The Alabama Department of Public Health and The March of Dimes Prematurity Summit

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Sleep-Related Infant Deaths and Opportunities for Prevention

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Disclosures

- I have no relevant financial disclosures
- I will not be discussing any unapproved or off-label uses of therapeutic agents of products

Well Actually, One Disclosure...

- Even my family does not get it right all the time....

Objectives

- At the end of this presentation, the learner will be able to:
  - Identify the latest recommendations for infant safe sleep and understand the rationale for the recommendations
  - Describe state-level public health efforts implemented in Tennessee to reduce sleep-related infant deaths
Before We Begin…
Putting Things in Perspective

• In 2009, 286 pediatric deaths nationwide (height of H1N1 epidemic)
• Standard recommendations for vaccination
• Drastic public health measures taken to reduce spread (i.e. school closings)


• Influenza results in 100 - 200 deaths annually among children nationwide
• Given the energy that goes into preventing influenza-related deaths, what should we do for something that killed 101 infants in Alabama last year?

Source: Communication from Amy Stratton, Alabama Department of Public Health, 10/7/2014.

QUIZ: Which is the Safest Infant Sleep Environment?

A
B
C
D

Current Recommendations for Infant Safe Sleep

Important Definitions

• SIDS: Sudden Infant Death Syndrome (no explanation for infant death)
• SUID: Sudden, Unexpected Infant Death (any sudden infant death, whether explained or unexplained)
• ASSB: Accidental suffocation and strangulation in bed (other sleep-related death, not SIDS)
Trends in SIDS and other Sleep-Related Deaths (1990-2006)


Infant Safe Sleep Recommendations

- In 2011, the American Academy of Pediatrics released updated guidelines for infant safe sleep
  - Update to “Back to Sleep”
  - Specific recommendations included:
    - Infants should sleep alone (no bed-sharing)
    - Infants should sleep on their back
    - Infants should sleep in a crib or bassinette

Always Remember the ABC’s

- Babies should sleep:
  - ALONE
    - Not with adults, other children, or pets
    - Not with toys, stuffed animals, blankets
  - On their BACK
    - Not on their side
    - Not on their stomach

Always Remember the ABC’s

- In a CRIB or bassinette
  - Not in the parent’s bed or a sibling’s bed
  - Not in a couch or chair
  - Not in a car seat or carrier
Other Safe Sleep Recommendations

- Regular prenatal care for pregnant women
- Avoid smoke exposure during pregnancy and after birth
- Avoid alcohol and illicit drug use during pregnancy and after birth
- Breastfeed

Other Safe Sleep Recommendations

- Avoid overheating
- Consider pacifier
- Immunize according to CDC / AAP schedule
- Avoid commercial “SIDS risk reduction” devices

Infant Safe Sleep Recommendations

- Higher risk of death associated with bed sharing
  - Overall odds of dying: 2.89 times greater
  - Odds of dying if infant < 3 months old: 10.37 times greater
  - Odds of dying if mother smokes: 6.72 times greater

Bed - Sharing Practices in Alabama

- From 2009 Alabama Child Death Review:
  - 23 suspected SIDS cases reviewed
    - 10 infants (43.5%) sleeping in adult beds
    - 5 infants (21.7%) were not sleeping alone

Bed - Sharing Practices in Alabama

- 15 cases of suffocation-related deaths reviewed
  - 4 cases (26.7%) reported to be sleep-related (e.g. bedding, overlay, wedged)
  - 6 victims (40%) reported to be sleeping in an adult bed when the death occurred

Bed - Sharing Practices in Alabama

- 2 deaths (13.3%) occurred while a child was sleeping on a couch


**Bed-Sharing Practices in Tennessee**

How often does your baby sleep in the bed with you or anyone else?

- **Rarely**: 27%
- **Sometimes**: 18%
- **Often**: 13%
- **Always**: 12%
- **Never**: 30%


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**Infant Safe Sleep Recommendations**

- Higher risk of death associated with sleeping on side or stomach
  - Odds of dying if sleeping on side: 2.0 times greater
  - Odds of dying if sleeping on stomach: 2.6 times greater


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**Sleep Positioning in Alabama**

- **Back**: 65.5%
- **Side**: 17.5%
- **Stomach**: 17.3%


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**What About Reflux?**

- All babies reflux
  - Babies have protective mechanisms to keep their airway safe
  - The back position is still the safest
- Elevating the head of the bed is not recommended
  - Does not help reflux
  - Baby may slide to foot of bed and compromise airway


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**Sleep Positioning in Tennessee**

In which position do you most often lay your baby to sleep now?

- **Back**: 66%
- **Side**: 9%
- **Stomach**: 9%
- **Mixed**: 9%


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**What About Reflux?**

- Rare exceptions: example — compromised airway protective mechanisms (such as grade 3-4 laryngeal cleft before surgical repair)

Sleep Position and Choking Risk

What About Preterm Babies?

- Preterm infants are at increased risk of sleep-related deaths
- AAP recommends that preterm infants be placed on their back as soon as medically stable
  - Well in advance of discharge home
  - By 32 weeks postmenstrual age

What About Preterm Babies?

- Make a point of educating families on the new position and why back sleeping is important

Myth Busters: Infant Sleep

- What is a good sleeper?
- When should my baby sleep through the night?
- But won’t my baby sleep better if I:
  - Put rice cereal in the bottle?
  - Put them to sleep on their stomach?

“Normal” Sleep in the First Year of Life

The “Lake Wobegon” Effect: “But the Parents I Know….”

Table 1: Predicted SIDS infant death risk for normal versus high-risk newborns

<table>
<thead>
<tr>
<th>Group</th>
<th>Risk Factors Present</th>
<th>Infant Birth Weight (kg)</th>
<th>Death by SIDS</th>
<th>Odds Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal</td>
<td></td>
<td>3.5-3.9</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>High</td>
<td>Feeding-supervised</td>
<td>3.5-3.9</td>
<td></td>
<td>2.5</td>
</tr>
<tr>
<td></td>
<td>No smoking</td>
<td>3.5-3.9</td>
<td></td>
<td>2.5</td>
</tr>
<tr>
<td></td>
<td>Alcohol</td>
<td>3.5-3.9</td>
<td></td>
<td>2.5</td>
</tr>
</tbody>
</table>

Tennessee Public Health Efforts to Prevent Sleep-Related Infant Deaths

Overview: Tennessee’s Safe Sleep Efforts

- 2012
  - Analysis of various data sources
  - Development of statewide Safe Sleep campaign
- 2013
  - Evaluation of broad public awareness campaign
  - Engagement of other key partners

Overview: Tennessee’s Safe Sleep Efforts

- 2014
  - Launch of Hospital Safe Sleep Project

Multiple Data Sources Illuminate the Problem

Why Focus on Safe Sleep?

- If we could eliminate these preventable sleep-related deaths, we would move from the bottom five states in infant mortality to the national average!
Data Illuminates…. but the Heart Motivates

131 Children = Equivalent of 6 Kindergarten Classrooms

Tennessee Infant Deaths

2010 Theoretical

Infant Mortality Rate: 7.9
Sleep-Related Infant Mortality Rate: 6.2

Elimination of all 131 sleep-related infant deaths

131 Children = Equivalent of 6 Kindergarten Classrooms

Broad Public Awareness Campaign

Website: http://safesleep.tn.gov

Material Distribution
- Regional and local health departments
- Hospitals
- Pediatrician offices
- OB offices
- Daycares / child care centers
- Child welfare
- Safekids Coalitions
- March of Dimes

Evaluation of Awareness Campaign
- Parents (N = 1,372)
  - 65% reported making changes based on the campaign message
    - Over half that made changes removed pillows and fluffy bedding from the infants sleep area
  - Grandparents (N = 284)

Evaluation of Awareness Campaign
- Child Care Providers (N = 102)
  - 72.5% reported making a change
  - Over half talked to a parent about safe sleep
  - About 1/3 reported removing pillows or fluffy bedding and 1/3 also reported changing a baby's sleep position
Key Partnership: WIC
- State-level initiative
- Idea from division-wide meeting on Safe Sleep
- Printed on ~38,000 vouchers per month

Key Partnership: Welcome Baby
- Universal outreach program to all new parents
  - Funded with MIECHV funds
  - All packets contain safe sleep information
- Low risk receive packet by mail
- Medium risk receive phone call
- High risk receive a home visit with education and promotional items such as a onesie with a safe sleep message

Key Partnership: Hospitals
- Hospitals commit to:
  - Develop/implment safe sleep policy
  - Educate staff at least annually
  - Monitor compliance quarterly
- Partner hospitals will receive:
  - Free “Sleep Baby, Safe and Snug” board book for each birth

Key Partnership: Hospitals
- Free TDH “ABCs of Safe Sleep” materials
- Free educational flipchart
- Free Recognition on TDH website
- Signed certificate from TDH Commissioner
- Press release template

Why Focus on Hospitals?
- Because the AAP says so!
  - AAP recommends that health care professionals endorse risk-reduction strategies
- Because we can impact the families of almost every baby born in Tennessee
  - Nearly all (98.7%) of Tennessee births occur in hospitals!

Source: Tennessee Department of Health, Office of Policy Planning and Assessment.
Why Focus on Hospitals?

• Health care providers may not always provide the most up-to-date information or model correct safe sleep practices
  – 2006 study: Only 52% of NICU nurses provided discharge instructions for exclusive back sleeping

• Health care providers may not always provide the most up-to-date information or model correct safe sleep practices
  – 2007 study: Only 74% of pediatricians and 62% of family physicians recommended exclusive back sleeping
  – 2009 study: 72% of nurses knew back sleeping protective for SIDS; only 30% regularly placed infants on back


Real Examples from Tennessee Hospitals

• What parents see matters!
  – 1998 study: Among parents who observed stomach sleeping in hospital, 93% intended to place infant on stomach at home
  – 2001 study: Parents who saw exclusive back sleeping in nursery more likely to put baby on back at home


Why Focus on Hospitals?

• Because hospital-based interventions can make a difference!
  – Large metropolitan level II nursery: NICU staff education and trigger tool and rapid-cycle change increased use of appropriate bedding and parent education

• Large TX NICU: Safe sleep algorithm, crib card, education for staff/parents, crib audit tool, and post discharge telephone reminders increased supine positioning; improved parental compliance
Why Focus on Hospitals?

York, PA hospital: Educational DVD, face to face review with nurses, parental acknowledgement statement → improved parental intent for supine positioning and use of crib/bassinette; improved understanding of AAP guidelines

Key Partnership: Local Communities

Funding Sources

- HRSA
  - Maternal and Child Health Block Grant
  - Early Childhood Comprehensive Systems (ECCS)
- CDC
  - Core Violence and Injury Prevention Grant (sleep-related deaths are one of four priority areas)

Key Lessons Learned

- Utilize data to identify risk factors and develop campaign focus – Sources include Child fatality, PRAMS, vital records
- Gather input on campaign materials early in process
- Capitalize on multiple funding sources
- Engage diverse set community partners
- Keep campaign fresh

Preliminary Data: SUID Reduction

Number of Sleep Related Infant Deaths, 2012-2013

<table>
<thead>
<tr>
<th>Year</th>
<th>SIDS</th>
<th>Suffocation</th>
<th>Undetermined</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>2</td>
<td>125</td>
<td>18</td>
</tr>
<tr>
<td>2013</td>
<td>12</td>
<td>72</td>
<td>101</td>
</tr>
</tbody>
</table>

Infant Mortality Trends 2005 - 2013

Resources: Tennessee Department of Health, Division of Health Statistics; Centers for Disease Control and Prevention, National Center for Health Statistics.

Tennessee vs. United States Infant Mortality Trends 2005 - 2013

Sources: Tennessee Department of Health, Division of Health Statistics; Centers for Disease Control and Prevention, National Center for Health Statistics.

Resources to Help You Prevent Sleep-Related Infant Deaths

TDH Safe Sleep Campaign

Website: http://safesleep.tn.gov

NICHD “Safe to Sleep” Campaign

• Expansion of original “Back to Sleep” campaign which started in 1994
• Since start of original campaign:
  – SIDS rate declined by almost 50%
  – Increase in percentage of babies put to sleep on back

NICHD “Safe to Sleep” Campaign

• Incorporates latest AAP recommendations for infant safe sleep
• Website: http://www.nichd.nih.gov/sids/
NICHD “Safe to Sleep” Resources

First Candle

Cribs for Kids

Charlie’s Kids

You Play a Vital Role!

- Your work is vital in the efforts to maximize the health of Alabama’s mothers and babies

Contact Information

- Safe Sleep Program Lead:
  - Rachel Heitmann, MS
  - Director, Injury Prevention and Detection
  - Rachel.heitmann@tn.gov

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