Overview

- Definition of Sudden Infant Death Syndrome (SIDS) and sleep-related deaths
- Recent research regarding why these babies die
- Statistics
- Why child care providers are important
- AAP SIDS Task Force recommendations and underlying rationale
- Implementing policies in child care
- Available resources

Definition of SIDS

- Sudden death which occurs before 1 year of age, usually in a previously healthy infant
- Cause of death unexplained after thorough investigation; including complete autopsy, death scene investigation, and review of child's health history
- A diagnosis of exclusion
- SIDS is not predictable

What is SUID?

- Sudden Unexpected Infant Death where the exact cause is not immediately evident
- SUID is the umbrella category under which these causes of death fall
- ½ of the deaths in this category are SIDS deaths (approx. 2200/year)
- There are about 4500 SUID deaths per year

Simple Classification System

SUID

- Sudden Unexpected Infant Death
- Trauma
- Drowning
- SIDS
- Undetermined
- Unexplained
Infant Mortality

Oklahoma Ranks 41st in the Nation

Why Do We Talk About SIDS, SUID, and Sleep-related Deaths?

While we don’t know the exact mechanism that causes SIDS, we have identified factors that put an infant at increased risk.

Eliminating these risk factors will ELIMINATE suffocation deaths.

SIDS Facts

- In 2005, there were about 2,200 SIDS cases (US)
- It is the leading cause of death for babies from 1 to 12 months of age
- Highest risk is at 2 to 4 months; 91% occur between 1 and 6 months of age
- Seasonal trend: there are more SIDS deaths in winter months
- More male babies die of SIDS
- Unaccustomed tummy sleeping increases risk as much as 18 times.
Safe Sleep for Babies

Triple Risk Model

- Brainstem dysfunction
- Arousal defect
- Gene polymorphism

Highest risk at 2-4 months

Critical Environmental Period

Established Risk Factors

- Prone/side sleep position
- Maternal smoking during pregnancy
- Environmental tobacco smoke
- Overheating
- Soft sleep surface
- Late or no prenatal care
- Young maternal age
- Prematurity and/or LBW
- Male sex
- African American
- American Indian

Modifiable Risk Factors

- Tummy sleeping
- Soft or loose bedding
- Inappropriate sleep environments
- Overheating
- Environmental tobacco smoke
- Bed sharing

Non-Modifiable Risk Factors for Childcare Providers

- Mother younger than 18 years old
- Maternal smoking during pregnancy
- Maternal alcohol and illegal drug use
- Late or no prenatal care
- Age = 2 to 4 months
- Low birth weight
- Prematurity
- Male gender
- African American
- American Indian

It's Not Simple Math

Babies who sleep on their tummies have a 5 times greater risk of SIDS.

Babies who sleep on soft bedding have a 21 times greater risk of SIDS.
Rebreathing Theory
- Infants in certain sleep environments are more likely to trap exhaled CO₂ around the face
- Lie prone and near-face-down/face-down
- Soft bedding
- Tobacco smoke exposure
- Infants rebreathe exhaled CO₂
- Infants die if they cannot arouse/respond appropriately

Brain Dysfunction
- Kinney et al have found abnormalities in autonomic control in the brainstem
- Decreased neurotransmitter (serotonin) binding
- Network dysfunction
- Infants may not be able to sense and respond to hypercarbia or hypoxia
- Weese-Mayer and others have found polymorphisms in serotonin transporter protein gene

Always place babies to sleep on their backs

Child Care and SIDS
- 2/3 of US infants are in non-parental child care [Ehrle et al, 2001]
- Infants of employed mothers spend average of 22 hours/week in child care
- 32% infants are in child care full-time
- Of infants in child care:
  - 50% relative care
  - 10% in-home babysitter/nanny
  - 40% organized child care

Child Care and SIDS - 1990s
- 15-20% SIDS occurred in child care
- In 1990s, child care deaths associated with unaccustomed prone position (Moon, 2000)
  - Child care providers were unaware of association of SIDS and position
  - Misinformed about risks and benefits of various sleep positions
Unaccustomed Tummy Sleeping

- Increases risk of SIDS (as much as 18 times) (Mitchell et al., 1996)
- Non-parental caregivers may use tummy sleeping
- Less ability to lift head in tummy position
- Later development of upper body strength (Back et al., 1998)

Education Does Work!

- Increases awareness and knowledge of safe sleep practices
- Changes provider practices
- Encourages written policies (Moon, 2003)
- Back-to-Sleep targeted child care providers
- Healthy Child Care America Safe Sleep Campaign

Problems:
- Unregulated providers
- Frequent staff turnover

Regulation and Legislation

- Child care providers are more likely to place infants on their backs to sleep if there is a regulation or written policy in place
- States with regulation or legislation regarding sleep position in child care has increased
  - In 2002, only 7 states had regulations for sleep position

Child Care and SIDS - 21st Century

- Still high proportion of infants die in child care, but decreasing (Moon, 2005)
  - 1/3 die in first week; of these, 1/2 die on the first day
- Sleep position is less an issue
  - Relatives and non-licensed caregivers may still be unaware of importance of supine
- Infants in child care in safer sleep environment
  - More likely to be in crib
  - Less likely to be in adult bed or sofa
But it Still Happens...

• In 2010, the parents of a 2-month-old baby girl placed her at a neighborhood church day care
• Religious organization – not subject to state regulations
• Baby was placed on her stomach
• Found unresponsive
• “We always put them on their stomachs…”

Reasons That People Place Babies on Their Tummies

• When the baby is on the back, s/he startles more easily and wakes up
• The baby will get a flat head (plagiocephaly) if the baby sleeps on the back
• The baby will get a bald spot from sleeping on the back
• When babies sleep on their backs, they don’t develop normally

What parents may say

• “I’m afraid my baby will choke while sleeping on his back.”
• “My baby sleeps better on his stomach.”
• “Is side sleeping safer?”
• “My baby has reflux”
• “She will get a flat head.”

Findings from National Study of Child Care Providers

• Training child care providers improves knowledge and practices
• Sleep position
• Lessons use of loose and soft bedding
• No change in provider attitudes about whether sleep position makes a difference
• Policies and regulations are critical!
• Barriers: perceived parental objections, provider skepticism, lack of policies and training opportunities (Moon, 2008)

AAP Recommendations: Pertinent to Child Care

• Sleep position
• Plagiocephaly
• Pacifiers
• Safe Cribs
• Soft bedding
• Overheating

American Academy of Pediatrics Expanded Recommendations

• Place baby on his/her back at every sleep time
• Firm Sleep surface
• Room-sharing without bed-sharing
• Keep soft objects and loose bedding out of crib
• Avoid overheating
• Avoid tobacco exposure
• Consider pacifier use
• Routine immunization
• Avoid commercial devices
Sleep Position: Side vs. Back?

- 1992: AAP recommended side or back to reduce the risk of SIDS
- 2000: Back preferred, but side better than prone
- 2005: Back only (current)
- Many people (including physicians and nurses) continue to use the side position

Risk of Side Position

- Multiple studies have demonstrated that side position places infant at higher risk for SIDS than the back position
- Recent studies show that risk with side (aOR 2.0) and prone (aOR 2.6) are similar (Li, 2003; Hauck, 2002)
- Side position is unstable – may lead to unaccustomed prone positioning

Back to Sleep for Every Sleep

- To reduce the risk of SIDS and suffocation, back sleeping for every sleep
- Side sleeping is not safe and is not advised
- Supervised tummy time when babies are awake

But What About Choking?

- Supine does not increase the risk of choking and aspiration in infants, even those with GE reflux
  - Protective airway mechanisms
- Infants with GE reflux should be placed supine
  - RARE exception: infants for whom the risk of death from complications of GE reflux is greater than the risk of SIDS (i.e., those with upper airway disorders, for whom airway protective mechanisms are impaired)
  - Examples: infants with anatomic abnormalities (e.g., type 3 or 4 laryngeal clefts, who have not undergone anti-reflux surgery)
- Elevating the head of the infant’s crib while the infant is supine is not recommended
  - Ineffective in reducing GE reflux
  - Infant may slide to the foot of the crib - may compromise respiration
Remember the anatomy!

Don't babies sleep better on their tummies?

Babies DO Sleep Better Prone...
- Babies sleeping prone have higher arousal thresholds, sleep longer and deeper
- This increased arousal threshold may be dangerous, as arousal may be the issue surrounding SIDS...
- Babies also startle more easily when on their back – this startle reflex is also protective
- A baby who wakes up frequently is not a "bad" sleeper

What About Rolling Over?
- No data about when it is safe for infants to sleep in the prone or side position
  - Studies all include infants up to 1 year of age
- Infants should continue to be placed supine until 1 year of age
- Once an infant can roll from supine to prone and from prone to supine, the infant can be allowed to remain in the sleep position that he or she assumes

It's Tummy Time!

Avoidance of Plagiocephaly
- Encourage “tummy time” when infant is awake and observed. This will also enhance motor development.
Car Seats and Bouncers

- Avoid having infant spend excessive time in car seats and bouncers, where pressure is applied to occiput
- Upright "cuddle time" is encouraged

Sitting Devices for Sleep

- Car safety seats, strollers, swings, infant carriers, infant slings
- Not recommended for routine sleep in the hospital or at home
- Infants < 4 months are particularly at risk
  - More likely to assume positions that can create risk of suffocation or airway obstruction
- Infant slings and cloth carriers:
  - Ensure that the infant’s head is up and above the fabric, the face is visible, and that the nose and mouth are clear of obstructions
  - Reposition baby after nursing
- If an infant falls asleep, move infant to a crib or other appropriate flat surface as soon as is practical
- Car safety seats and similar products are not stable on a crib mattress or other elevated surfaces

Expect the Unexpected

Pacifiers

- Studies consistently demonstrate a protective effect of pacifiers on SIDS
- Mechanism unknown
  - Decreased arousal threshold (Franco)
  - Pacifiers dislodge within 15 minutes (Weiss and Kerbl) to 1 hour (Franco et al) of sleep

Do not use pacifier attachments

Dangers of Soft Bedding
Avoid soft objects in the crib

- Blankets, pillows, stuffed animals, sheepskin can obstruct the mouth and cause suffocation.
- Bumper pads are NOT recommended. There is no evidence to support that they prevent injury.

Dangers of Soft Bedding

- Infants dying from SIDS are more likely to have:
  - used a pillow or soft mattress
  - been found with nose and mouth completely covered by bedding
  - assumed face-down posture
- Soft bedding increases risk of SIDS 5x, independent of tummy position
- Soft bedding + tummy = OR 21.0 (Hauck, 2003)
- Also increases risk of suffocation, strangulation, and entrapment.

Soft Bedding (CPSC Files)

Soft Bedding (CPSC Files)

Sleep Clothing

- Alternative to blankets
- Cotton or fleece
Safe Sleep for Babies

Use a Firm Sleep Surface

- To reduce SIDS and suffocation
- Firm crib mattress, covered by fitted sheet
  - A crib, bassinet, portable crib, or play yard that conforms to CPS safety standards
  - Check for recalls
  - Do not use crib with missing hardware; don’t try to fix broken cribs
- Use mattress designed for specific product
  - Mattress should be firm and maintain shape even when fitted sheet is used
- No pillows or blankets in addition to or instead of mattress under the infant
- No adult beds – risk of entrapment and suffocation

Additional Recommendations

- Infants should never sleep in adult beds due to risk of entrapment/suffocation.
- Infants should sleep in a hazard-free area, free of dangling cords, electric wires, window blind cords to avoid strangulation.
- Portable bed rails or drop-side cribs should not be used due to risk of entrapment.
- Sitting devices (strollers, car seats, slings, carriers) are NOT recommended for routine sleep.
- Do not rely on equipment that claims to reduce the risk of SIDS.

More unsafe sleep surfaces
Avoid Overheating

- Increased risk of SIDS
  - Definition of overheating varies
  - Cannot provide specific room temperature guidelines
- Dress infants appropriately for the environment, with no greater than 1 layer more than an adult would wear to be comfortable
- There is currently insufficient evidence to recommend use of a fan as a SIDS risk-reduction strategy

Important Information about Swaddling

- Swaddling is not recommended in childcare without a written order from a physician since swaddling is rarely beneficial in infants older than 6 weeks. (AAP)

Recommendations for Safe Swaddling

- Always place baby on the back.
- Ensure that the face, nose and mouth are not covered.
- Swaddling holds in body heat.
- Wrap the arms and chest snugly but leave the hips and legs loose.
- Never swaddle an infant that is able to roll onto their stomach.
- Monitor your baby while swaddled for signs they are beginning to roll over.

Other Recommendations

- Avoid second-hand & third-hand smoke exposure of the infant; maintain a smoke-free environment.
- Do not use apnea monitors as a strategy to prevent infant deaths

Smoking and our Bodies

Carbon Monoxide
- One of the 4000+ chemicals that enters the body from cigarette use/exposure.
- CO binds to hemoglobin, thus preventing the binding of O2.
- Since the blood is carrying less oxygen, the heart has to work harder.

Tobacco risks don’t end with Pregnancy

Effects of tobacco exposure on an infant:
- Prematurity
- Low birth weight
- Under developed lungs
- Addiction
- Behavioral
- Risk for allergies, asthma and RSV

Reduce Exposure
- Limit number of cigarettes per day.
- Timing breast feeding
- Smoking away from infant.
- Avoid 3rd hand smoke
The Risks with Tobacco Use

- Out of all sleep-related infant deaths, 56% of moms smoked.
- 60% of moms/babies were exposed to second-hand smoke.
- The SIDS/SUID rate among mothers who smoked was 6 times higher than non-smokers.
- The SIDS/SUID rate among Hispanic mothers who smoked was 13 times higher than nonsmokers.

Source – FIMR Infant Mortality Data, 2014

Avoid all cigarette smoke

A lot of parents want me to place their baby on the stomach for sleep, because this is what they do at home. How do I handle this?


STANDARD 3.1.4.1: Safe Sleep Practices and SIDS/Suffocation Risk Reduction

- Facilities should have written policies
- Supine (back) sleep position for babies
- Physician’s note if position other than back
- Nothing in the crib except for baby and a pacifier
- No monitors or positioning devices, unless specified by a physician

Legal Considerations

- Litigation
- Wrongful death
- Loss to society
- Neglect
- Breach of contract between parents and provider
- Back to sleep = STANDARD OF CARE

Benefits of a Safe Sleep Policy

- May save babies’ lives
- Shows parents baby’s health and safety is your #1 priority
- Educates staff
  - Consistent care
  - Educate parents
  - Professional development
- It empowers child care providers
- If followed, helps reduce your risk of liability
Elements of a Safe Sleep Policy

- Healthy babies always sleep on their backs
- Obtain physician’s note for non-back sleepers
  - The note should include prescribed sleep position and reason for not using the back position
- Use safety-approved cribs and firm mattresses
- Crib: free of toys, stuffed animals, and excess bedding
  - Alternative: sleep clothing
- Sleep only one baby per crib

Elements of a Safe Sleep Policy

- Room temperature is comfortable for a lightly clothed adult
- Monitor sleeping babies
- Have supervised tummy time for awake babies
- Teach staff about safe sleep policy and practices
- Provide parents with safe sleep policy

Alternate Sleep Position

- Require written and signed physician’s note
  - Identifies medical reason why baby sleeps in position other than back
- Inform all child care providers and substitutes
- Keep physician’s note in baby’s medical file and post notice on crib

Pre-Developed Waiver Forms

- Advantages
  - Easy: just give parent the form to have physician sign
- Disadvantages
  - Easy: some may interpret this as having the intent to relaxing the regulations; it may facilitate using side or prone sleep position
- Want to make sure that, whether you have a pre-developed waiver form or not, you document your discussion with the parents about the risks, benefits, and alternatives to back sleeping
Handling Parents’ Concerns

- Discuss SIDS with parents
- Discuss sleep position policies
- Discuss medical waiver and implications
- Document your discussion!

Healthy Child Care America
Safe Sleep Resources

- American Academy of Pediatrics
  141 Northwest Point Blvd
  Elk Grove Village, IL 60007-1098
  - Phone: 888/227-5409 or 847/434-7951
  - Fax: 847/228-7320
  - E-mail: childcare@aap.org
  - Web site: www.healthychildcare.org

Licensing Requirements

- National Resource Center for Health and Safety in Child Care
  - http://nrckids.org
  - 800/588-4015 (5417)
  - Individual state licensing information

Safe to Sleep campaign

- 1-800-505-CRIB
- http://www.nichd.nih.gov/SIDS/
First Candle

- Provide grief/bereavement services, support services
  - 1314 Bedford Ave, Suite 210, Baltimore, MD 21208
  - Phone: 800/221-7437 or 410/653-8226
  - Fax: 410/653-8709
  - E-mail: info@firstcandle.org
  - Website: www.firstcandle.org

National SUID/SIDS Resource Center

- Provides information about SIDS and other forms of infant death and stillbirth
- Georgetown University
- 1-866-866-7437
- www.sidscenter.org
- info@sidscenter.org

CJ Foundation for SIDS

- 888/8CJ-SIDS (825-7437)
- www.cjsids.com

Summary

- What SIDS is and is NOT
- What are sleep-related deaths
- Risk factors
- Safe sleep practices to reduce the risk
- Developing a safe sleep policy for your program
- Resources for more information

Questions?