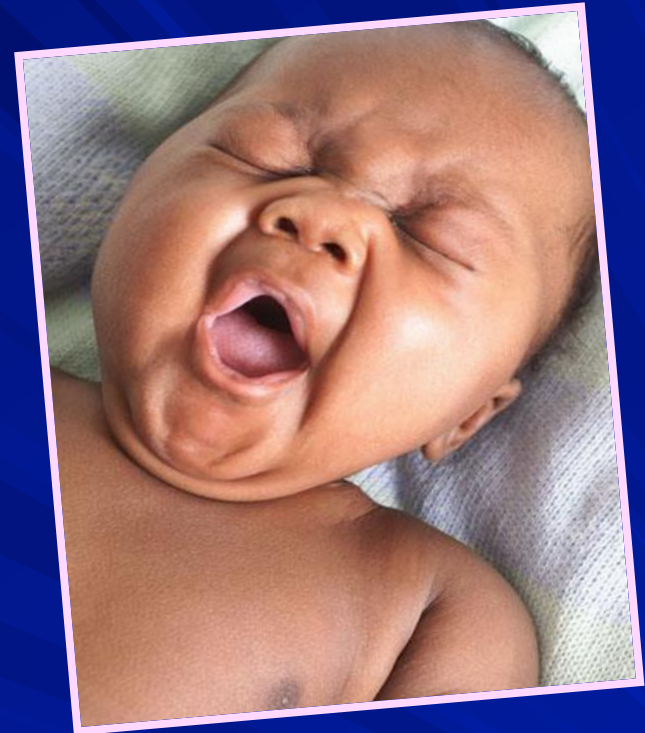


Reducing the Risk of Sudden Infant Death Syndrome (SIDS) and Other Sleep Related Sudden Infant Deaths:

Trends, Policy, Implementation



Fern R. Hauck, MD, MS

University of Virginia

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Guarding All Children in Sleep



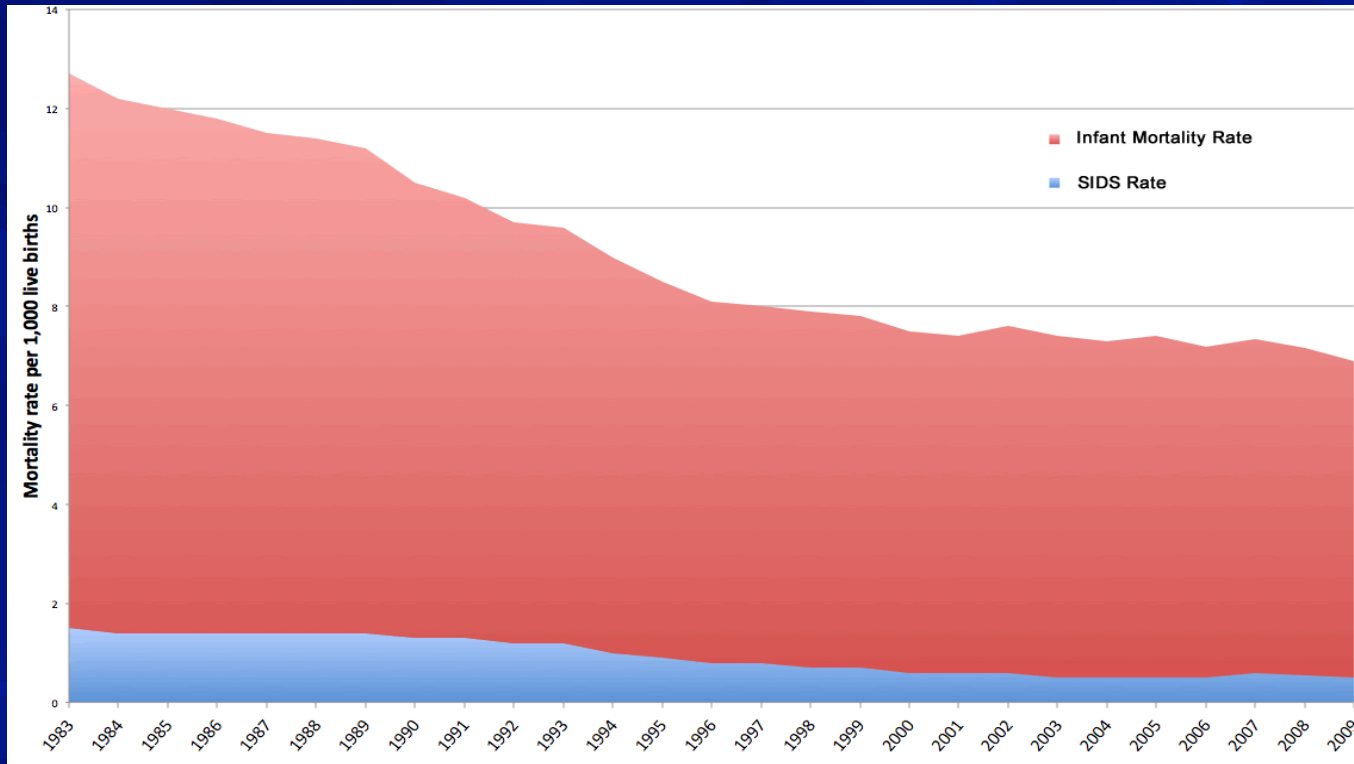
Objectives

1. Describe national trends in SIDS and other sleep related sudden infant deaths.
2. Review the newest AAP Guidelines (2011) and the evidence behind them.
3. Discuss controversies associated with some of these guidelines.
4. Describe methods to disseminate and share the “reduce the risk” messages with families.

Definitions

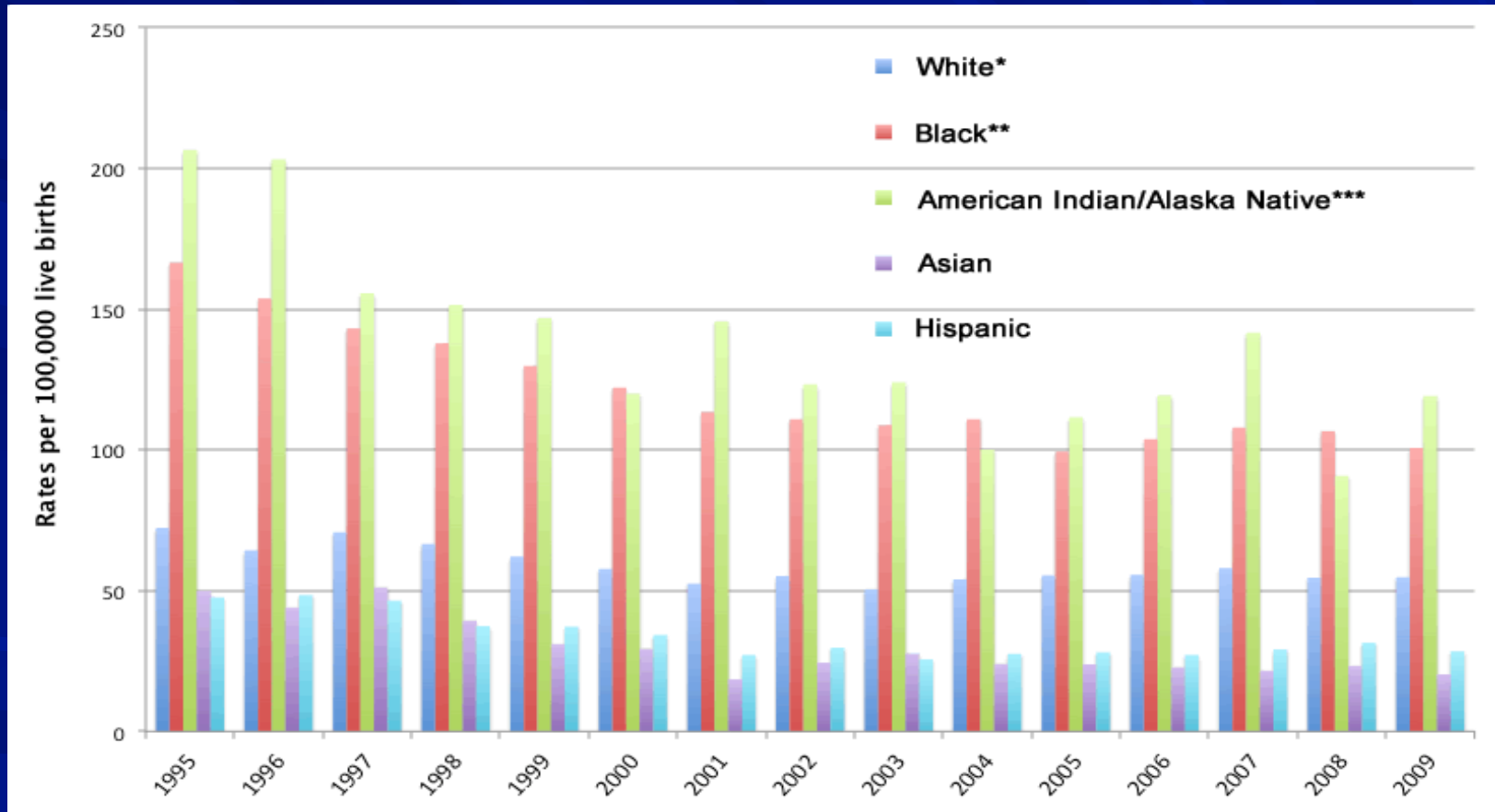
- Sudden and unexpected infant death (SUID):
 - Describes all sudden, unexpected deaths regardless of cause
 - ~4,600 per year in the U.S.
- Sudden infant death syndrome:
 - Cases of SUID that remained unexplained after a complete autopsy and review of the circumstances of death and clinical history
 - 2,226 in 2009, ~50%
- Other SUID:
 - Infection, infanticide/intentional suffocation (<5%), inherited disorders of fatty acid metabolism (1%), genetic cardiac channelopathies (5-10%)

Infant Mortality and Sudden Infant Death Syndrome, 1983--2009



Source: National SUID/SIDS Resource Center, 2013; Data from NCHS

SIDS Deaths by Race and Ethnicity, 1995–2009

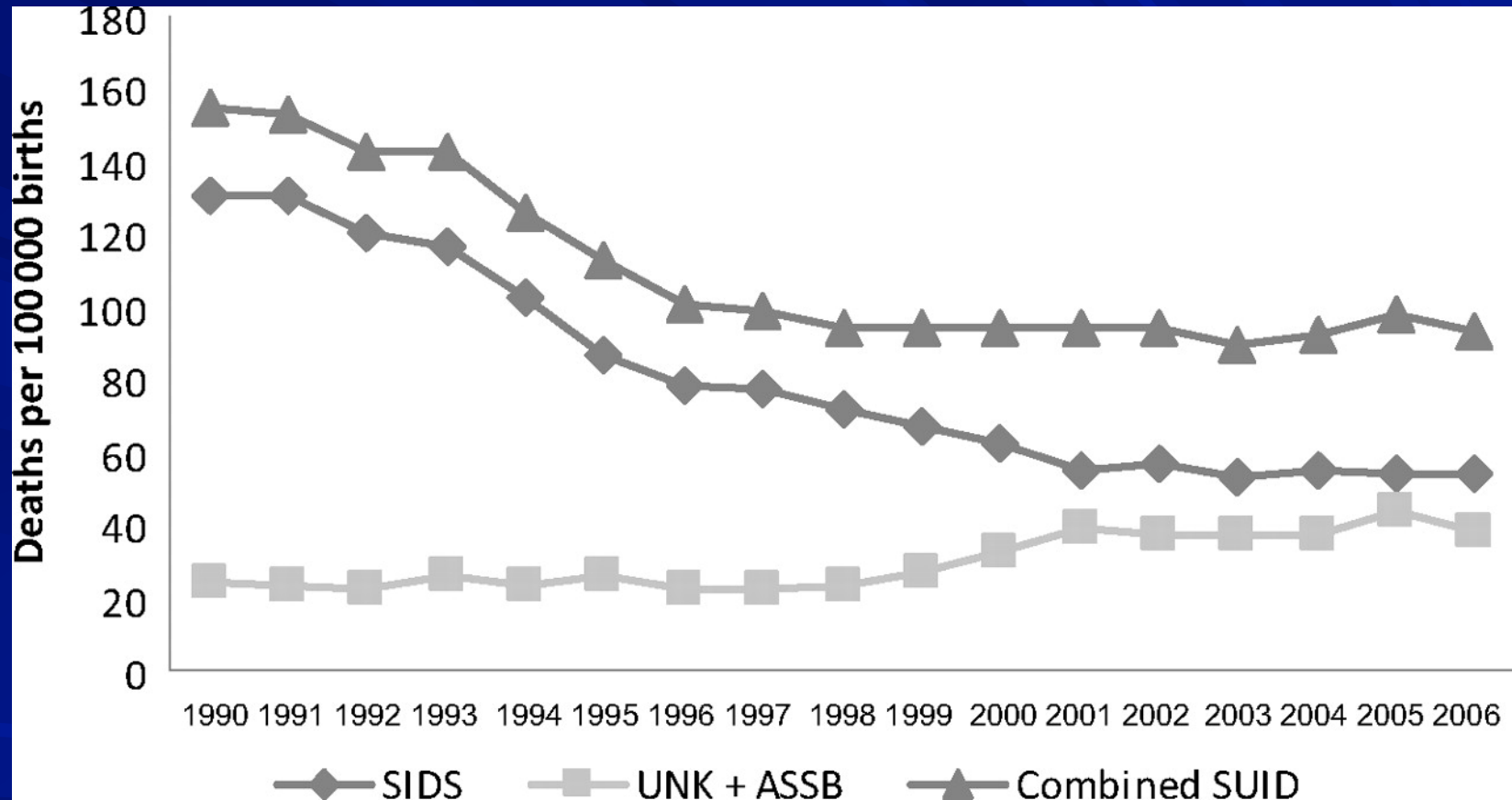


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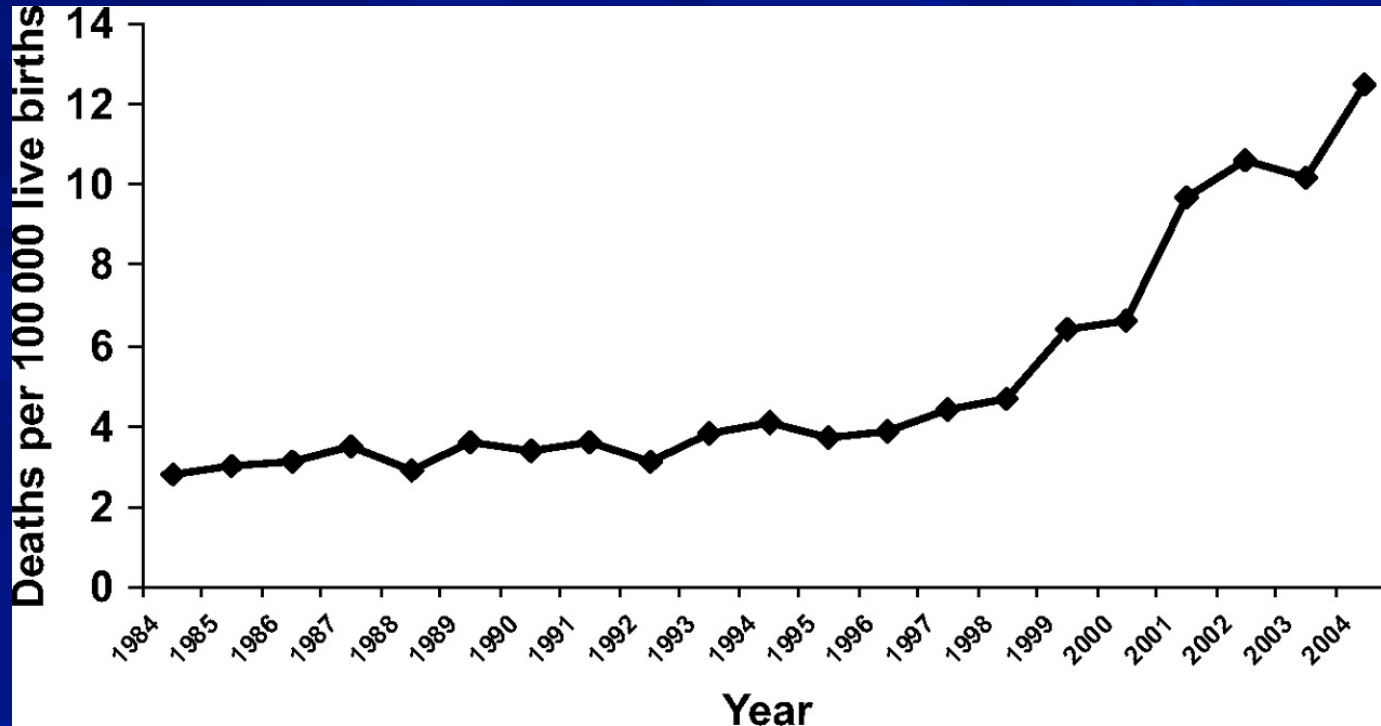
Increasing Rates of Other Sleep-related Deaths

- Accidental suffocation (accidental suffocation and strangulation in bed-ASSB)
- Entrapment
- Undetermined
- Most (80->90%) of these occur in unsafe sleep environments
 - Bedding (soft, blankets and pillows, bumper pads)
 - Bed sharing (sleeping on same bed or other surface with adults or other children)

Trends in SIDS and Other SUID Mortality: United States, 1990–2006



ASSB Rates per 100,000 Live Births, United States, 1984-2004



Shapiro-Mendoza. Pediatrics 2009;123:533-539

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How Do We Explain These Trends?

- Diagnostic shift or true change in cause of death?
- Reasons for shift not known. May be related to:
 - Increase in death scene investigations and child death review resulting in more information about circumstances of death
 - Adhering to more stringent definition of SIDS
 - Increase in bed sharing, sleeping in adult beds, couches, or chairs

Sleep Environment of SUIDs from SIDS, Suffocation or Undetermined

- Child Death Review Reporting System, 2005-2008, 9 states, 3136 sleep-related SUIDs
- 24% sleeping in crib or bassinet, 47% in adult bed, 13% couch or chair
- 35% sleeping on stomach (missing in 41%)
- 64% sleeping with person/animal; 51% with adult
- Infants put to sleep on surface not intended for infant sleep were twice as likely to be classified as suffocation deaths than SIDS; sleeping with adult 3 times more likely to be classified as suffocation
- This study highlights the increasingly important contribution of sleep location and bed sharing to SUIDs

Established Risk Factors for SIDS: Based on Case-Control Studies

- Prone/side sleep position
- Maternal smoking during pregnancy
- Maternal drug use during pregnancy
- Environmental tobacco smoke
- Overheating
- Soft sleep surface
- Bed sharing
- Late or no prenatal care
- Young maternal age
- Prematurity and/or low birth weight
- Male sex
- African American
- Native American

Established Protective Factors for SIDS

- Pacifier use when placed for sleep
- Room sharing without bed sharing
- Breastfeeding



Disparities in SIDS and Other Sleep-related Sudden Deaths

- Race-ethnicity: African Americans and American Indians twice the incidence of other groups
- Mothers of lower age, education, income
- Largely attributed to unsafe sleep practices and parental behaviors, such as smoking, drug use, prone sleeping, bed sharing, not breastfeeding

Priorities for Revised American Academy of Pediatrics Policy Statement (2011)

- More explicit
- More concrete
- More specific guidance for the health care professional

In General...

- Recommendations are to reduce the risk of SIDS and sleep-related suffocation, asphyxia, and entrapment
 - Does not imply that SIDS = suffocation, asphyxia, or entrapment
 - Trying to reduce the incidence of all of these deaths
- Recommendations should be used consistently until 1 year of age
 - Most epidemiological studies upon which these recommendations are based include infants up to 1 year of age



Two Documents

- Policy Statement: summary of recommendations (SIDS and other sleep-related infant deaths: expansion of recommendations for a safe infant sleeping environment. Pediatrics 2011;128:1030-1039.
www.pediatrics.org/cgi/10.1542/peds.2011-2220
- Technical Report: background literature review and data
www.pediatrics.org/cgi/content/full/128/5/e1341
- Total of 18 recommendations
- All intended for parents, health care providers and others who care for infants. Last 4 also for policy makers, researchers, and professionals who care for or work on behalf of infants.

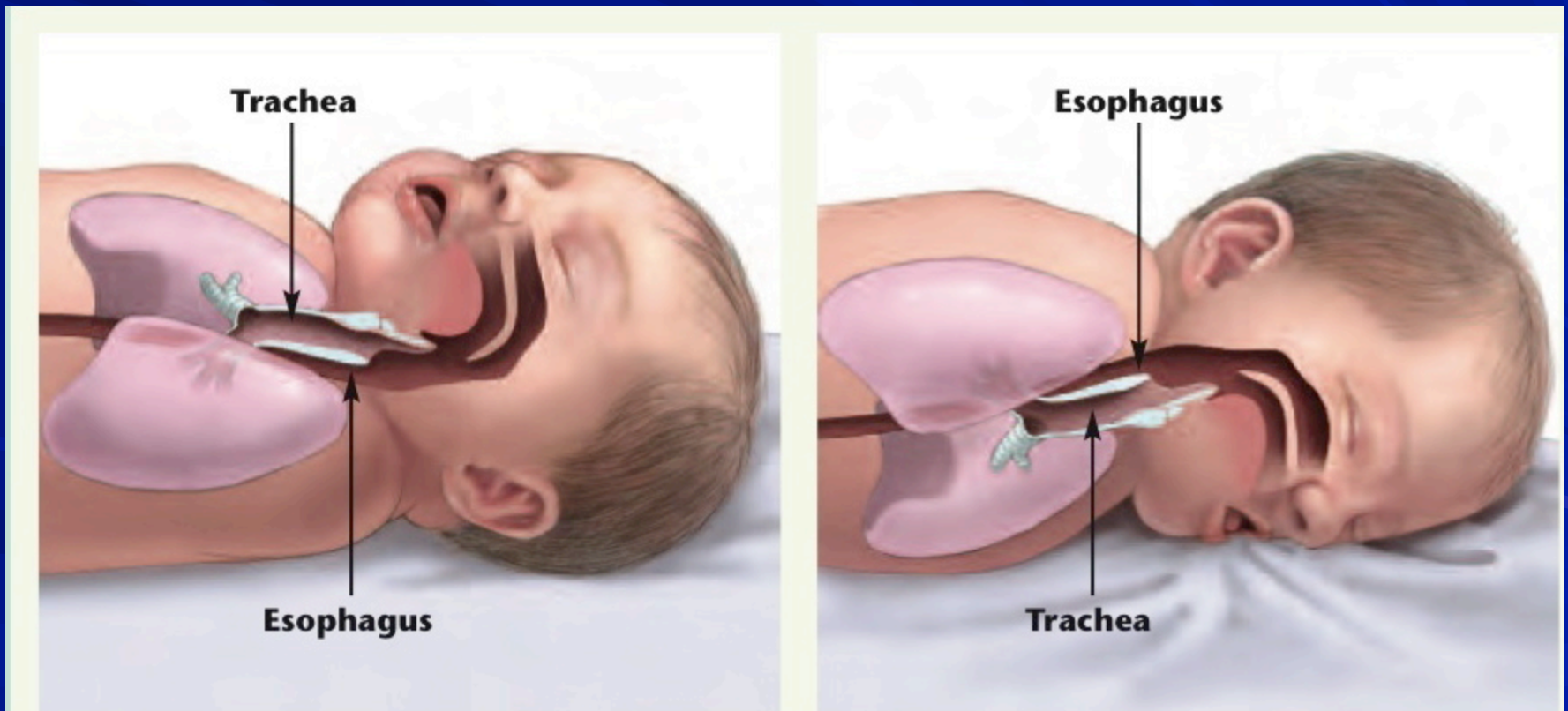
Level A Recommendations*

- Back to sleep for every sleep
- Use a firm sleep surface: a firm crib mattress covered by a fitted sheet is the recommended sleeping surface
- Room share without bed sharing
- Keep soft bedding and loose objects out of the crib
- Avoid overheating
- Breastfeed
- Consider offering a pacifier at naptime and bedtime
- Do not use home cardiorespiratory monitors as way to prevent SIDS
- Expand the national campaign to include major focus on safe sleep
- Avoid smoke exposure during pregnancy and after birth
- Avoid alcohol and illicit drug use during pregnancy and after birth
- Get regular prenatal care during pregnancy

*Recommendations based on good and consistent scientific evidence and high certainty that net benefit is substantial

Remember the Anatomy!

- No increased incidence of aspiration since the change to supine sleeping (Byard 2000, Malloy 2002, Tablizo 2007)



Bed Sharing



Room Sharing Without Bed Sharing is Recommended

- Decreases risk of SIDS by 50%
- Most likely to prevent suffocation, strangulation, entrapment
 - Crib, portable crib, play yard, or bassinet next to parents' bed
 - Facilitates feeding, comforting, monitoring
- Devices promoted to make bed sharing "safe" are not recommended
- May bring infant to bed for comforting or feeding
 - Return baby to crib when parent ready for sleep
 - Do not feed on armchair or couch if parent might fall asleep





Why is this not a safe sleeping arrangement?

Specific Cautions

- Epidemiologic studies have not demonstrated any bed sharing situations that are protective against SIDS or suffocation
- You cannot control all risks associated with bed sharing – e.g., parental fatigue
- AAP cannot recommend any specific bed sharing situations as safe
- Specific circumstances that, in epidemiologic studies, substantially increase the risk of SIDS or suffocation while bed sharing, and these should be avoided at all times.

These circumstances are:

- Infant is <3 months of age
- Bed sharer is current smoker (even if not smoking in bed)
- Mother smoked during pregnancy
- Bed sharer has used/is using medications or substances that could impair alertness or arousal
- Bed sharer is not parent (including other children, multiples)
- Soft surface (waterbed, couch, armchair)
- With soft bedding (pillows, quilts, comforters)

Do Not Use Bumper Pads

- No evidence that bumper pads or similar products that attach to crib slats or sides prevent injury in young infants
- Potential for suffocation, entrapment, and strangulation
- Bumper pads and similar products are not recommended (including those marketed as “safe”)



Breastfeeding is Recommended



- **Reduced risk of SIDS**
 - Protective effect increases with **exclusive breastfeeding** (Hauck, 2011: www.pediatrics.org/cgi/doi/10.1542/peds.2010-3000)
- **If possible, exclusively breastfeed for 6 months**
- **Any breastfeeding is more protective than no breastfeeding**

Breastfeeding, Bed Sharing, and SIDS

- Breastfeeding is a common reason for bed sharing (Hauck 2008)
- Bed sharing is associated with longer duration of breastfeeding; some evidence that it is causal (Huang, in press;)
- While bed sharing may facilitate breastfeeding, it is not essential for successful breastfeeding
- Benefits of breastfeeding do not outweigh the increased risk associated with bed sharing (Ruys 2007)
- Five-fold increased risk of SIDS associated with bed sharing when neither parent smoked, baby less than 3 months, breastfed and no other risk factors (Carpenter, unpublished data)

Consider Offering a Pacifier at Naptime and Bedtime

- For breastfed infants, delay pacifier introduction until breastfeeding is firmly established, usually by 3 to 4 weeks of age
- There is insufficient evidence that digit sucking is protective against SIDS
- Pacifiers and breastfeeding:
 - Well designed randomized controlled trials did not show detrimental effect of pacifier use on breastfeeding duration (O' Connor 2009, Jenik 2009, Jaafar 2011)

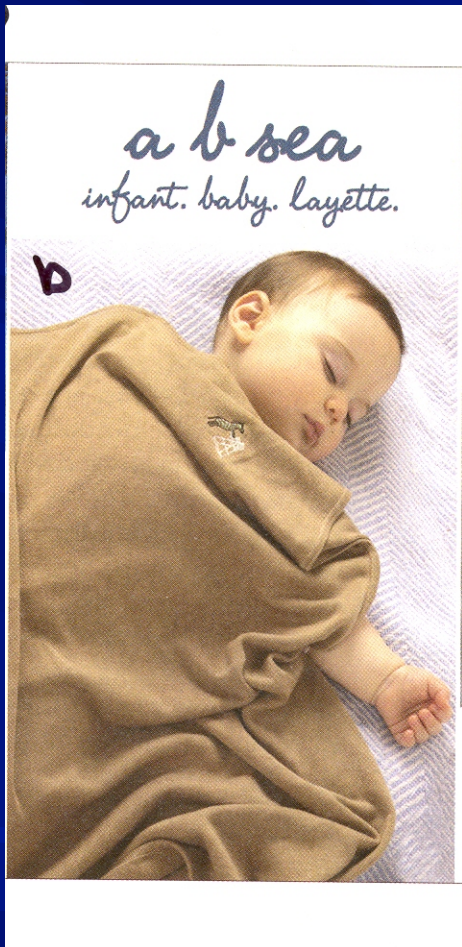


Media and Manufacturers

- Media messages affect consumer behavior
- Messages contrary to sleep recommendations creates misinformation and implication that messages are not important
- Media and manufacturers should follow safe sleep recommendations in their messaging and advertising



Images We Should Not See



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Not just comfortable. Comforting.

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Why haven't we made more progress?



"My question is: Are we making an impact?"

Why Are Parents and Caregivers Not Following Recommendations?

- Recommendations are often conflicting, as illustrated by the bed sharing controversy.
- Advice provided by trusted family members, friends and even some health professionals may be incorrect.
- Parents know what the recommendations are, but view them skeptically (Moon 2010).
 - The advice keeps changing.
 - Since we don't know what "causes" SIDS, how can we prevent it?
 - The advice doesn't make sense or conflicts with their own values or beliefs.

Why Are Parents and Caregivers Not Following Recommendations?

- The recommendations are misunderstood:
 - Qualitative study of African American mothers (Ajao 2011):
 - Showed that many mothers believe that soft bedding will keep infant safe and comfortable
 - Many misunderstand meaning of “firm”
 - Pillows often used to prevent infant rollover or falls

What's Next?



- Our knowledge of WHAT to do exists. If infant caregivers followed the recommendations, we have the potential to eliminate SIDS and other sleep-related deaths.
- The real barrier is HOW to motivate parents and caregivers to follow the recommendations.

How to Construct a Campaign

- Social marketing techniques
- Communication is key!
 - Messages should be tailored to the primary target audience and people who influence them
 - Take into account culture and beliefs of the audience
 - Enhance perceptions of efficacy
 - Positive appeals over scare tactics (positive emotions: love, excitement, hope, humor, empathy, role models and empowerment)
- Evaluation and modification of messages and methods

The Role of Health Professionals

- We all need to be on the same page (physicians, nurses, lactation support, etc.)
- Model appropriate behaviors in the hospital—parents pay attention!
- Place babies on back as soon as placed in bassinet and preemies should be placed on back well before discharge
- Reinforce at every well child visit (rate of supine sleep decreases with age)
- Be open to discussion, approach parents where they are, in a nonjudgmental way. Acknowledge influence of family members and cultural background.
- Provide access to free cribs and resources

Social Media and Risk-reduction Training of Infant Care Practices (SMART)

- Randomized intervention trial testing different methods of parental education about safe sleep practices, focusing on nurse education in birth hospitals and mobile technology
 - Text messages or emails will provide links to series of short videos over first 2 months of infant life
- 16 hospitals randomly assigned to one of 4 different intervention groups
- Controls will receive education about breastfeeding using similar methods
- Working with marketing firm to develop logo, tagline, themes, high impact videos, etc. based on social marketing techniques
 - Focus groups found that mothers preferred hearing messages from other parents and professionals, including parents who lost a baby

In Conclusion

- Trends in SIDS rates are stagnant, and increasing for other sleep related infant deaths
- Most (maybe even all) of these deaths are preventable
- Some of the recommendations are well known but not followed
- Some are not well known or misunderstood, and thus not followed
- Education about safe sleep needs to take into account the complexity of parental behaviors and choices, and be more responsive to these realities



Thank you!

