Infant Sleep Safety

For healthcare staff

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Learning objectives

- Discuss and disambiguate SIDS and SUID
- Review expanded AAP guidelines on infant safe sleep
- Review sleep myths and safe sleep education for parents/caregivers





SUID (Sudden Unexplained Infant Death)

Sudden Infant Death Syndrome (SIDS)

- Unknown cause, however there are known risk factors
- Not "preventable", but risks could have been reduced
- Coded as "natural" cause of death

Accidental Suffocation and Strangulation in Bed (ASSB)

- Caused by an unsafe sleep environment
- Preventable
- Coded as "accidental" cause of death

Undetermined

- Unknown cause
- Cases often have evidence of unsafe sleep environment
- Often (but not always) preventable
- Coded as "unknown" cause of death

Common SIDS and SUID Terms and Definitions. (2017, August 11). Retrieved from

https://www1.nichd.nih.gov/sts/about/SIDS/Pages/common.aspx

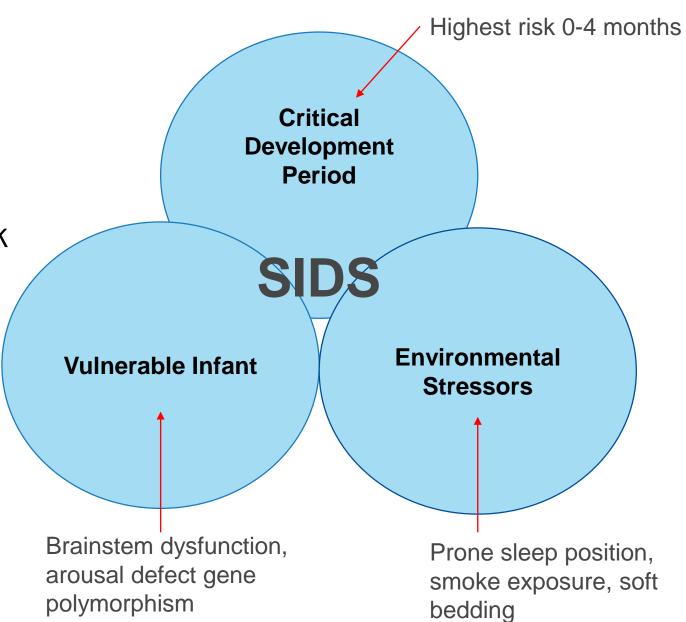


SIDS Myths

SIDS

Myth 1: "Nothing can be done to reduce the risk of SIDS"

Myth 2: "SIDS only happens to sick infants"





- OSDH promotes the AAP safe sleep guidelines:
 https://publications.aap.org/pediatrics/article/doi/10.1542/peds.2022
 -057990/188304/Sleep-Related-Infant-Deaths-Updated-2022
- •AAP makes A, B, and C level recommendations (levels indicate level of rigor:
 - A= high quality consistent scientific evidence
 - B= limited but emerging scientific evidence
 - C= mostly expert opinion with few research studies conducted yet



A level recommendations

- Babies should be put on their back to sleep every sleep
- Use a firm, flat, non-inclined sleep surface to reduce the risk of suffocation or wedging/entrapment.
- Breastfeeding is associated with a 50% reduced risk of SIDS (Vennemann et al., 2009) and as such mothers should breastfeed exclusively or feed with expressed milk (ie, not offer any formula or other nonhuman milk-based supplements) for 6 months when possible
- Room-sharing with the infant on a separate sleep surface outside of the bed for the first 6 months can allow parents to be more attentive to the child's needs while maintaining safe sleep habits
- Avoid overheating and head covering in infants.



A level recommendations

- Keeping the crib free of anything but the baby, pacifier, and a fitted sheet keeps their sleep environment safest
- Consider offering a pacifier at naptime and bedtime (after breastfeeding is established) to further reduce SIDS risk
- Set "smoke-free" rules around you and your baby before and after birth to keep tobacco and nicotine smoke away from you and your baby's environment to prevent risks of tobacco use
- Avoid alcohol, marijuana, opioids, and illicit drug use during pregnancy and after birth.



A level recommendations

- It is recommended that infants be immunized in accordance with guidelines from the AAP and CDC. Vaccination may have a protective effect against SIDS.
- Do not use home Direct-to-consumer (not prescribed by physician) heart rate and pulse oximetry monitoring devices, including wearable monitors, (such as the Owlet) as a strategy to reduce the risk of SIDS.
- Supervised, awake tummy time is recommended to facilitate development and to minimize the risk of positional plagiocephaly (flat head). Tummy time while awake and supervised for short periods of time beginning soon after hospital discharge, increasing incrementally to at least 15 to 30 min total daily by age 7 weeks.

(blue text = new for 2022)

A level recommendations

• It is essential that physicians, non-physician clinicians, hospital staff, and child care providers endorse and model safe infant sleep guidelines from the beginning of pregnancy

B level recommendations

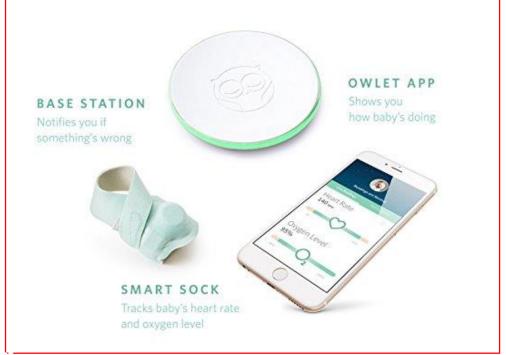
- Avoid the use of commercial devices that are inconsistent with safe sleep recommendations (this describes devices such as smart diaper clips, smart onesies, smart socks, and smart leg monitors)
 - There are two concerns about these devices:
 - First: most aren't evaluated for safety, accuracy, or efficacy by the FDA as other medical devices are. Consumer medical apps have a record of being dangerously inconsistent
 - Second: a faulty smart baby monitor could falsely reassure parents that an ailing baby is healthy, or alarm parents that a healthy baby is sick

(blue text = new for 2022)







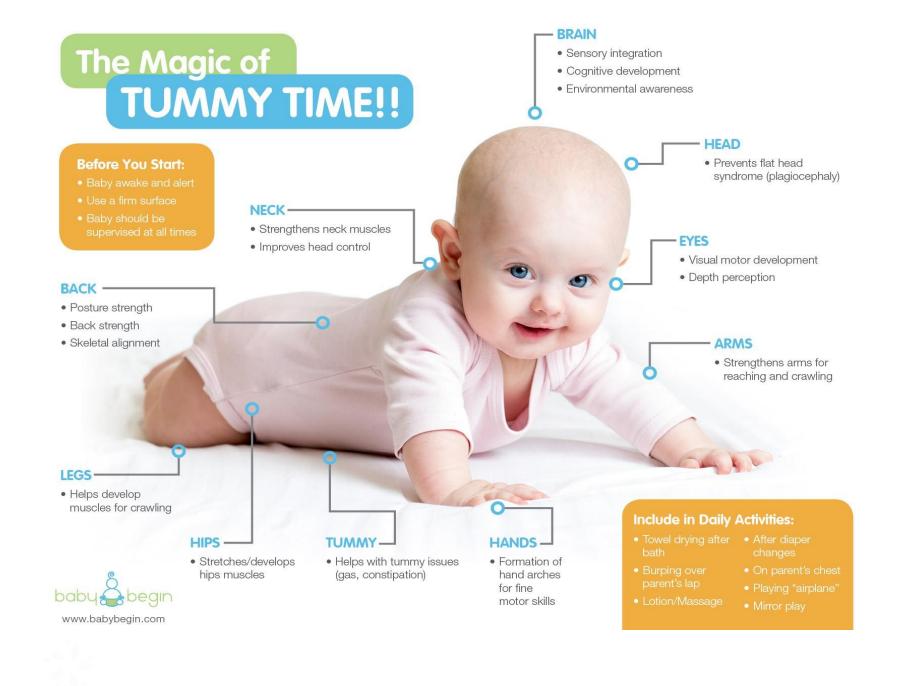


- The FDA has ordered Owlet to cease commercial distribution of the Smart Sock in the United States until it obtained approval as a medical device, which may take several years
- In the meantime, Owlet has released an identical device under the "dream" name

C level recommendations

- Swaddling: while swaddling can be helpful with soothing and calming babies to sleep in the first few months, there is no evidence to recommend swaddling as a strategy to reduce the risk of SIDS.
 - •AAP recommends swaddling stop by 2 months or before the baby intentionally starts to roll over due to risk of suffocation
 - Swaddling decreases arousal; this can be a problem in that decreased arousal is one of the main theories regarding why babies die of SIDS
 - Swaddling improperly can lead to hip dysplasia
- Use a sleep sack in lieu of a swaddling blanket whenever possible





Protective factors

- Keeping the crib free of anything but the baby, pacifier, and a fitted sheet keeps their sleep environment safest
- Breastfeeding until 12 months when possible
- Regular tummy time when baby is awake
- Skin-to-skin contact for newborns
- Room sharing (not bed sharing)
- •Utilizing a sleep sack for naps/bedtime
- Regular prenatal care during pregnancy
- Keeping up-to-date with immunizations
- •Interaction with well-educated peers and individuals in positions of authority



Safe Sleep Environment

- What is a firm, flat, non-inclined sleep surface?
 - A firm mattress with a fitted sheet
 - Crib, bassinet, portable crib (pack n' play)
 - Use mattresses designed for that product; no gaps
 - Has to meet CPSC (Consumer Product Safety Commission) safety standards
 - Garage sale cribs/hand me down cribs are not recommended due to unknown age relative to recent safety standards
 - Bedside sleepers and baby boxes are not recommended at this time due to lack of research showing effectiveness and lack of safety standards



Overheating

- Overheating can lead to increased SIDS risk due to reduced arousal
- Soft surfaces lead to overheating
- •Head covering can lead to overheating, as a result AAP recommends not putting head coverings on infants when indoors except in the first hours of life or in the NICU
- Be careful not to overcompensate for colder temperatures in the winter
- In general, if the temperature in the room is comfortable for an adult, it is appropriate for a baby



Safe sleep practices

Room sharing vs bed-sharing





Room sharing vs bed-sharing

- •Room sharing is a protective factor that has been shown to decrease risk of SIDS by 50% (Leach, et al 1999), and AAP recommends room sharing for the first 6 months
- •Infants should also not sleep with other babies, children, or pets
- New AAP (2022) guidelines state, "based on the evidence we are unable to recommend bed sharing under any circumstances"
- Bed-sharing is not recommended due to enhanced risk factors such as:
 - Adult mattresses are often not a firm surface
 - Risk of overlaying/risk of gaps baby can roll into
 - Risk of entrapment against a pillow or in between bed and wall
 - Risks of overheating



Behaviors which enhance risk

Behaviors that increase risk of parent-infant bed sharing <u>10x</u>

- Bed sharing with someone who is impaired in their alertness or ability to arouse because of fatigue or use of sedating medications (eg, certain antidepressants, pain medications) or substances (eg, alcohol, illicit drugs).
- Bed sharing with a current smoker (even if the smoker does not smoke in bed) or if the pregnant parent smoked during pregnancy.
- Bed sharing on a soft surface, such as a waterbed, old mattress, sofa, couch, or armchair.

(blue text = new for 2022)



Behaviors which enhance risk

Behaviors that increase risk of parent-infant bed sharing $\frac{5-10x}{}$

- •Sleeping in the bed with a normal weight infant aged <4 months, even if neither parent smokes and even if the infant is breastfed. This is a particularly vulnerable time, so parents who choose to feed their infants aged <4 months in bed need to be especially vigilant to avoid falling asleep.
- Bed sharing with anyone who is not the infant's parent, including non-parental caregivers and other children.

Behaviors that increase risk of parent-infant bed sharing 2-5x

- Sleeping with a preterm or low birth weight infant, even if neither parent smokes
- Bed sharing with soft bedding accessories, such as pillows or blankets

(blue text = new for 2022)



On co-sleeping

- •I am required to give instruction based on current AAP guidelines, however remember that those can/may change (i.e.; putting babies on their side was once recommended)
- Current guidelines continue to recommend against so that is why I follow these.
- •What about places that engage in co-sleeping with lower infant mortality rates like Japan?
 - •Maternal smoking rate and alcohol consumption is considerably lower
 - Sleeping practices are significantly different (hard mattress on the floor)
 - Much lower obesity rates



Weighted products

Weighted sleep sacks



Weighted swaddles



Weighted sleepers



Weighted blankets



New (2022) AAP guidelines recommend against weighted blankets, weighted sleepers, weighted swaddles, or other weighted objects placed on or near the sleeping infant



Urgent safety notice Fisher Price re-issues recall for rock n' play (Jan 2023)

Fisher-Price Rock N Play Sleeper



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- There have been reports of 70 additional (32 originally) sleep-related infant deaths according to a consumer reports analysis
- These deaths were due to asphyxia from sleep position
- American Academy of Pediatrics (AAP) has recommended that this product be recalled immediately, and fisher price has
- However, this product continues to be traded and sold on social media (Facebook marketplace) illicitly
- All incline sleepers are in the process of being eliminated by the CPSC through a new rule on their safety due to this risk

Safe Sleep for Babies Act



- Federal legislation bans the sale of crib bumpers and inclined sleepers
- Legislation was signed in May, went into effect in November 2022
- Some stores have already removed these products from shelves, although 6 month window before implementation exists to allow retailers time to remove them



"Cause" for infant sleep death identified?

Articles

Butyrylcholinesterase is a potential biomarker for



Published online 6 May

ebiom.2022.104041

Sudden Infant Death Syndrome

Carmel Therese Harrington, ** Naz Al Hafid, ** and Karen Ann Waters **

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^bChild and Adolescent Health, The University of Sydney, Camperdown, NSW 2006, Australia

Summary

Background Autonomic dysfunction has been implicated in the pathophysiology of the Sudden Infant Death Syndrome (SIDS). Butyrylcholinesterase (BChE) is an enzyme of the cholinergic system, a major branch of the autonomic system, and may provide a measure of autonomic (dys)function. This study was undertaken to evaluate BChE activity in infants and young children who had died from Sudden Infant Death or Sudden Unexpected Death.

Methods In this case-control study we measured BChE activity and total protein in the cluate of 5μ L spots punched from the dried blood spots taken at birth as part of the newborn screening program. Results for each of 67 sudden unexpected deaths classified by the coroner (aged 1 week-104 weeks) = Cases, were compared to 10 date of birth and gender-matched surviving controls (Controls), with five cases reclassified to meet criteria for SIDS, including the criterion of age 3 weeks to 1 year.

Findings Conditional logistic regression showed that in groups where cases were reported as "SIDS death" there was strong evidence that lower BChE specific activity (BChEsa) was associated with death (OR=0-73 per U/mg, 95% CI 0-60-0-89, P=0-0014), whereas in groups with a "Non-SIDS death" as the case there was no evidence of a linear association between BChEsa and death (OR=1-001 per U/mg, 95% CI 0-89-1-13, P=0-99).

Interpretation BChEsa, measured in dried blood spots taken 2-3 days after birth, was lower in babies who subsequently died of SIDS compared to surviving controls and other Non-SIDS deaths. We conclude that a previously unidentified cholinergic deficit, identifiable by abnormal -BChEsa, is present at birth in SIDS babies and represents a measurable, specific vulnerability prior to their death.

Funding All funding provided by a crowd funding campaign https://www.mycause.com.au/p/184401/damiens-leg acv

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Keywords: Sudden Infant Death Syndrome; Sudden Unexpected Death in Infancy; Butyrylcholinesterase; Choliner gic deficit; Autonomic function; Arousal

Short answer: <u>No</u>

- Study published in May has been shared extensively across social media as a having identified as a "SIDS cause"
- Study measured levels of enzyme
 Butyrylcholinesterase in 67 babies and 10 control babies
- There were lower levels of this enzyme in children who had been identified as having died from SIDS than the control group



- Ct. . d.

"Cause" for infant sleep death identified?

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 However, the blood samples used were more than 2 years old (therefore the enzyme measurement is not the same in fresh blood)

- Sample size is fairly small
- This is one study
- Dr. Rachel Moon (chair of AAP Task Force on SIDS) commented: "While the differences in blood levels of this enzyme were statistically different even if this is confirmed by larger, additional studies — there is enough overlap in the blood levels between cases and controls that it could not be used as a blood test at this point with any reasonable predictive value"

Other Unsafe sleeping environments

- SwaddleMe By Your Side Sleeper; which is made by SUMR Brands and has a flat mattress and low mesh sidewalls
- Baby Delight Snuggle Nest Infant Sleeper
- DockATot; which looks similar to a small raft; and has a soft side bumper





CPSC (Consumer Product Safety Commission) issued violation notice to DockATot Deluxe+ in Nov 2022





UNITED STATES CONSUMER PRODUCT SAFETY COMMISSION 4330 EAST WEST HIGHWAY BETHESDA, MD 20814

COMMISSIONER RICH TRUMKA JR.

DOCKATOT DELUXE+ IS UNSAFE FOR SLEEP; CPSC ISSUES NOTICE OF VIOLATION

NOVEMBER 9, 2022

It is unsafe for your baby to sleep in a DockATot Deluxe+; immediately discontinue its use. There are publicly available reports of infant deaths associated with the product. CPSC has notified DockATot that it cannot import, distribute, or sell any DockATot Deluxe+ made after June 23. 2022.

DockATot has marketed its Deluxe+ infant product as a sleep product for babies even though it is not safe for sleep. Last year, CPSC issued the Infant Sleep Products Rule to eliminate products too dangerous for infant sleep from the market. After our rule took effect this year, we issued DockATot a notice of violation, informing the company that its product, when manufactured on, or after, June 23, 2022, violates the Infant Sleep Products Rule and may not be imported, distributed, or sold in the United States.

I encourage you to read the reports of infants' deaths associated with DockATot products, as reported by members of the public. To access them, visit www.saferproducts.gov and type DockATot into the search bar, and you can read caregivers' stories of their worst nightmares becoming reality using this product.

I want to ensure that products sold for babies will not kill babies, and CPSC is making progress toward that goal every day.



A MESSAGE FROM OUR FOUNDER

Dear DockATot families:

I am a believer in attachment parenting, so we chose to bedshare with both our sons. Bedsharing is something that is encouraged by midwives in Scandinavia and the norm in many cultures around the globe. Consequently, we also used the dock for this, as it provided a separate space for my son while allowing proximity for bonding and feeding.

After I created this solution for my family, I decided to share my multifunctional docks with the world. I began by searching for voluntary certifications and testing and the highest quality materials to produce the safest product possible. My top commitment is and always has been to the well-being and safety of little ones and their families.

We encountered differences in opinions surrounding the practice of bedsharing as we grew across the globe. These differences result in a lack of standards applicable to products offered for bedsharing families and in 2020 we made the decision to no longer promote our docks for any type of sleep. Recently, we have made the difficult decision to phase out the Deluxe+ dock in the United States. We reached this decision in part due to the United States's new Infant Sleep Product Rule, which went into effect in June of this year. This standard requires that all newly made products that it covers be redesigned with bassinet features.

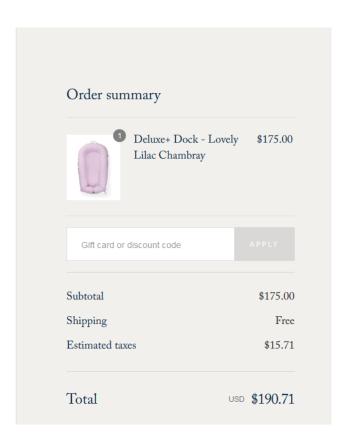
The Deluxe+ was always meant to be extremely portable and multifunctional and it simply does not make sense to redesign it with legs, high sides, and other aspects of a bassinet as they are defined in the US and Canada. However, in the rest of the world, the Deluxe+ dock remains the trusted multipurpose solution that has benefited so many families and will remain available through our websites and retailers.



However, as of today (2/16/2023) it is still available to purchase



<u>DockATot</u>	
CART > INFORMATION > SHIPPING > PAYMENT	
Contact jamescc@health.ok.gov	<u>Change</u>
Ship to yukon OK 73099, United States	<u>Change</u>
Shipping method UPS Ground - Free Shipping	Free
< RETURN TO INFORMATION	CONTINUE TO PAYMENT >





Baby Delight Snuggle Nest still being sold and utilized as sleep space despite marketing change



- Baby Delight Snuggle Nest Infant Sleeper (rebranded as infant lounger)
- Reviews (and responses) still show sleep as the "use case" with no "push back" from manufacturer

**** · 3 months ago Great for travel!

We absolutely love the portable bed! We travel a lot and have family out of state and our little one settled right into it from the very first time we used it. The fabric and quality is high end and its very convenient. Overall great product that is highly recommended.

If you want some sleep this will help!



✓ Would recommend

Eli - 1 month ago

My baby was not sleeping through the night in the bassinet we got him. We got this as a gift and note said "tonight you will get some sleep" It was the best gift ever! Baby chose this over an expensive bassinet.

... 1 reply from Baby Delight team - 20 days ago

Hi Eli, Thank you so much for the kind words! We are so glad that you love the Snuggle Nest Portable Infant Lounger.

The Snuggle Nest™ Portable Infant Lounger creates a comfortable spot for your baby to lounge and relax – at home and on the go. The updated design features two rigid, 8-inch tall vented walls. The tall walls are

Product Highlights

 Creates a comfortable spot for lounging, at home and on the go





How we communicate often as important as the information itself

- In their most recent recommendations, AAP emphasizes using culturally appropriate, respectful, and nonjudgmental communication between those communicating safe sleep education and parents
- •Education that is integrated with other health messaging, such as discussion of the risk of falls and potential skull fractures if infants fall from an adult's arms or a sleep surface, can be helpful to highlight the potential risks and the importance of safe sleep
- It is also important to incorporate strategies to avoid inadvertent bed sharing (like setting an alarm to prevent falling asleep, audio books, podcasts, etc.) so parents have tangible ways to prevent these risks



Crib Observation









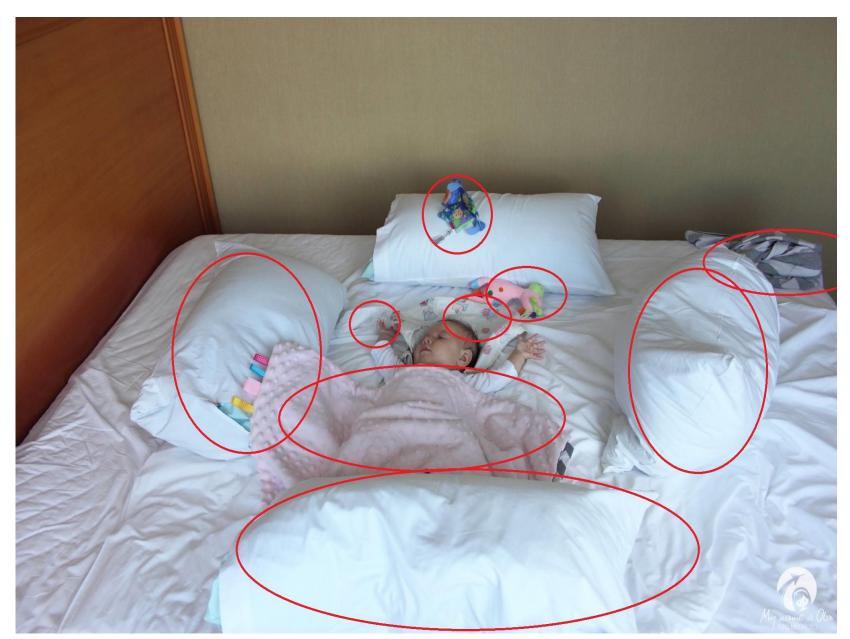










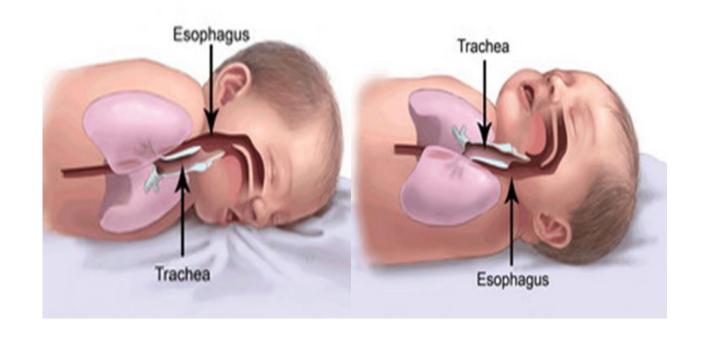


Common reasons why parents do not put their baby on their back to sleep

- 1) Belief that baby could choke/aspirate
- 2) Belief that side sleeping is equally safe
- •3) Belief that baby does not sleep well in this position
- 4) Belief that a baby will get a flat head
- •5) Belief that propping the baby up with help with reflux or congestion



1) What if my baby chokes while sleeping on his back?



The trachea is above the esophagus when baby is on their back It would be difficult for vomit/spit-up to travel against gravity

There are folds that direct fluids back into the esophagus

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State Department of Health

2) Belief that side sleeping is equally safe



- Side sleepers have a two-fold greater risk of SIDS
- AAP guidelines state that side sleeping is not as safe as back sleeping and is not advised
- The side is an unstable position in which an infant could easily roll onto their stomach



3) What if the baby won't sleep on her/his back?

- Work on learning the baby's cues to assess why they are fussy (hunger, dirty/wet diaper, teething, etc.)
- Place the crib/bassinet near your bed
- Utilize routine
- Keep stimulus low at night (minimal interaction and keep room dark)
- Use a white noise machine
- Remember that newborns and young infants sleep often, but irregularly



4) Belief that a baby will get a flat head

- •Alternate the arm used to hold the baby
- •Hold the baby upright when he or she is not sleeping (this is sometimes called "cuddle time")
- •Change the direction your baby lies in the crib from one week to the next (for example, have your baby's feet point toward one end of the crib one week, and then have the feet point toward the other end of the crib the next week)
- •Flat head (positional plagliocephaly) is temporary, cosmetic, and typically resolves on its own without any medical intervention



How can you help?



Starting points for safe sleep education

- "Tell me what you know/believe/think about safe sleep."
- "You will probably get advice from many different people about how your baby should sleep. The information I will share with you is based on research"
- "Let's talk about some risks you can avoid to keep your baby safe while sleeping"

Thank you!





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