger than 18 years
- Maternal drug and alcohol use
- <18 months between births

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**UNDERSTANDING RISK**

- No single risk factor is likely to be sufficient to cause a SIDS death. Several risks may contribute to an infant's death.
- The first symptom of SIDS is death.
- SIDS can not be prevented, but following risk reduction recommendation will give all infants the best chance for survival.

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**Triple Risk Model to explain SIDS**

**Factor 1** Critical Period of Development (First 6 months)

**Factor 2** Underlying Vulnerability

**Factor 3** Possible Brainstem Abnormality

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**Serotonergic System & Possible Effects of Homeostatic Function**

The black line represents the medullary level of the brain stem & includes regions involved in the regulation of:

- Upper Airway Control
- Respiration
- Temperature Control
- Heart Rate
- Blood Pressure

Review Article: Medical Progress: The Sudden Infant Death Syndrome. Hannah C. Kinney, M.D. and Bradley T. Thach, M.D., The New England Journal of Medicine, August 20, 2009, page 795.

Generalized reduction in binding to the 5-hydroxytryptamine type 1A receptor.

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**Triple Risk Model to explain SIDS**

**Factor 1** Critical Period of Development (First 6 months)

**Factor 2** Underlying Vulnerability

**Factor 3** Modifiable Pre and Post Natal Environment Stressors

**Highest Risk for SIDS**

Possible Brainstem Abnormality

Prone/Side Sleep Position

Nicotine Exposure

Soft Bedding

Bed Sharing

Overheating


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**5 Steps in Putative Terminal Pathway Associated with SIDS.**


1. A life-threatening event may occur. Such events may include rebreathing of exhaled gases or the face being covered.
2. The vulnerable infant does NOT wake up and turn his head in response.
3. This progresses to a loss of consciousness and lack of reflexes, a so-called hypoxic coma.
4. Extreme bradycardia & hypoxic gasping ensue, changes that are evident in the terminal-event recordings in infants who were being monitored at the time of death. (Low heart rate/oxygen deficiency)
5. In the vulnerable infant, autoresuscitation is impaired-a second defense failure-which results in death.

Complex genetic & environmental interactions influence the pathway.


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# HOW CAN WE REDUCE THE RISK?



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## RISK: SLEEP POSITION

Studies suggest that stomach sleeping may increase SIDS risk through a variety of mechanisms:


- Increasing the probability that the baby re-breathes.
- Causing upper-airway obstructions.
- Interfering with body heat dissipation, leading to overheating.

In comparison to back sleepers, infants who sleep on their stomachs:


- Are less reactive to noise.
- Experience sudden decreases in blood pressure and heart rate control.
- Experience less movement, higher arousal thresholds, and longer periods of deep sleep.
- Are at a 5-7 times greater risk of SIDS.

**Unaccustomed Stomach Sleepers = Increase of 19.3%**

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# Back to Sleep!!




Place infants to sleep on their backs at night and during naptime.

AAP SIDS Statement 2005  
 "Infants should be placed for sleep in a supine position (wholly on the back) for every sleep."

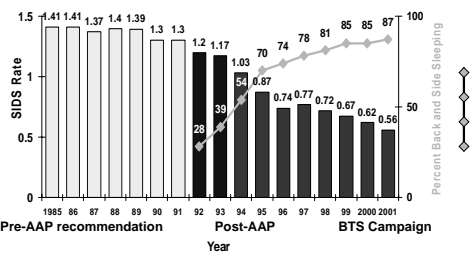
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## SIDS Rate and Sleep Position 1985-2001


(deaths per 1,000 live births)



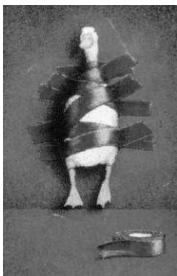
Year	SIDS Rate (deaths per 1,000 live births)	Percent Back and Side Sleeping
1985	1.41	
1986	1.41	
1987	1.37	
1988	1.4	
1989	1.39	
1990	1.3	
1991	1.3	
1992	1.2	28
1993	1.17	39
1994	1.03	54
1995	0.87	70
1996	0.74	74
1997	0.77	78
1998	0.72	81
1999	0.67	85
2000	0.62	85
2001	0.56	87

Sleep Position Source: NICHD Household Survey  
 SIDS Rate Source: National Center for Health Statistics, CDC

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## We don't recommend this...



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## Advantages of Back Sleeping

- Babies swallow more often.
- Fewer ear infections at 3 & 6 months.
- Less stuffy noses at 6 months of age.
- Experience less trouble sleeping at 6 months. (Hunt, 2000)

**OTHER NOTES ON BACK SLEEPING:**

- Back sleeping is a learned behavior!!!
- Aspiration: No evidence of an increase in aspiration or vomiting since back sleep was recommended.
- Positional Head Molding

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## RISK: NICOTINE EXPOSURE

- Maternal nicotine use before, during, and after pregnancy results in a higher risk of SIDS (Fleming, 2000).
- Exposure to second hand smoke also increases the risk in a dose-dependent manner. (Fleming, 2000)



THEFORE...  
THEREFORE...

### PROVIDE A SMOKE FREE ENVIRONMENT FOR YOUR BABY

ADVISE ANYONE CARING FOR YOUR BABY THAT NO ONE SHOULD SMOKE AROUND THE BABY!

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## RISK: SOFT BEDDING

- Soft bedding may trap exhaled air resulting in the possibility of the baby re-breathing the air and exhaled carbon dioxide instead of oxygen rich air.
- Includes pillows, quilts, blankets, comforters, bumper pads, sheepskins, and stuffed animals.
- Adult beds and mattresses, waterbeds, & couches are also a source of soft bedding.

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## REDUCE THE RISK

- Place babies on a firm, tight-fitting mattress in a crib that meets safety standards. Softness does NOT equate safety.
- Remove pillows, quilts, comforters, sheepskins, stuffed toys, bumper pads, and other soft products from the crib.

\* Decorate the room—not the crib!\*

- Consider using a sleeper or other sleep clothing as an alternative to blankets.
- Do not place the baby on a waterbed, sofa, soft mattress, pillow or other soft surface to sleep.

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## Halo SleepSack™



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## RISK: OVER HEATING

- Overheating may predispose an infant to increased core body temperature.
- Keeping the face and head uncovered is important in maintaining proper core body temperature because the head is the main source of heat loss in infants.

REDUCE THE RISK:

- Maintain the baby's room temperature at 68-72°
- Check the baby's core temperature for comfort.
- Never cover the baby's head or face.

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## The "Baby Bucket"



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## RISK: BED SHARING

"There is no basis at this time for encouraging bed sharing as a strategy to reduce SIDS risk." –American Academy of Pediatrics


Approximately 50% of sudden infant deaths occur when infants are sharing a bed, sofa, or reclining chair with another person. Hauk FR, Herman SM, Donovan M, et al. Pediatrics 2003.

Bed Sharing Increases Accidental Deaths by:

- Accidents → Falls
- Entrapment Deaths → bed/wall, mattress/bed, couch, recliners
- Soft Bedding Deaths → re-breathing
- Overlay Deaths
- Suffocation Deaths → No air at all due to pillows, quilts, comforters

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## COMMON REASONS TO BEDSHARE

- Convenience – breastfeeding, comforting
- Low Income - affordability/availability of a crib, space
- Beliefs – keep baby safe, 'it's mean'
- Cultural/Family Habit
- Working Parents – only time together
- Lack of Information

(Rachel Moon, M.D.)

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## REDUCE THE RISK

- Room Share: Placing an infant in a crib or bassinet next to a parent's bed is the safest way for a parent to sleep next to an infant.
- Always return baby to his or her crib after breastfeeding or comforting.
- Place your baby on his or her back on a firm, tight-fitting mattress in a crib that meets current safety standards.


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## PROTECTIVE MEASURES

1. AAP recommends pacifier use to reduce SIDS:
  - Offer a pacifier at nap and nighttime.
  - Pacifiers should not be coated with anything sweet and should be cleaned often & replaced regularly.
  - For breastfed infants, delay use until breastfeeding has been firmly established.
2. Breastfeeding is best if possible!
3. Fan Use




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1. Male, 3 months 26 days, pack and play, blanket, toy, placed on side, found prone
2. Male, 16 days old, SUID in baby swing
3. Male, 2 months 26 days, nicotine exposure, prone, laid to sleep on couch
- Female, 5 months 4 days, prone, bumper pads, stuffed animals, baby quilt, baby blanket
- Male, 2 months 14 days, prone, sleeping on adult bed with comforter, pillow on side, 75°
- Male, 2 months 20 days, pack and play, blankets for padding, side sleeping, found prone
- Male, 3 months 7 days, prone sleeping in crib, no other risk factors
- Male, 6 months 12 days, pack and play, prone, two blankets in pack and play
- Female, 4 months 16 days, pack and play, comforter covering mattress pad.
- Female, 3 months, placed to sleep in car seat

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## Caregivers and SIDS

Parents EXPECT you to know!

Your responsibility:

1. Know the standard of care.
2. Educate parents.
3. Create and maintain a policy regarding safe sleep.
4. Be able to handle an infant medical emergency.




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## Benefits of a Safe Sleep Policy

- May save lives of babies!
- Shows parents baby's health & safety is your #1 priority!
- Educates staff: consistent care, educate parents, professional development.
- Empowers childcare providers.
- If followed, helps reduce your risk of liability.

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## What should be included in a Safe Sleep Policy?

- Healthy babies always sleep on their backs.
- Obtain physician's note for non-back sleepers.
- Use of safety-approved cribs & firm mattresses.
- Crib: free of toys, stuffed animals, & excessive bedding.
- Sleep only one baby per crib.

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## What should be included in a Safe Sleep Policy?

- Room temperature is 68-72\*.
- Monitor sleeping babies.
- Have supervised tummy time for awake babies.
- Teach staff about safe sleep policy and practices.
- Provide parents with safe sleep policy.

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## Alternate Sleep Positions?

1. Require written & signed physician's note.
  - Identifies medical reason why baby sleeps in position other than back. (review periodically)
2. Inform all child care providers & substitutes.
3. Keep physician's note in baby's medical file & post notice on crib.

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## HANDLING THE MEDICAL EMERGENCY

1. Have a emergency plan in place.
2. Review the plan periodically.
3. Renew CPR certification annually.

*PLEASE!!*

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## First Aid for an Unresponsive Infant

- If you find a unresponsive infant or child:
- Check for breathing: look, listen, and feel.
  - If no pulse or spontaneous breathing, begin CPR for 1 minute.
  - Call 911.
  - Resume CPR until medical personnel arrive.
  - Let the other children in your care know that something is wrong. Remove them from the area of the emergency.

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## EMERGENCY PLAN

- Call the child's parents or emergency backup contact.
- Call the parents of the other children.
- Do NOT disturb the scene.
- Notify the licensing agency and the insurance agency.
- Document the entire sequence of events.

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## AFTER THE EMERGENCY

### INVESTIGATION

- Helps :
1. to determine the cause of the death.
  2. to learn more about SIDS.
  3. you to remember that no one is to blame for a SIDS death.

#### Be Prepared to Work with:

- Law Enforcement-baby's health, behavior, photos
- Paramedics/EMT/Fire Fighters
- Coroner/Medical Examiner-death scene re-enactment, autopsy, determines circumstance of death
- Social Workers
- Insurance Agencies
- Licensing: questions regarding regulations

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## AFTER THE EMERGENCY LEGAL

Individuals & Agencies can lose their licensing.

#### Grounds:

- Wrongful death-act of negligence caused a person's death.
- Breach of Contract: A contract ensues at time of enrollment.
- Neglect: negligent in NOT following safe sleep standards
- Loss of Society: Opportunity for society to benefit from the child is lost.

Back to Sleep = STANDARD OF CARE

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## CAREGIVER'S FEELINGS

- Guilt
- Distrust of ability to care for children/loss of confidence
- Loss of sleep or appetite
- Over-protectiveness or impatience with children
- Anger
- Physical Symptoms
- Lack of Control
- Crying Spells, Withdrawal, Depression

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## WHERE CAREGIVERS 'FIT'

There is NO right or wrong way—completely dependent on parental reaction.

#### Factors to consider:

- Prior relationship with parent.
- Parental reaction – anger, blame, confusion, sorrow.
- Continuing to care for other children?


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## PLEASE Remember – Most babies live!



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Acknowledgements:

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[www.healthychildcare.org](http://www.healthychildcare.org)  
[\\*www.sidsinfo.org](http://www.sidsinfo.org)
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"SIDS and Infant Death Program Manual and Training Guide"

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